1998

GCSE

Syllabuses

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FOREWORD

I have pleasure in presenting the Council's suite of GCSE syllabuses for examination in Summer 1998.

The Council (CCEA) has a statutory responsibility for the provision of examination syllabuses and the conducting of examinations based on these syllabuses. CCEA provides a comprehensive examination service to schools and colleges throughout Northern Ireland and beyond and is committed to ensuring that this service is of the highest quality.

CCEA courses are designed to ensure equivalence of standards with those set by examining boards in England and Wales. All CCEA syllabuses have been revised to satisfy the Northern Ireland Regulations and Criteria and, in the relevant subjects, satisfy the revised Programmes of Study for Key Stage 4.

CCEA will continue to consult fully with schools and colleges with the aim of producing syllabuses that meet the needs of teachers and pupils in Northern Ireland. I would like to express my appreciation of, and acknowledge the input made by, the teaching profession to the development of our syllabuses and hope that this co-operation will continue in the future.

Catherine Coxhead

Catherine Coxhead (Mrs)
Chief Executive
June 1996

ACCOUNTING

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 This syllabus has been designed so that candidates may be given opportunities to consider the context of accounting activity. Through a study of the syllabus candidates should develop an awareness of the purpose of Accounting for recording and reporting, and as a part of the decision-making and controlling activities of a business.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Accounting.

1.3 A course based on this syllabus will help to facilitate the further study of accounting at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 The syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 AIMS

The aims set out below describe the educational purposes of following a course in accounting. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

The aims of the syllabus are to enable candidates to:

2.1 develop a knowledge and understanding of the context, purposes and limitations of both accounting data and accounting techniques;

2.2 gain an awareness of the uses of accounting in everyday life;

2.3 develop a knowledge and understanding of the environment within which business activity takes place and of the way in which changes in that environment influence accounting needs, techniques and practices;

2.4 gain an awareness of how the main types of businesses and non-trading organisations are assisted and controlled through accounting procedures;

2.5 develop a knowledge and understanding of the aims and activities of business organisations, together with the accounting techniques and procedures appropriate to them;

2.6 develop a knowledge and understanding of the terminology, concepts, conventions and procedures in accounting appropriate to the syllabus;

2.7 develop the skills of numeracy, literacy, research, and presentation and interpretation of accounting information.

3 ASSESSMENT OBJECTIVES

The assessment objectives indicate the essential skills and abilities which will be assessed through the examination. The inter-relationship between the assessment objectives and the examination components is shown in Table 4.1 below.

3.1 The assessment objectives have been organised within the two categories listed below:

- Knowledge and understanding (assessment objectives 3.2, 3.3, 3.4);
- Application of knowledge, interpretation, analysis, evaluation and judgement (assessment objectives 3.5, 3.6 and 3.7).

In relation to knowledge and understanding, candidates will be assessed on their ability to:

3.2 demonstrate knowledge and critical understanding in relation to the specified syllabus content;

3.3 demonstrate the ability to explain the specified terms, concepts and conventions;

3.4 demonstrate a knowledge and critical understanding of the limitations of accounting information.

In relation to the application of knowledge, analysis and judgement candidates will be assessed on their ability to:

3.5 demonstrate the ability to apply the knowledge (referred to in 3.2 above) in written, numerical, graphical and other conventionally accepted forms;

3.6 organise, select, interpret and apply accounting data to the solution of business situations, using information technology (IT) resources where appropriate;

3.7 make reasoned judgements about accounting information through interpretation, analysis and evaluation, and to communicate these judgements in an accurate and logical manner.

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment consists of a terminal examination (80%) and the assessment coursework (20%).

Table 4.1 **Relationship of the Assessment Objectives to the Examination Components**

Component	Knowledge and Understanding AOs 3.2, 3.3 and 3.4 %	Application, Analysis and Judgement AOs 3.5, 3.6 and 3.7 %	Component Weighting %
Paper 1	10–12	28–32	40
Paper 2	10–12	28–32	40
Coursework	5	15	20
Totals	25–29	71–79	100

4.2 **Differentiation**

Terminal Examination

Differentiation will be provided for through the setting of a terminal examination, at two Tiers of entry, in order to cater for candidates of differing abilities. Within the examination component, differentiation will be achieved through a combination of structured questions and by outcome.

Coursework

In the coursework component, candidates will undertake tasks which will allow them to demonstrate positive achievement in accordance with their levels of attainment and abilities.

4.3 **Entry**

The two Tiers of entry for the examination are as follows:

Foundation Tier: Grades C–G;

Higher Tier: Grades A*–D (E).

Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade D but who demonstrate the qualities associated with a grade E performance.

4.3.1 Candidates must be entered for one Tier only at the appropriate time of entry. In judging what is the more suitable Tier of entry for a candidate, teachers should consider the candidate's performance throughout the course. Each Tier will consist of two examination papers. These are described below.

4.3.2 Within each Tier, candidates are required to sit two written papers which are assessed externally and to submit coursework which is assessed internally by the teacher and moderated externally by the Council.

4.3.3 *Foundation Tier*

Paper 1 (40%): 1½ hours

Paper 1 will consist of ten compulsory questions which will examine content drawn from across the syllabus and will examine both groups of assessment objectives. Six of the questions will be short structured questions designed to test a range of aspects of the syllabus. The remaining four will be longer structured questions requiring candidates to demonstrate their ability to apply their accounting knowledge in a variety of contexts.

Paper 2 (40%): 1½ hours

Paper 2 will consist of five compulsory structured questions which will be drawn from content across the syllabus and will examine both groups of assessment objectives.

4.3.4 *Higher Tier*

Paper 1 (40%): 1½ hours

The Higher Tier paper will consist of five compulsory structured questions which will examine content drawn from across the syllabus and will examine both groups of assessment objectives.

Paper 2 (40%): 1½ hours

The Higher Tier paper will consist of four compulsory structured questions which will be drawn from content across the syllabus and will examine both groups of assessment objectives.

4.3.5 *Coursework (20%)*

The coursework component will take the form of an assignment set and assessed by the teacher. Each assignment will be moderated externally by the Council.

Each assignment should involve the candidate in research, investigation and the use of a spreadsheet within the context of the topic. The candidate will be expected to provide evidence that the assessment criteria set out in the coursework memorandum have been addressed.

It is essential that teachers study carefully the coursework memorandum before helping candidates to commence and carry out their coursework assignments. Teachers will need to consult the coursework memorandum when assessing candidates' work.

5 SYLLABUS CONTENT

Introduction

5.1 Teachers are encouraged to ensure that candidates have opportunities to witness, at first-hand, the role and practice of accounting within local businesses and non-trading organisations. Contacts with such businesses and organisations should not only help to enrich the candidates' course of study but also to enhance their understanding of the relevance of the syllabus to real-life situations. These contacts might also help to support candidates' coursework assignments.

5.2 The order in which the syllabus content is presented does not imply a proposed teaching sequence.

Presentation of the Syllabus Content

5.3 The content of the topic areas in the left hand column below are further clarified in the right hand column in the form of explanatory notes. The explanatory notes are important since they help teachers to be fully aware of the breadth and depth of coverage required for each topic. It is stressed that the items listed under each topic area include only those which will be assessed.

TOPIC AREAS	EXPLANATORY NOTES
5.4 The Business Context	
(i) ***Aims of a business***	General knowledge of the aims of a business.
Profit	
Market-share	
Corporate image	
Environment	
(ii) ***Types of businesses***	Comparisons between the methods of control, risks and responsibilities in relation to different types of businesses.
Sole trader	
Partnership (including the essential elements of the Partnerships Act 1890)	
Private Limited Company	
Public Limited Company	
Non-trading organisations	
(iii) ***Finance***	An elementary knowledge and understanding of finance and capital.
Internal and external sources of finance	
Short and long-term capital	
(iv) ***Impact of information technology within business***	An awareness of how information technology is impacting on accounting procedures in business.
5.5 Accounting Concepts and Conventions	
Business entity and ownership	An elementary knowledge of the concepts and conventions and the ability to apply them.
Assumed continuity	
Consistency	
Prudence	
Accruals	
Money measurement	
Materiality	
Objectivity	
Duality	
Capital and revenue expenditure	
Cost and book value of assets	
Stock	
Valuation — cost method	
net realisable method	
market value	
LIFO	
FIFO	

TOPIC AREAS	EXPLANATORY NOTES
5.6 Sources and Records of Accounting Data	
(i) ***Source documents***	
Invoice	A knowledge and understanding of the purposes and use of the documents and the ability to complete them.
Petty cash voucher	
Cheque and counterfoil	
Credit note	
Wages clock card	
Wages slip	
Stock record card	
(ii) ***Books of original entry, including cash and trade discount, and VAT***	A knowledge and understanding of the purposes and use of the books of original entry, and the ability to complete them.
Three column cash book	*For examination purposes VAT will be fixed at 15%.*
Petty cash book	
Sales day book	
Purchases day book	
Returns inwards day book	
Returns outwards day book	
(iii) ***The ledger***	
Double Entry	A knowledge and understanding of the purposes and use of the ledger and the ability to complete ledger accounts. Candidates will also be expected to be able to explain the sub-divisions of the ledger – general, (including three column cash book and petty cash), purchases and sales.
Partnership	The ability to prepare and interpret partners' capital and current accounts.
Depreciation	The ability to calculate and understand the significance of depreciation including the use of equal instalment and diminishing balance methods. Candidates will be required to be able to enter depreciation in the accounts, including the provision for depreciation account.
Bad debts	Treatment of bad debts and provision for bad debts.
5.7 Verification of Accounting Records	
(i) Trial balance	Preparation of a trial balance and an understanding of its uses and limitations.
(ii) Bank reconciliation statement	Updating of cash book and preparation of bank reconciliation statements.
(iii) Incomplete records	Calculation of purchases and sales. Preparation of trading and profit and loss accounts. Preparation of statement of profit and loss, including statement of affairs.

TOPIC AREAS	EXPLANATORY NOTES
5.8 Final Accounts and Balance Sheet	
(i) ***Manufacturing account***	
Trading account	Treatment of prime cost, total cost, direct and indirect expenses, work-in-progress.
Profit and loss account	Preparation of final accounts and balance sheet, in vertical form, for sole traders and partnerships.
Profit and loss appropriation account	
Balance sheet	
Treatment of:	
• prepayments and accruals;	
• provision for depreciation;	
• provision for bad debts;	
• disposal of fixed assets;	
• apportionment of expenses;	
• partners' interest on capital, salary and share of profits.	
(ii) ***Non-trading organisations***	Preparation of receipts and payments account, trading account, income and expenditure account and balance sheet. Treatment of prepayments, and accruals and depreciation. Calculation of accumulated fund.
(iii) ***Calculations in, and interpretation of, final accounts and balance sheet***	Interpretation of and comment on the significance and implications of the ratios and percentages for the business concerned.
Gross profit/loss	
Net profit/loss	
Working capital	
Liquidity ratios	
Fixed, current and intangible assets	
Borrowings	
Capital employed	
Return on capital employed	
Gross profit percentage (mark-up and margin)	
Net profit percentage	
Rate of turnover	
(iv) ***Company balance sheet***	Understanding of and the ability to comment on a company balance sheet including the capital structure:
	• authorised;
	• issued;
	• capital and revenue reserves;
	• loans and debentures.

TOPIC AREAS	EXPLANATORY NOTES
5.9 **Forecasting**	
(i) Break-even charts	Prepare, evaluate and understand the importance of break-even charts. Calculation of break-even point using the contribution method.
(ii) Cash budgets	Reasons for cash budgets. Prepare, evaluate and understand the reason for a cash budget.
(iii) Forecast final accounts and balance sheet	The ability to revise existing final accounts and balance sheet in the light of projected variations on current figures.

6 GRADE DESCRIPTIONS

6.1 Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates will demonstrate knowledge and understanding of some aspects of the syllabus content. They will begin to apply this knowledge and understanding, using some terms, concepts, theories, techniques and methods to address accounting issues. They will show some ability to select, organise and interpret basic accounting information. They will also make judgements and present simple conclusions which are sometimes supported by evidence.

Grade C

Candidates will demonstrate knowledge and understanding of most aspects of the syllabus content. They will apply this knowledge and understanding using terms, concepts, theories, techniques and methods to address accounting issues. They will select, organise and interpret accounting information. They will also make reasoned judgements and present valid conclusions which are supported by evidence.

Grade A

Candidates will demonstrate knowledge and critical understanding of the full range of the syllabus content. They will apply, with confidence, this knowledge and critical understanding, using terms, concepts, theories, techniques and methods effectively to address a range of accounting issues. They will also evaluate accounting information, making relevant judgements and presenting valid, well thought out conclusions accurately and appropriately.

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The scheme of assessment in accounting provides for a 20% weighting for Coursework and requires each candidate to submit one assignment which will be assessed internally by the teacher and moderated externally by the Council.

1.2 The coursework is intended to give candidates the opportunity to demonstrate what they know, understand and can do outside the constraints imposed by formal examinations.

2 AIMS

2.1 Coursework should provide candidates with opportunities to:

- make and record accurate observations;
- organise the collection and ordering of relevant information;
- develop and use research skills both within and outside the classroom;
- identify, evaluate and use a wide range of sources of information;
- co-operate with others in an activity;
- design, conduct and evaluate a simple survey, where appropriate, to test some hypothesis or illuminate some accounting issue;
- demonstrate the ability to sustain a chosen study from conception to realisation;
- use information technology (IT);
- draw conclusions, make recommendations and justify them.

3 NATURE OF ASSIGNMENTS

3.1 Coursework for each candidate will take the form of **one** assignment. It should enable the candidate to collect and use original data and/or data from simulated business situations. While the assignment may focus mainly on one area of the syllabus, it may, at the same time, draw from content across the syllabus.

3.2 The assignment should be related to an accounting issue set in a real business context.

3.3 The assignment should involve candidates in research, and provide scope for originality.

3.4 The assignment requires candidates to use a spreadsheet which should be incorporated and highlighted within the assignment, in order to assist with the decision-making process.

3.5 Each candidate's assignment should adopt the format set out below.

Title
Aim
Planning
Sources of Information
Presentation of data
Conclusions/evaluation
Appendices

3.6 The assignment may be presented in either written or printed form. All sources of information used in the assignment should be acknowledged.

4 ASSESSMENT CRITERIA

For the purpose of assessment, the assignment will be marked in accordance with the criteria set out below.

The assessment criteria has been divided into three main components:

- planning (22 marks);
- presentation of investigation (40 marks);
- conclusion (18 marks).

In order to assist teachers, guidance is given below in terms of how they might allocate the marks.

PLANNING **22 marks**

Preparation of a detailed plan of action, listing the tasks to be completed in order of working 8 marks

0–3 marks

The candidate's plan is vague, ill conceived and contains only a few tasks related to the aim of the assignment. The candidate has not developed a clear strategy to meet the demands and opportunities offered by the aim within a stated timescale.

4–6 marks

The candidate's plan shows evidence of clearly identified targets to be met within a particular timescale. The order of working is not always clear but there is considerable detail to show that the candidate has developed an approach which will meet most of the demands and opportunities offered by the aim.

7–8 marks

The candidate has presented a coherent plan, with an identified order of working which is manageable within a stated timescale. The tasks to be completed are clearly identified and it is obvious that the candidate is confident about the targets to be met in order to address the demands and opportunities offered by the aim.

Identification of sources to be used 4 marks

0–2 marks

Inadequate range of sources identified and these are not directly related to the stated aim for the assignment. The candidate, therefore, has little or no opportunity to exploit the scope and demands offered by the stated aim of the assignment.

3–4 marks

Imaginative identification of an appropriate range and variety of sources carefully selected to relate to the stated aim of the assignment. The candidate, therefore, has created opportunities to exploit, very comprehensively, the scope and demands of the stated aim of the assignment.

Collection, analysis and commentary on the relevant source material 10 marks

0–3 marks

The candidate only makes a passing reference to the range of methods of collection of the data. There is little or no indication of what aspects of the data are relevant to the stated aim. The commentary is inadequate since it does not reflect any valid analysis of the information obtained and does not provide evidence that the candidate understands how to make effective use of the source material.

4–7 marks

The candidate outlines briefly a limited range of methods of collecting information. There are indications that the candidate has attempted to sort the collected data in order to identify those aspects which relate to the aim of the assignment. The commentary reflects some valid analysis of the collected data and there is evidence that the candidate has some ideas about how to make effective use of the source material.

8–10 marks

The candidate has described, in fine detail, an appropriately varied range of methods of collecting data. The candidate has, with confidence, rationalised why only certain aspects of the data are relevant to the stated aim of the assignment. The commentary reflects a sound and thorough analysis of the data collected and the candidate is showing confidence as to how to use the source material.

PRESENTATION OF INVESTIGATION 40 marks

Report of Findings 25 marks

0–8 marks

The candidate has presented a very basic report which offers only a superficial coverage of the investigation. A limited attempt has been made by the candidate to relate the investigation to the stated aim.

9–17 marks

The candidate has presented a well constructed report which offers a fairly comprehensive coverage of the investigation. The report is quite well written and a good attempt has been made to relate the investigation to the stated aim.

18–25 marks

Highly commendable report which is well constructed and offers an in-depth coverage of the investigation. The whole thrust of the report is directed towards the achievement of the stated aim of the assignment.

Spreadsheet 15 marks

The spreadsheet must be presented as an integral part of the report.

0–5 marks

Use an existing spreadsheet to report information.

6–10 marks

Design a spreadsheet to suit a particular purpose.

11–15 marks

Amend data and use formulae to ascertain totals.

CONCLUSIONS 18 marks

Statement of conclusions drawn from the investigation

0–3 marks 9 marks

The candidate draws very superficial conclusions which are only tenuously linked to the investigation.

4–6 marks

The candidate draws some substantial conclusions and these relate fairly closely to the investigation, and to a large extent, meet the aims of the assignment.

7–9 marks

Very substantial and comprehensive conclusions drawn. These rely heavily on the investigation and relate very directly to the aim of the assignment.

Justification of the Conclusions 9 marks

0–3 marks

Very limited justification of conclusions is given by the candidate.

4–6 marks

The justification of conclusions by the candidate is fairly substantial and reasonably valid.

7–9 marks

Strong, valid justification for the conclusions drawn is given by the candidate.

5 GUIDANCE FOR TEACHERS

When preparing candidates for the coursework assignment, teachers are advised to offer advice and support on a range of issues.

(a) ***Initial Support***

Teachers should offer support and guidance at the commencement of the task by ensuring that:

- the candidates are familiar with the format of the assignment, and the assessment criteria which will be used in the marking of the work;
- the assignment
  - has an appropriate title and a clearly specified aim which is negotiated with the candidates,
  - arises from an identifiable area or areas of the syllabus,
  - relates to an accounting issue in a realistic business context,
  - is an appropriately challenging task to be undertaken within a realistic timescale;
- advice and guidance are available to the candidates in relation to sources of information including, for example, business to visit, people who might be interviewed or other suppliers of appropriate accounting data and the range of methods of collecting the data, for example, letter, questionnaire or interview;
- where candidates work in groups, each candidate must present an individual piece of work, incorporating his or her own interpretation of the accounting data.

(b) ***Ongoing Advice***

Candidates may be given assistance with unforeseen problems which may arise in order to ensure that the assignment remains both relevant and feasible within the timescale.

(c) Should candidates decide to work in groups, the teacher will need to pay careful attention to their activities associated with the assignment in order to determine the relative contributions being made by individual candidates.

It should be stressed that the onus is on the candidate to produce the appropriate assignment. Ongoing advice should be kept to the minimum to ensure that candidates are in a position to complete the task in accordance with the requirements of the coursework memorandum and the regulations of the overall assessment procedures required by the Council.

6 ANNOTATION OF COURSEWORK

6.1 Teachers should annotate thoroughly candidates' coursework. This will not only help to ensure that candidates gain marks where they are merited but will also assist with the moderating process. Annotation should take the form of:

- summative comments either on the work, usually at the end, and on the Candidate Record Sheet;

and

- key pieces of evidence identified throughout the work by annotation in the margin or text.

7 RECORDING FORMAL ASSESSMENTS

7.1 Each assignment must be marked against the criteria listed in paragraph 4 of this memorandum and the mark awarded to each criterion recorded in the appropriate box of the Candidate Record Sheet.

7.2 It is desirable that teachers should keep more detailed records than the sheets to be submitted to the Council and individual candidate record sheets would seem appropriate.

7.3 Any scaling required to bring the raw marks into line with the overall 20% weighting to coursework will be undertaken by the Council.

8 MODERATION PROCEDURES

8.1 **Agreement Trials**

Agreement Trials will be conducted prior to the date of the examination (usually in the Spring Term) where teachers will be briefed on the application of the assessment criteria and will engage in trial marking.

8.2 **Support Service and Advice**

At any stage during the course, teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres. Arrangements can be made for a moderator to contact individual centres to discuss issues arising from the coursework with the teachers concerned by means of a visit if necessary.

8.3 **Internal Centre Standardisation**

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marking of individual teachers to bring their assessments into line with those of the other teachers in the centre and to match the standards promulgated at the Agreement Trial. Where such an adjustment is necessary the total/final mark recorded on the Candidates' Record Sheets should be amended.

8.4 Full instructions about the details of the moderation procedures and the nature of sampling will be issued by the Council at the appropriate time.

ADDITIONAL MATHEMATICS

A knowledge of the GCSE High Tier (Tier R) Mathematics will be assumed.

1 INTRODUCTION

1.1 The examination is intended to cater for those candidates who require knowledge beyond that provided by the GCSE High Tier (Tier R) Syllabus in Mathematics and who are capable of working beyond the limits of the existing GCSE Mathematics syllabus. The syllabus is designed to broaden the mathematical experience of high attaining candidates. These candidates may or may not continue their study of Mathematics to A or AS Level.

Since the examination is aimed at the more able mathematics students, the grades awarded will be on the limited GCSE grade scale A*–E inclusive. Candidates who do not achieve the standard required for the award of Grade E will be Ungraded.

1.2 The scheme of examination is a broad-based scheme of assessment in which candidates are required to take two written papers.

1.3 Questions of a more searching nature may be set based on the content of any part of the GCSE Mathematics syllabus.

1.4 Candidates will be required to use electronic calculators. The calculators should have the functions: $+$, $-$, $\times$, $\div$, $\sqrt{}$, single memory, $\sin x$, $\cos x$, $\tan x$ and their inverses, $\frac{1}{x}$, y^x, $\log x$.

This list constitutes the minimum functions required.

1.5 The tables for the Area under the Normal Distribution Curve will be provided for Paper 2.

1.6 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

2 AIMS

The aims of a course in Additional Mathematics leading to the examination are as follows. The course should enable pupils to:

2.1 add to their mathematical knowledge, oral and written skills in a manner which encourages confidence;

2.2 enhance their ability to read mathematics, and write and talk about the subject in a variety of ways;

2.3 develop further their feel for number, carry out additional types of calculations and understand the significance of the results obtained;

2.4 apply a broader range of mathematics to a variety of situations and develop an understanding of the part which such mathematics plays in the world around them;

2.5 solve a wider selection of problems, present the solutions clearly, check and interpret the results;

2.6 develop an understanding of additional mathematical principles;

2.7 recognise when and how a wider range of situations may be represented mathematically; identify and interpret relevant factors and, where necessary, select an appropriate mathematical method to solve the problems arising;

2.8 enhance their use of mathematics as a means of communication, with emphasis on the use of clear expression;

2.9 develop further their ability to apply mathematics in other subject areas, particularly in science and technology;

2.10 develop further their abilities to reason logically, to classify, to generalise and to prove;

2.11 appreciate patterns and relationships in additional areas of mathematics;

2.12 produce and appreciate imaginative and creative work arising from additional mathematical ideas;

2.13 enhance their appreciation of the interdependence of different branches of mathematics;

2.14 extend the foundation from which they may embark on a further study of mathematics and of other disciplines.

3 ASSESSMENT OBJECTIVES

The scheme of assessment will test the ability of all candidates to:

3.1 recall, apply and interpret mathematical knowledge in a variety of contexts;

3.2 set out mathematical work, including the solution of problems, in a logical and clear form using appropriate symbols and terminology;

3.3 organise, interpret and present information accurately in written, tabular, graphical and diagrammatic forms;

3.4 perform calculations by suitable methods;

3.5 use an electronic calculator;

3.6 understand systems of measurement in scientific use and make use of them in the solution of problems;

3.7 estimate, approximate and work to degrees of accuracy appropriate to the context;

3.8 recognise patterns and structures in a variety of situations, and form generalisations;

3.9 interpret, transform and make appropriate use of mathematical statements expressed in words or symbols;

3.10 recognise and use spatial relationships in two and three dimensions, particularly in solving problems;

3.11 analyse a problem, select a suitable strategy and apply an appropriate technique to obtain its solution;

3.12 apply combinations of mathematical skills and techniques in problem solving;

3.13 make logical deductions from given mathematical data;

3.14 respond to a problem relating to a relatively unstructured situation by translating it into an appropriately structured form.

4 RELATIONSHIP BETWEEN ASSESSMENT OBJECTIVES AND CONTENT

The assessment of particular objectives cannot be prescriptively linked to particular items of content. The relationship between assessment objectives and content must be flexible in order that use can be made of various appropriate linkages of objectives to content, to suit the different abilities of candidates.

The weighting given to any particular objective may vary from year to year but no one objective will be given disproportionate emphasis.

5 SCHEME OF ASSESSMENT

5.1 The scheme of assessment will comprise two written papers. The time allocation and the weighting for each component of the examination are given as follows:

Paper 1 (2½ hours): 50%

Paper 2 (2½ hours): 50%

5.2 Paper 1 will examine topics in Pure Mathematics.

Section A will contain eight compulsory questions each worth 5% of the marks for this paper.

Section B will contain six longer questions from which the candidate will select four, each worth 15% of the marks for this paper.

Candidates will be advised to spend approximately one hour on Section A and one and a half hours on Section B.

5.3 Paper 2 will examine topics in Mechanics *and* Statistics.

Section A will contain eight compulsory questions each worth 5% of the marks for this paper. Four questions will be set on Mechanics and four on Statistics.

Section B will contain six longer questions: three on Mechanics and three on Statistics. Candidates will select two from the three Mechanics questions and two from the three Statistics questions. Each question will be worth 15% of the marks for this paper.

Candidates will be advised to spend approximately one hour on Section A and one and a half hours on Section B.

6 SYLLABUS CONTENT

The syllabus content for each of the two papers is displayed below.

Paper 1 Pure Mathematics

	Content	*Comment*
1	Addition, subtraction, multiplication and division of rational algebraic expressions with linear denominators.	
2	Formation and solution of equations in (a) one variable (b) two or three variables.	Simple and quadratic Linear simultaneous
3	Matrices – addition, subtraction and multiplication. Simple matrix properties. Association of 2 × 2 matrices with simple transformations in a plane.	Matrix multiplication is non-commutative. Enlargements, reflections and rotations. Includes rotations through angles between + and –360°.
	The determinant of a 2 × 2 matrix.	Its use as an "area enlargement factor" in related transformations.
	Inverse of non-singular 2 × 2 matrix. Solution of simple matrix equations.	
4	The function $y = \log_{10} x$ – its definition and graph. The properties of logarithms (base 10 only).	$\log AB = \log A + \log B$; $\log A/B = \log A - \log B$; $\log A^n = n \log A$.
	Solution of equations of the form $a^x = b$ (a, b constants). Use of log graphs to evaluate constants a and n in relations of the form $y = ax^n$ where a set of values for x and y are given.	
5	Radian measure.	Its use to find arc length and sector area of a circle.
6	Trigonometric ratios for angles of any magnitude.	
	The six trigonometric ratios and the relationships between them.	Only the fundamental relations.
	Solution of simple trigonometric equations between –180° and +180°.	$\tan\theta = \dfrac{\sin\theta}{\cos\theta}$ and $\sin^2\theta + \cos^2\theta = 1$ will be required in this context. Double and compound angle formulae need NOT be known.
7	Solution of triangles including their areas.	Cosine rule, sine rule (including the ambiguous case) and use of $\frac{1}{2}ab\sin C$.
	Application of trigonometry to problems involving triangles.	Including 3-dimensional problems which involve right-angled triangles only.
8	Differentiation of ax^n from first principles for $n = 0, 1, 2, 3$.	Including a sum of two of these terms.
	Differentiation of powers and sums of powers of x.	Including negative and fractional powers.
	Application of the derivative to gradients, tangents and maxima and minima.	Including problems where a variable has to be maximised or minimised.
9	Elementary curve sketching.	
10	Integration of powers and sums of powers of x.	Including fractional and negative indices but excluding $\int x^{-1}\,dx$.
	Application of definite integration to find areas under curves.	

Paper 2 Mechanics and Statistics

	Content	*Comment*
1	Concept of a vector and its representation by a directed line segment. Multiplication of a vector by a scalar. Sum and difference of vectors. Vectors in 2 dimensions, components, unit vectors.	Candidates should be familiar with the notation $\overrightarrow{AB}$ and $\underline{a}$ or bold type. The forms $\begin{pmatrix} a \\ b \end{pmatrix}$ and $a\underline{i} + b\underline{j}$ are both required.
2	Force as a vector and the units of force. Resolution of forces into components.	Using both analytical and graphical methods.
3	Moments and the principle of moments.	
4	Resultant of a set of forces acting at a point. Resultant of parallel forces.	
5	Equilibrium of a particle; triangle of forces. Equilibrium of a rigid body.	Candidates should appreciate concurrency property for three non-parallel forces. Problems involving more than four forces will not be set.
6	Friction.	Limiting friction = μN; $\tan\theta = \mu$ where θ is critical angle at which sliding occurs on an inclined plane – the "angle of friction" concept is beyond the syllabus.
7	Displacement/time and velocity/time graphs and their uses.	
8	Constant acceleration formulae.	
9	Application of differentiation and integration to simple problems in kinematics.	Displacement, velocity and acceleration as functions of time.
10	Newton's laws of motion. Application of $F = ma$ to problems including motion of connected bodies.	Straight line motion only.
11	The meaning of the following terms; Population, Sample, Discrete variable and Continuous variable.	
12	Class limits; Class boundaries; Class width; mid-value of class; age distribution. Lay-out of histograms; varying class width.	Note the exceptional case of age groupings when age is given in completed years, eg 5–9 years means $5 \leq$ age < 10 years.
13	Averages and measures of dispersion: mean, median, mode, range, interquartile range, standard deviation and variance – calculation of these from data which may be given in the form of a grouped frequency distribution.	Candidates may use an assumed mean where appropriate.
14	Probability tree diagrams. Conditional probability; use of the laws p(A and B) = p(A) × p(B|A) p(A or B or both) = p(A) + p(B) – p(A and B). Independent events; mutually exclusive events.	
15	Binomial distribution. Use of $(q + p)^n$.	Restricted to cases where $n \leq 8$
16	Use of Normal Distribution and Normal Areas from tables.	Standardisation to N(0,1).
17	Time series; seasonal variation, cyclic variation, random variation, secular trend. Use of moving average graphs; extrapolation.	

7 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall and it might conceal weakness in one aspect of the examination which is balanced by above average performance in some other.

Grade C candidates are likely to have shown a fair knowledge of the subject content. They are likely to be able to apply the knowledge, processes and skills to structured situations and show an ability to select a correct strategy to solve a multi-concept problem.

Grade A candidates are likely to have shown a good knowledge of the subject content. They are likely to be able to apply the knowledge, processes and skills to both structured and unstructured situations and show an ability to select a mathe-matical procedure to solve a problem in a real life context.

ART AND DESIGN

1 INTRODUCTION

1.1 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Art and Design. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.2 A course based on this syllabus will help to facilitate the further study of Art and Design at a more advanced level.

1.3 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.4 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 RATIONALE

2.1 Art and Design seeks to promote a broad range of interdependent and inter-related creative, expressive, inventive, imaginative, practical activities and research through which knowledge, skills and understanding can develop. Art and Design combines the visual elements within a framework in which personal enquiry and expression, the development and communication of ideas, intentions and feelings—using specialist vocabulary, where appropriate—and the handling of media, materials and processes can take place. It provides opportunities for students to research, appreciate and relate their own work to historical, cultural and other contextual influences and to engage in the ongoing process of evaluation.

2.2 The syllabus has been designed to support good practice in teaching and learning through effective assessment procedures which will allow students to demonstrate their knowledge, skills and understanding.

2.3 The syllabus requires that a wide variety of creative and expressive experiences and stimuli are provided to enable students to demonstrate knowledge, skills and understanding so that their individual potential in Art and Design may be realised.

2.4 The course aims to give students opportunities to experience Art and Design and develop visual literacy through experimenting and exploring, observing, recording, imagining, designing, creating, communicating and appreciating. It aims to provide a framework in which students' intellectual, practical, aesthetic, as well as physical, emotional, spiritual, moral, cultural and social sensibilities can develop.

2.5 This syllabus includes reference to appropriate objectives of the educational (cross-curricular) themes: cultural heritage, education for mutual understanding, health education, economic awareness, careers education and information technology.

The educational themes will not be assessed separately and therefore formal evidence of engagement will not be required in the coursework or Externally Set Assignment.

2.6 It is important that opportunities are taken through the teaching of the syllabus to help students develop competencies which are valued by employers. This syllabus will help develop the ability to:

- communicate visually and verbally;
- work independently and as a member of a group;
- undertake problem-solving activities;
- plan and complete particular tasks within time constraints;
- review and identify the strengths and weaknesses in their own work and suggest improvements;
- critically appraise the work of others;
- observe, assess and analyse a given situation;
- make informed aesthetic judgements;
- handle practical tasks successfully;
- engage in imaginative and creative activities;
- be self-motivated when undertaking work tasks.

3 AIMS

3.1 The Aims set out below describe the educational purposes of following a course in Art and Design. Some of these Aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

3.2 The Aims are to provide students with opportunities to:

(i) enrich their sensory experiences and develop aesthetic sensitivity and awareness by making personal, visual and tactile responses to feelings, ideas and environments;

(ii) develop intellectual and practical capabilities through participating creatively in a range of art activities and design activities;

(iii) appreciate and understand the relationship between their work and that of artists, designers and craftworkers in their own and in other cultures;

(iv) recognise the value and potential of their own ideas in exploring and communicating a variety of ways of seeing and responding both independently and co-operatively;

(v) be selective, discriminating, economic and safe in their use and exploration of materials, processes and technology in both two- and three-dimensions;

(vi) experience a sense of enjoyment, achievement and self-confidence by developing ideas through to completion and evaluating the effectiveness of their work;

(vii) develop a clear understanding of links between art and design qualifications at Key Stage 4 and opportunities in post-16 education, training and employment;

(viii) be aware of the history, culture and social aspects of the European Community and the influences and contributions of other communities to it;

(ix) articulate their ideas, opinions and preferences using a developed specialist vocabulary.

4 ASSESSMENT OBJECTIVES

4.1 The Assessment Objectives indicate the skills and abilities which will be assessed.

4.2 The two Assessment Objectives listed below, are clearly integrated and interdependent. While both must be assessed, each objective will not be considered in isolation.

4.3 **Assessment Objective 1: INVESTIGATING**

Students should develop their ability to investigate the real or "outer" world and the visualisation of the imaginary or "inner" world. Students should assemble, generate, develop and evaluate ideas, thoughts and feelings by researching, recording, experimenting and analysing a wide variety of references and resource materials, sources and stimuli, including the work of artists, designers and craftworkers. Students should understand that personal or group investigations are more effective when they are explored within a variety of contexts and cultures, including their own.

4.4 In Assessment Objective 1, four strands for assessment are identified. Students will be assessed on their ability to:

(i) use and experiment with a variety of media, materials, processes and techniques to explore and record ideas and observations from first-hand experience, memory and imagination;

(ii) evaluate and make decisions about their on-going work;

(iii) explore a range of reference and resource material to help establish and develop ideas for their work; and

(iv) make reference to, and imaginative use of, approaches adopted by artists/designers/craftworkers from their own and/or others' contexts and cultures.

4.5 **Assessment Objective 2: REALISING**

Students should develop their ability to express their work in creative, imaginative and considered ways to produce mainly visual and tactile outcomes in both two and three dimensions. In realising their thoughts, ideas and feelings, they should demonstrate an appropriate and competent use of visual elements, media, materials, tools, techniques, processes and technology. Students should demonstrate that they can evaluate critically their own work and that of artists, designers and craftworkers, within a broad contextual and cultural framework, and understand that this is an important part of the creative process.

4.6 In Assessment Objective 2, four strands for assessment are identified. Students will be assessed on their ability to:

(i) use and combine elements of visual language in appropriate ways to realise their intentions;

(ii) select and manipulate appropriate media, materials, processes, tools and techniques to realise their work in two and/or three dimensions;

(iii) evaluate and describe their on-going work from initial ideas through various developmental stages, to completion; and

(iv) compare and contrast their finished work with that of artists/designers/craftworkers in their own and/or others' contexts and cultures.

5 SYLLABUS CONTENT

5.1 The Syllabus Content is based on ideas and concepts linked to **detailed requirements** which are delivered through **materials, media and processes**.

5.2 **Detailed Requirements**

The detailed requirements set out the focus and context for learning experiences in Art and Design and are presented below related to each of the two Assessment Objectives.

(i) Detailed requirements Linked to Assessment Objective 1: INVESTIGATING

Students should have opportunities to:

- experiment with various ways of using a wide range of media and techniques with sensitivity and accuracy in their work, and develop specific skills for recording from direct experience of natural and made environments;
- experiment with and combine a wide range of media and techniques in two and three dimensions, to explore, express and communicate ideas and feelings, and give meaning to their work;
- use memory and imagination in the initiation, development and transformation of their ideas;
- explore and experiment with the characteristics, properties and applications of a wide range of two and three-dimensional materials, tools and processes;
- experiment with the properties and characteristics of colour and use it expressively and with meaning in their work;
- examine and analyse surfaces and experiment with ways of using texture in effective and imaginative ways;
- experiment with and use imaginatively and effectively, qualities of line and form in their images and objects;

- explore, evaluate and develop possible solutions for a given or self-generated brief, and communicate ideas visually and verbally;
- explore and investigate the use and impact of images, signs, symbols and letter forms and use their findings in the development of their work;
- investigate ways in which systems and technology, including computer-aided design and computer-aided manufacture, can be used to develop and communicate ideas and information in their own work and that of others;
- collect and organise information, record personal observations and investigations, and develop ideas for their work;
- collect, study and experiment with a range of reference and resource materials to help establish, inform and develop ideas for their work;
- use appropriate art and design vocabulary and technical terms to describe the development of ideas in their work, and make comparisons with those produced by other students;
- investigate, analyse, evaluate and appreciate the ways in which artists, designers and craftworkers work in different contexts and cultures, and use the outcome of their investigations to develop and refine their own ideas.

(ii) Detailed requirements linked to Assessment Objective 2: REALISING

Students should have opportunities to:

- select, combine and use the formal elements of the visual language including colour, texture, form and line in their images and objects in creative, imaginative and coherent ways;
- use a wide range of media and techniques, including, where appropriate, overlap, linear and aerial perspective, for recording from direct experience of the natural and made environments;
- use a wide range of media and techniques in experimental, creative and imaginative ways to realise their ideas and express their feelings and intentions;
- use and adapt a wide variety of different materials, tools and processes to make images and objects which realise effectively their desired intentions;
- respond intuitively to a stimulus and develop visual interpretations which combine a variety of media, materials and processes to realise their images and objects;
- use appropriate art and design vocabulary and appropriate technical terms to evaluate, appreciate, describe and draw conclusions about their work and that of other students;
- recognise the affinity between their own work and that of artists/designers/craftworkers from their own and/or others' cultures and explain their application and relevance.

5.3 **Materials, Media and Processes**

This section forms the basis for work associated with both Assessment Objectives.

Students should have opportunities to use:

(i) Drawing and Graphic Media
- — including a range of brushes and grades of drawing pencils, colouring pencils, charcoal, poster paints, tempera/powder paints, acrylic paints, sprayed paints, inks, oil pastels, chalk pastels, pens and crayons;

(ii) Printmaking Media
- — including mono, relief and screen printing methods, and
- — a selection of inks and dyes;

(iii) Lens-based Media
- — including a single-lens reflex camera with a variety of lenses and filters,
- — darkroom facilities to enable monochrome film to be developed and printed, and
- — a camcorder;

(iv) Information Technology
- — including a computer with word processing, graphic and computer-aided design (CAD) software;
- — computer hardware to enable imagery to be scanned and digitised, and
- — a printer;

(v) Textiles
- — including a wide variety of processes, fabrics and accessories, and
- — hand, machine and computer facilities for forming, joining, decorating and finishing fabrics;

(vi) Rigid Materials
- — including wood, metal and plastics, which could be shaped and joined using specialist tools;

(vii) Semi-rigid Materials
- — including wire, card and scrap materials;

(viii) Moulded Materials
- — including plaster, and
- — plastics, which could be moulded and joined using hand or machine processes;

(ix) Soft Materials
- — including those which can be shaped and joined by hand and machine;

(x) Ceramic Materials
- — including a clay body to which grog or other ceramic materials can be added,
- — a variety of glazes and oxides, and
- — having access to a kiln suitable for stoneware and earthenware firings.

5.4 **Visits**

Visits to museums, workshops, galleries and other locations form an important part of the experience of students in art and design.

Students should have opportunities:
- — to visit museums, workshops, galleries, industrial/commercial locations and the outdoor environment;
- — to meet artists/designers/craftsworkers in the classroom.

5.5 **References**

Access to a wide variety of reference material is an essential resource for students following courses in art and design.

Students should have opportunities:

— to access a wide variety of art, design and craft artefacts/objects both original and in the form of reproductions; and

— to view a wide variety of appropriate teaching and learning audio-visual computer resources including books, magazines and slides/films/video materials.

6 SCHEME OF ASSESSMENT

6.1 The Scheme of Assessment that follows describes each component of the examination, its weighting and details of the assessment methods to be used.

The Scheme of Assessment is designed to enable students to demonstrate the levels of attainment they have achieved in relation to both Assessment Objectives, combining evidence from the coursework component with that produced through the Externally Set Assignment;

Students must show evidence of engagement in each of the four strands of both Assessment Objectives. As it is likely that the focus of each unit of coursework will vary, it is envisaged that the emphasis placed on each strand within the Assessment Objectives will also vary. **Overall the three units of coursework presented for assessment should show evidence of all strands having been addressed. It will be the responsibility of the teacher to ensure that this balance of coverage is clearly evident.**

In the Externally Set Assignment students will be required to show evidence of **all four strands in both Assessment Objectives**.

6.2 Coursework and the Externally Set Assignment will be marked by the student's teacher. This marking will be subject to moderation by visiting moderators appointed by the Council.

(i) The allocated weighting for each component is as follows:

Coursework	60%
Externally Set Assignment	40%

(ii) The allocated weighting for each unit in the coursework is as follows:

Coursework Unit 1	20%
Coursework Unit 2	20%
Coursework Unit 3	20%

6.3 **Coursework Component**

(i) (a) **one of the three coursework units must demonstrate the student's ability to create an art outcome;**

(b) **one of the three coursework units must demonstrate the student's ability to create a design outcome.**

Students will be required to submit 3 units of coursework.

(ii) The requirements for each unit of coursework is as follows:

Coursework Unit 1 a two-dimensional activity

Coursework Unit 2 a three-dimensional activity

Coursework Unit 3

EITHER

(a) *an additional activity* that is not in the same area within the Materials, Media and Processes section of syllabus content as Coursework Unit 1 or Coursework Unit 2;

OR

(b) *a visual workbook* which should contain predominantly visual work supported by brief verbal comments and observations. The visual workbook should be used in a self-directed and personal way. It should include:

— first-hand observed studies in a variety of media;

— visual experiments using a variety of media and techniques; and

— related contextual and historical information;

OR

(c) *a focused study* which should be in the form of a verbal presentation supported by related visual material. The focused study may take the form of:

either

— a written study (hand written, typed or word-processed) of about 1,000 words with appropriate visual material; complete with investigative material;

or

— an audio/visual presentation of a similar size; complete with investigative material.

(iii) It is expected that both Assessment Objectives will be addressed by all three coursework units taken as a whole and by the terminal examination.

(iv) The *Memorandum on Internal Assessment and External Moderation* details the framework for assessment.

(v) *Appendix 1: Notes for Guidance* defines some of the terms used above.

6.4 **Externally Set Assignment**

Students will be required to produce one unit of work:

(i) The Externally Set Assignment will be distributed to students on, or near to, 1 March in the year of assessment.

(ii) Schools must provide a supervised period of twelve hours, which will be detailed within a specified week in the Council's examinations timetable within which the final outcome should be realised.

(iii) All work carried out in completing the final outcome of the Externally Set Assignment must be done within the centre and must be supervised by the teacher.

(iv) Investigatory work associated with Assessment Objective 1: *Investigating* may be undertaken as and where appropriate and need not be personally supervised by the teacher. However, the teacher should be satisfied that, to the best of his/her knowledge, all investigatory work presented for assessment is the work of the student.

(v) **All work for the final outcome for the Externally Set Assignment must be kept within the school under proper security arrangements at all stages of its completion.** It will be the responsibility of the school to ensure that no work is damaged, or in any way tampered with, prior to the arrival of the visiting moderators.

7 DIFFERENTIATION

7.1 In their responses to the Externally Set Assignment and in coursework completed for assessment, students will have opportunities to demonstrate knowledge, skills and understanding by undertaking practical tasks. The students' work will be assessed on the basis of rewarding positive achievement throughout the mark range.

7.2 Differentiation in Art and Design will be achieved by outcome only in both the coursework and Externally Set Assignment components.

8 MARKING

8.1 **The mark scale**

Each of the three Coursework Units and the Externally Set Assignment, is assessed on a **fifteen point mark scale** on which the best quality work will be awarded a mark of fifteen.

8.2 **Criteria for the award of marks**

Given the great diversity in terms of types of work undertaken by students in the coursework and Externally Set Assignment it is not possible to specify criteria for the award of marks in detail, relating to specific qualities in the work. The syllabus contains mark descriptions summarising the likely achievement of students awarded each mark.

8.3 **Mark criteria**

Mark descriptions are provided to give a general indication of the standards of achievement likely to have been shown by students awarded a particular mark. The mark awarded will depend in practice upon the extent to which the student has met the Assessment Objectives overall. Weakness in one strand of one Assessment Objective may be offset by higher achievement in a strand of the other. The mark criteria for marks of 1, 3, 5, 7, 9, 11, 13, 14 and 15 are presented below.

Students may be awarded marks in the full mark range 0–15. Work awarded 2, 4, 6, 8, 10 or 12 will not quite satisfy the criteria for the next mark above (for example 13) but may more than satisfy the criteria for the mark immediately below (for example 11). A mark of 12 would, therefore, be awarded in this example.

ASSESSMENT OBJECTIVE 1: INVESTIGATING The work demonstrates that the student has been able to:	ASSESSMENT OBJECTIVE 2: REALISING The work demonstrates that the student has been able to:
An inconsistent response showing limited handling of materials to produce a minimal performance.	
1 a experiment with a variety of media/materials to record ideas and observations from first-hand experience/memory/imagination; b describe their ideas and intentions and suggest variations; c collect reference and resource materials to stimulate their ideas; d make use of the work of artists/designers/ craftworkers in their work.	1 a identify and combine elements of the visual language to realise their intentions; b use, with understanding, the properties and characteristics of a range of two and/or three-dimensional media, materials and tools to make images and objects; c describe their finished work and relate outcome to intention; d describe the work of artists/designers/ craftworkers and make connections with their finished work.

ASSESSMENT OBJECTIVE 1: INVESTIGATING The work demonstrates that the student has been able to:	ASSESSMENT OBJECTIVE 2: REALISING The work demonstrates that the student has been able to:
A straightforward response with some competence shown in the organisation of the visual elements and use of processes to produce a basic performance.	
3 a select and experiment with a variety of media/ materials/methods to record ideas and observations from first-hand experience/ memory/imagination; b describe their ideas and methods of investigation; c collect and organise a range of reference and resource materials to stimulate their ideas; d experiment with methods adopted by artists/ designers/craftworkers from their own and other cultures.	3 a combine and organise elements of the visual language (including colour, texture, form and line) to make images and objects; b produce finished work which demonstrates the characteristics, properties and combination of a range of media, materials, tools and techniques in two and/or three dimensions; c evaluate their finished work using appropriate criteria; d recognise how artists/designers/craftworkers work in different contexts and cultures and compare outcomes with their finished work.
Show signs of response, understanding and competence in the basic handling of the visual elements, materials and processes.	
5 a select and experiment with a variety of media/ materials/methods/processes to develop ideas and record observations from first-hand experience/memory/imagination; b evaluate their ideas, investigations and experiments; c classify information from a range of reference and resource materials to develop their ideas; d adapt methods used by artists/designers/ craftworkers from their own and other cultures.	5 a combine elements of the visual language in imaginative ways to realise their intentions; b select and manipulate a range of media, materials, tools, techniques and processes in two and/or three dimensions to realise ideas; c make judgements about their finished work; d recognise links between their finished work and that of artists/designers/craftworkers in another context or culture.
Evidence of personal response with a growing understanding and competence displayed in the control and manipulation of visual elements, materials and processes.	
7 a experiment with a variety of media/materials/ methods/processes to develop ideas/record observations/explore personal perceptions from first-hand experience/memory/imagination; b evaluate their ideas/observations/investigations/experiments and modify some to generate new ideas; c explore a limited range of reference and resource material to help establish and develop ideas; d show some understanding of how similar ideas or problems have been approached by at least one other artist/designer/craftworker from either their own or another culture and use this understanding to develop methods related to their own ideas.	7 a combine elements of the visual langauge imaginatively and with some discrimination to realise their intentions; b select and manipulate media/materials/tools/ techniques/processes with some degree of control to realise their ideas in two and/or three dimensions; c make judgements and a straightforward appraisal of their own work; d recognise the links between their finished work and that of artists/designers/craftworkers in various contexts or cultures.

ASSESSMENT OBJECTIVE 1: INVESTIGATING The work demonstrates that the student has been able to:	ASSESSMENT OBJECTIVE 2: REALISING The work demonstrates that the student has been able to:
A personal, competent response resulting from investigation of resources, understanding of the visual elements and their application to produce an average performance.	
a experiment with ideas in a personal way using a range of media/materials/methods/processes to develop ideas, observations and perceptions from first-hand experience/memory/ imagination; b evaluate, modify and develop ideas, investigations and experiments and show evidence of having made decisions; c explore a fairly wide range of reference and resource material to establish and develop an idea or theme; d develop personal methods and make imaginative use of methods and approaches of artists/designers/craftworkers from other contexts and cultures.	a combine elements of the visual language in a controlled and personal way to realise their intentions; b show control and some understanding when manipulating a range of media/materials/tools/ techniques/processes, in two and/or three dimensions; c evaluate, appreciate and briefly communicate the meaning of their finished work; d compare and evaluate their finished work to that of artists/designers/craftworkers working in different contexts and cultures and recognise that there may be different interpretations.
A significant, personal and informed response with competence and understanding shown in the appropriate use of the visual elements, materials and resources to produce an above average performance.	
a investigate ideas in a personal way, using a range of media/materials/methods/processes, recording observations and perceptions from first-hand experience, memory and imagination; b evaluate ideas, analyse their investigations and experiments, and make informed decisions; c research a wide variety of reference and resource materials and select information to establish and develop an idea or theme; d experiment with, and make imaginative use of, methods and approaches of artists/designers/ craftworkers from other contexts and cultures, in exploring and developing their ideas.	a combine elements of the visual language in considered and personal ways to realise their intentions; b show control and understanding when manipulating a variety of media, materials, tools, techniques and processes to realise their chosen ideas, in two and/or three dimensions; c evaluate, appreciate and describe the meaning of their finished work; d evaluate and compare their finished work to that of artists, designers and craftworkers working in different context and cultures, and understand why there may be different interpretations.

ASSESSMENT OBJECTIVE 1: INVESTIGATING The work demonstrates that the student has been able to:	ASSESSMENT OBJECTIVE 2: REALISING The work demonstrates that the student has been able to:
A sustained personal response displaying a sound understanding through a variety of approaches and independent judgements in the imaginative use of materials and resources to produce a skilful and confident performance.	
13 a investigate ideas in a personal and imaginative way, using a wide range of media/ materials/methods/processes/approaches, including recording observations and perceptions from first-hand experience, memory and imagination; b evaluate ideas, analyse their investigations and experiments and develop alternatives; c research independently, a wide variety of reference and resource materials to extend their ideas, analyse findings and select and record relevant information; d show understanding of how similar topics or problems have been approached by artists/ designers/craftworkers from other contexts and cultures, and make imaginative use of approaches in exploring their ideas.	13 a combine elements of the visual language in confident, imaginative and fluent ways to express their intentions; b select, manipulate and control two and/or three-dimensional media, materials, tools, techniques and processes with competence and confidence in realising their ideas; c evaluate, appreciate, make informed judgements about and describe the meaning of their finished work; d demonstrate understanding of the relationship between their own finished work and that of artists, designers and craftworkers working in different contexts and cultures and recognise that all work is subject to a variety of interpretations.
A clearly self-motivated response, sustaining and extending thinking by exploiting the visual elements, materials and resources to produce a very skilful, personal interpretation of the world around them.	
14 a experiment with ideas in a personal and independent way, using a wide variety of recording methods and approaches including from first-hand experience, memory and imagination; b analyse their investigations, make informed judgements about their explorations and experiments and develop alternatives; c research and analyse independently, an extensive variety of reference and resource materials and stimuli to inform and extend their ideas and record relevant information; d show, through research and development, an understanding of how similar topics or problems have been approached by artists, designers and craftworkers from their own and other cultures, and develop approaches to extend their own ideas.	14 a combine elements of the visual language in personal, imaginative and fluent ways to express their intentions; b select, manipulate and exploit two and/or three-dimensional media, materials, tools, techniques and processes in a competent and confident manner in the making of their images and objects; c appreciate, evaluate, make informed judgements about and describe the meaning of their work and its impact upon others in the community; d demonstrate an understanding of the relationship between their own finished work and that of artists, designers and craftworkers working in different contexts and cultures; show some understanding of the relationship between art and design and society.

ASSESSMENT OBJECTIVE 1: INVESTIGATING The work demonstrates that the student has been able to:	ASSESSMENT OBJECTIVE 2: REALISING The work demonstrates that the student has been able to:
A highly creative, original, sensitive response, indicating a developing perception and critical awareness, all of which is evidenced in an outstanding performance.	
a experiment with and interpret ideas in a personal, sustained and independent way, using a wide variety of recording methods and approaches, including from first-hand experience, memory and imagination;	a combine elements of the visual language in sensitive, personal, imaginative and fluent ways in their work;
b analyse and develop their ideas, investigations and experiments to extend their thinking and perception;	b select, manipulate and exploit two and/or three-dimensional media, materials, tools, techniques and processes in competent and confident ways, to realise quality outcomes in the making of their images and objects;
c research independently, an extensive range of reference and resource materials and different types of stimuli, and understand the implications of their research and record relevant information;	c appreciate, evaluate and draw conclusions about their work, and describe its meaning, effectiveness and impact upon the wider community;
d show through independent research and development, an understanding of how similar topics and problems have been approached and dealt with by artists, designers and craftworkers from other contexts and cultures, and use findings to inform and extend their ideas.	d demonstrate an understanding of the relationship between their finished work and that of artists, designers and craftworkers working in different contexts and cultures; show an understanding of the relationship between art and design and society.

8.4 **System of marking**

The coursework and Externally Set Assignment should be presented for assessment by the students' teacher. Details on how teachers should complete the Candidate Record Sheet and mark the work can be found in paragraph 5.3 of the *Assessment Memorandum* which accompanies this syllabus.

8.5 **Grade Descriptions**

Grade descriptions are provided to give a general indication of the standards of achievement likely to be shown by candidates awarded particular grades. The grade awarded will depend in practice upon the extent to which the candidate has met the two assessment objectives. Shortcomings in some aspects of the examination may be balanced by better performance in others.

Grade F

Candidates select and record observations and present ideas and feelings in visual form. They collect visual evidence and information to support their work and experiment with source material showing development of ideas. They experiment with and use materials, tools and techniques with some control and expression. They select media and visual elements appropriate to their intentions and show some ability to modify and refine their work.

In the development of their practical work, they identify methods and approaches used in a range of images and artefacts and relate these to the time and place in which they were created. Candidates describe the characteristics of works of art, craft and design and show some ability to support their opinions, using a specialist vocabulary.

Grade C

Candidates record and analyse observations, expressing ideas and feelings and communicating meaning in visual form. They select and organise information relevant to their work. They experiment with materials, images and ideas and work independently to develop and sustain a chosen idea. They apply a broad understanding of the characteristics of materials, tools and techniques. They select from and interpret visual elements, modifying and refining their work to realise their intentions.

In the development of their practical work, candidates assess images and artefacts critically. They identify the characteristics of works from a range of styles and traditions and recognise features of continuity and change across time and place. They distinguish between methods and approaches used showing knowledge of conventions used in different times and places. They justify opinions and preferences using a specialist vocabulary.

Grade A

Candidates explore and interpret observations creatively. They express ideas and feelings skilfully, fluently and imaginatively, in visual form. They make effective and sustained use of a wide range of source material and analyse methods and outcomes to develop their own investigations. They make coherent use of visual elements, planning and subsequently developing their work in the light of their own informed judgements as to its purpose and meaning.

In the development of their practical work, candidates assess images and artefacts critically, recognising that value and meaning is subject to different inter-

pretations. They identify specific times and places through a knowledge of conventions used in specific works of art, craft and design. They show an understanding of how and why styles and traditions change or stay the same across time and place, including the contribution of expert practitioners. They articulate opinions and preferences using an extensive and accurate specialist vocabulary.

8.6 **Translation of Marks to Grades**

Translation of Marks to Grades	
73–75	A*
61–72	A
51–60	B
41–50	C
31–40	D
21–30	E
11–20	F
5–10	G
0–4	U

9 MODERATION

9.1 Standardisation in the assessment of students' work will be achieved by means of

— Agreement Trials;

— internal standardisation carried out by the teachers at each centre;

— moderation of samples of work by visiting moderators appointed by the Council.

9.2 **Agreement Trials**

Agreement Trials will be conducted annually, usually in the Spring Term, when teachers will be briefed on the application of the assessment criteria, and engage in trial marking.

9.3 **Internal Standardisation**

Each teaching group will be moderated separately by the Council based on a sample of the students' work. Centres should carry out internal standardisation of teachers' assessment before presenting work for moderation. The purpose of this exercise is to ensure as far as is possible, that each teacher in a department has applied the assessment criteria consistently across both Assessment Objectives. As a result of this, centres may have to adjust the assessments of individual teachers, before the moderation aligning them with those of other teachers to match the standards set at the Agreement Trial.

9.4 **External Moderation**

Visiting moderators appointed by the Council will visit each centre and will apply the moderation procedures set down by the Council. This will involve the scrutiny of samples of students' work in the centre.

The visiting moderators will seek to determine whether:

— internal standardisation has been achieved;

— the assessments are consistent across the rank order of each teaching group;

— any adjustment is necessary to bring the assessments into line with the standards set at Agreement Trials.

Further details can be found in the *Assessment Memorandum* which accompanies this syllabus.

9.5 During the moderation visit the display areas used for the presentation of work should be subject to the same controls and regulations as apply to other areas used for examination purposes.

9.6 **Support Service and Advice**

The Council will provide a support and advice service to teachers. At any stage during the course teachers may contact the Council if they require advice, assistance or support from appointed moderators regarding any aspect of assessment.

MEMORANDUM ON INTERNAL ASSESSMENT AND EXTERNAL MODERATION

1 INTRODUCTION

1.1 This memorandum should be read in conjunction with the GCSE Art and Design syllabus.

1.2 The Scheme of Assessment in Art and Design carries weightings as follows:

Coursework	60%
Externally Set Assignment	40%

1.3 All components will be marked by the student's teacher. This marking will be subject to moderation by the Council.

2 THE NATURE OF THE COURSEWORK

2.1 The coursework units can be undertaken in any order and at any time throughout the course.

2.2 Students will be required to present the outcomes of both the coursework and the Externally Set Assignment in their centre for the purposes of assessment and moderation.

2.3 Students should be informed that emphasis in both coursework and the Externally Set Assignment will be on the quality of the engagement with and the level of understanding achieved in the chosen activity.

3 ASSESSMENT

The scheme of assessment (syllabus paragraph 6) describes each component of the examination, the weighting for each component and the details of the assessment methods.

3.1 Assessment Procedures

The assessment procedures place emphasis on:

(i) the assessment of each individual unit of coursework and the Externally Set Assignment as separate units. Each unit will be marked on the 15-point mark scale.

(ii) the adoption of an holistic approach to the viewing of all the work of the student—that is the three units of coursework and the Externally Set Assignment. This will demonstrate the extent to which the student has developed in relation to all strands within each Assessment Objective to ensure that all eight strands have been addressed and that there is a balance of coverage in the coursework.

3.2 Assessment of Group Work

When a student produces a unit of coursework which forms part of a group project it is essential that the individual contributions are identified for assessment. This will be the responsibility of the course teacher and will require careful monitoring showing documented evidence of the student's involvement at each stage of the development of the project. This evidence should be presented by the student in written and visual form. It should clearly identify the outcomes of group debate or discussion and focus on the student's personal response to the agreed solution. In order that such group work can subsequently be moderated within the terms of the assessment objectives, the investigatory work and documented contributions of the group must be available, together with the final outcome of their combined production.

3.3 Secondary Source Material

(i) The use of secondary source material can be one means of providing access to visual information for Assessment Objective 1: *Investigating* for both coursework and the Externally Set Assignment, but it should not be used as a substitute for working directly from observation. If it is not possible to work from direct sources then secondary source material may be used, eg photographic material in commercial publications, slides, films, television, video or computer images may be acceptable providing that it challenges and extends the student's own image making creatively. Students should be advised that where possible direct experience is desirable. Teachers should always ensure that due acknowledgement of sources is given.

(ii) Photographic images are a valid means of recording visual data as part of Assessment Objective 1: *Investigating,* but can also enlarge a student's perception of the images or objects they may wish to make subsequently for Assessment Objective 2: *Realising.* Photographic images may also be the legitimate equivalent of drawings, prints or paintings when produced by the student.

(iii) A distinction must be drawn between the creative adaptation and development or combination of secondary images and their mere copying. While the former can result in work of high quality which can be suitably rewarded, it should be noted that straightforward copying of such material, which is identified as plagiarism, will gain little or no reward.

(iv) The Detailed Requirements of the content of the syllabus state that students should gain an understanding of their own work by viewing and evaluating the approaches adopted by artists/designers/craftworkers from their own and/or others' contexts and cultures. Care must be taken, however, to avoid the production of work that either duplicates or demonstrates superficial understanding and use of these approaches. Instead students should be encouraged to become involved in critical research which will enlarge their own understanding and creativity on related, or similar, topics and also develop their experience in the handling of similar materials and/or media.

4 TEACHER RESPONSIBILITY

4.1 The teacher should act as a facilitator to the student undertaking this course. The teacher should ensure that the tasks undertaken by the student as coursework are appropriate and in accordance with the syllabus requirements and can be assessed according to the assessment objectives set out in paragraphs 4.3–4.6 of the syllabus. The teacher must ensure that at least one coursework unit is realised in two-dimensions and one is realised in three-dimensions. The teacher should also ensure that the student produces these activities with at least one Art outcome and one Design outcome in keeping with the requirements of the syllabus.

4.2 In respect of the Externally Set Assignment teachers should ensure that suitable conditions and a period of twelve hours are provided for the completion of the realised piece(s). Teachers are responsible for ensuring that this work is kept within the centre under proper security conditions at all stages of its completion.

4.3 It is recommended that centres should provide adequate time for teachers to undertake assessment and internal standardisation of coursework prior to the arrival of the visiting moderators.

4.4 Formal assessment must be recorded in the appropriate place on the Candidate Record Sheet supplied by the Council. Teachers should keep more detailed records than the sheets to be completed for the Council, making reference to the appropriate strands of the assessment objectives, so that the visiting moderators can be informed of the rationale underpinning the mark awarded by the teacher.

5 TEACHER ASSESSMENT OF THE COURSEWORK UNITS

It is expected that over the duration of the course the student will demonstrate:

(i) a greater understanding of visual language and an increased competence in the use of materials, media and processes to investigate and realise their ideas and intentions;

(ii) an increased confidence concerning the evaluation and direction of their work and in the selection and manipulation of appropriate media materials and processes, and tools and techniques to realise their work in two-dimensions and three-dimensions;

(iii) an increased ability to explore, research and employ information and to evaluate and describe their work from initiation through development to completion;

(iv) an increased understanding and appreciation of the approaches adopted by artists/designers/craftworkers from their own and/or others' contexts and cultures by engagement in investigative activities related to such approaches.

The above points incorporate the four strands of Assessment Objective 1 and Assessment Objective 2. Full details can be found in paragraphs 4.3–4.6 of the syllabus.

5.1 The Coursework Units and the Externally Set Assignment as outlined in paragraphs 6.3 and 6.4 of the syllabus should be presented together in the student's centre or in any other location agreed with the Council.

5.2 Each unit of work should be assessed on a fifteen point mark scale, exclusive of zero, which will be awarded if work is missing. The marks will be determined according to the criteria outlined in paragraph 8.3 of the syllabus.

5.3 **Completing the Candidate Record Sheet**

The student's work should be presented for assessment by the student's teacher. The following are details of the procedure to be followed in the absence of any special problems associated with the work.

Coursework and Externally Set Assignment

The regulations regarding coursework are set out in the syllabus in paragraph 6.3.

The Candidate Record Sheet must be signed by the student.

Award a mark on the fifteen-point scale for each unit of work and record in the appropriate place:

(a) the mark;

(b) supporting comments, based on the mark descriptors;

(c) the total mark, applying the appropriate weightings.

5.4 **Authentication of the Student's Work**

As the final outcome of the Externally Set Assignment is completed under supervision there should be no reason to question the authenticity of the work. It is appreciated that the teacher may not be in a position to exercise the same close control over the whole of the investigatory work for the Externally Set Assignment or the coursework as some aspects of the work are likely to have been done in the student's own time. It is expected, however, that teachers will be involved in monitoring their students' progress and will be familiar with the standard and style of their work.

All centres which enter students for this examination must accept the obligation which the assessment procedure places upon teachers to take every reasonable step to ensure that the coursework and Externally Set Assignment is the authentic work of the student. Teachers should, therefore, only mark work which they believe has been completed by the student. Teachers responsible for supervising a student's coursework and Externally Set Assignment will be required to sign a declaration that, as a result of supervision throughout the course, they are satisfied that the work presented for assessment is the student's own.

5.5 **Teacher Assistance**

Occasions may arise where the teacher has to provide some assistance to a student. The following two paragraphs describe the extent to which this may be permissible. Any such assistance must be considered when assessing the student's work.

(i) *Coursework*

Unlike the other component discussed in 5.5 (ii) the work done in this section is not completed entirely for the purposes of assessment but is an integral part of the learning process of the course. It is likely to be the case, therefore, that there will be some measure of assistance given by the teacher in terms both of advice and of some limited physical help in the preparation for the completion of the work. It is likely that for most students the assistance provided will be greater in relation to pieces done early in the course than those at the end. Nonetheless, it must be the case that all work submitted as coursework for assessment is essentially the work of that student and help by the teacher must not bring to the work a more sophisticated quality than the student is capable of achieving. In reviewing the marks awarded by teachers moderators may, on occasion, wish to have some information as to the nature and scope of the assistance given by the teacher in the completion of particular items of work.

(ii) *Externally Set Assignment*

Teacher assistance should be limited to advice for the most part relating to the initial decisions taken by the students in terms of the manner in which the response to the theme should be undertaken. Such advice should be offered only in response to suggestions made by the students and must not take the form of a creative input by the teacher. It might consist, for example, of guiding a student away from a medium of which he or she has had only very limited experience or of asking a student to think again about a proposed approach which would lead to an irrelevant response to a theme or solution to a problem. Once the student has begun work on the final piece, intervention by the teacher should be limited to the prevention of material damage either to the piece itself (because of an erroneous application of a technique), or to the work of any other student or of personal injury. Advice should not be given regarding detailed execution of the work and under no circumstances should physical assistance be given which in any way would alter the final piece.

5.6 **Student Absence**

If a student is absent for any part of the time specified for undertaking the Externally Set Assignment, the student's teacher should arrange for the student to have an equivalent period of time to undertake the work which is missing. Details of the new arrangements should be recorded on the Candidate Record Sheet.

5.7 **Relevance**

The question of relevance arises only in relation to the Externally Set Assignment. As outlined in paragraph 5.5 (ii) it will be permissable in the initial stages for teachers to advise students that intended approaches may result in an irrelevant response. Nonetheless it is inevitable that the final outcome realised by some students will be considered inappropriate to the assignment chosen. Students are advised that a response to the Externally Set Assignment which is judged to be largely irrelevant will receive little reward.

5.8 **Presentation of Work**

The completed Candidate Record Sheet should be presented with the coursework and the Externally Set Assignment work.

The presentation must be easily accessible to inspection by the moderators.

Teachers and students must ensure that all audio/visual equipment and computer facilities, as required, are available and in proper working order.

6 MODERATION PROCEDURES

External moderation by moderators appointed by the Council will take place usually in the month of May. The moderators will visit each centre and apply the procedure as set out by the Council. This will involve the scrutiny of samples of work and will be drawn from across the ability range of each teaching group in the centre.

6.1 During the moderation period the display areas used should be subject to the same controls and regulations as to other areas used for examination purposes. The presentation of work must be easily accessible to inspection by the moderators.

6.2 Moderators will aim to confirm the teacher's rank order. Should the moderators feel that the teacher has been too lenient or too severe, in respect of certain aspects, they will discuss the issue with the teacher and the Head of Department and attempt to agree the mark to be awarded. If the moderators feel that it is necessary to amend the teacher's rank order this will also be discussed with the teacher and the Head of Department. If agreement cannot be reached on the marks to be awarded, the teacher and/or moderator must refer the work to the Council's Moderation Appeals Procedure.

Appeals by centres for final moderation will only be accepted at the time of the moderators' visit.

MARKS AGREED DURING MODERATION MUST NOT BE DIVULGED TO THE STUDENTS. Grades awarded will be issued by the Council in August.

6.3 **Final Moderation**

Where agreement cannot be reached as described in paragraph 6.2 above, the students should have their numbers entered on the Appeals Form supplied. Centres will be required to send to the Council all of the work of each of the students by a date which the Council will specify each year. The work from each centre will then be reviewed by senior moderators (excluding the moderators who visited the centre) and recommended marks will be awarded on the basis of their assessment of the work of the students taking into account the marks and comments both of the teacher and the moderators. At the discretion of the Council, in exceptional circumstances, arrangements may be made for the work to remain in the centre and senior moderators will then visit the centre in order to carry out the final moderation. In such a situation there will be no discussion between the senior moderators and the teachers.

6.4 Centres will be required to retain all examination work which is within their custody until the 31 October in the year of the examination.

APPENDIX 1

NOTES FOR GUIDANCE

The purpose of these *Notes for Guidance* is to clarify for teachers the meaning of each of the words, phrases or issues which follow.

(i) ***Unit of Coursework***

The term "Unit of Coursework" is used to describe the final outcome and its supporting and investigative material. It is required that all students produce realised outcomes in two-dimensional and three-dimensional art and design activities and that contextual studies form an integral part of the coursework.

(ii) ***Art***

Art may be defined as the way in which practical and intellectual skills and activity combine creatively and imaginatively leading to a visual/tactile outcome(s). Normally it will involve activities undertaken within certain constraints, which are usually determined personally by the artist, in order to pursue and/or express an idea, feeling or emotion.

(iii) ***Design***

Design may be defined as the way in which practical and intellectual skills and activity combine creatively and imaginatively in responding to a defined need or opportunity resulting in a functional outcome(s). Normally it will involve working within constraints which are usually determined by external factors.

(iv) ***Craft***

The level of practical manipulative skills evident in both art activity, and design activity.

(v) ***Two-Dimensional***

A two-dimensional unit refers to work that has length and breadth and has been developed on a flat plane. Work in low relief which has been developed on a flat surface will, for the purposes of this syllabus, be termed two-dimensional.

(vi) ***Three-Dimensional***

A three-dimensional unit refers to work that has length, breadth and height and exists in its own space. Work in high relief which has been developed on a flat surface will, for the purposes of this syllabus, be termed three-dimensional.

The Council will not be rigid in its interpretation of two-dimensional and three-dimensional where ambiguity exists.

(vii) ***Contextual***

The contextual dimension within art, design and craft activities is concerned with providing opportunities for students to develop an understanding of their work by viewing and evaluating the work of others, including artists, designers and craftworkers.

As well as enabling students to develop understanding of the role of art and design and relating their work to it, the contextual dimension also encourages students to develop an awareness of the social and environmental conditions in which something exists, and to investigate and integrate these conditions to give meaning to their work.

To understand the context of others' work requires an understanding of the conditions and culture in which it was produced. Contextual activity enables students to understand that their work is part of the development and tradition of art, design and craft that preceded it. In approaching their work in this way, students should be encouraged to adopt an enquiring attitude to ideas and values. This is best done by providing opportunities for students to talk about and describe their work and to compare and notice differences between it and that produced by others. Such opportunities should enable students to develop a vocabulary to express their ideas and feelings and to describe their work and that of others.

For assessment purposes evidence of the contextual dimension might take the form of aural/written/taped/videoed or photographic records, as appropriate to the work realised.

(viii) ***The Focused Study***

The focused study should reflect specific art or design interests of the student. It might be related to:

— more detailed study of a selected aspect of the Detailed Requirements or Material, Media and Processes sections of syllabus content.

For example:

— linked to the Detailed Requirements for Assessment Objective 1 (paragraph 5.2 (i)) the student might undertake a study of the properties and characteristics of colour and how it has been used expressively in their own work and in the work of an artist who has just had an exhibition in a local venue;

— linked to the Detailed Requirements for Assessment Objective 2 (paragraph 5.2 (ii)) the student might undertake a study of the affinity between their own work and that of a group of artists/craftworkers from a non-European culture;

— linked to any of the Materials, Media or Processes (paragraph 5.3) the student might undertake a study of current developments in computer hardware available in their school/college which enables imagery to be scanned, digitised and manipulated;

— linked to any of the Materials, Media or Processes (paragraph 5.3) the student might undertake a study of factors which have influenced the work of an artist, designer or craftworker who has visited the school/college.

(ix) ***Evidence for Assessment Objective 2:***

Assessment Objective 2: *Realising* requires students to:

- evaluate and describe their ongoing work from initial ideas, through various developmental stages to completion; and
- compare and contrast their finished work with that of artists/designers/craftworkers in their own and/or others' contexts or cultures.

Teachers and students should note that clear evidence of evaluating and describing and comparing and contrasting should be included in the supporting work. This evidence might take the form of any combination of the following:

— annotated notes;
— brief descriptions;
— written or audio recordings of observations;
— summative statements.

BIOLOGY: HUMAN

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria and components of the examination to which the criteria will be applied will be issued annually.

1 INTRODUCTION

1.1 *Candidates offering this subject will not, at the same time, be permitted to enter for GCSE Biology.*

1.2 The syllabus has been written to meet the National Criteria for Biology while placing emphasis on the human perspective. It is similar to the Biology syllabus in that it requires less knowledge of factual information and technical terms (45%) and more understanding of biological processes and of techniques for studying them (55%). It differs from the Biology syllabus in that it studies Man in much greater detail putting the emphasis on Man's relationship with other forms of life and the environment.

1.3 The syllabus incorporates a differentiated scheme of assessment based on three written papers and coursework. Paper 1 and coursework will be common to all candidates and will attract an award on the limited grade range C–G inclusive. Papers 2, 3 and coursework are designed for candidates wishing to be considered for an award on the full range of grades A*–G.

1.4 Practical skills will be assessed through the internal assessment of coursework and questions in the theory papers.

1.5 Further details on the scheme of assessment are given in section 5 of the syllabus.

1.6 The syllabus complies with the statement on "Dissection and Related Issues" issued by the GCE Examining Boards in association with the Secondary Examinations Council. Accordingly the syllabus does not require candidates to undertake dissection of whole animals. However it does include study of the anatomy and functioning of the mammalian body and it is for the teacher to decide whether the work should include demonstration of a dissected mammal or whether pupils should be given the opportunity to investigate directly the structure of, say, a heart or an eye. (A copy of the aforementioned statement is available on request from the Council).

1.7 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

2 AIMS

The aims set out below describe the educational purpose of following a course in Biology: Human suitable for candidates of both sexes of the ability range appropriate to the GCSE examination. Some of these aims are reflected in assessment objectives; others are not because they cannot readily be translated into measurable objectives.

The aims of the syllabus are:

2.1 **To encourage**

2.1.1 a positive attitude to health;

2.1.2 an attitude of curiosity and scientific enquiry;

2.1.3 a respect for all forms of life and their respective environments.

2.2 **To develop**

2.2.1 an interest in, and enjoyment of, the study of living organisms;

2.2.2 an awareness of relationships between organisms and their environment and the effect of human activities on these relationships;

2.2.3 a knowledge and understanding of fundamental biological concepts and principles;

2.2.4 a range of manipulative and communicative skills appropriate to the subject;

2.2.5 an ability to use these skills, safely, in order to identify and solve problems.

2.3 **To promote**

2.3.1 an appreciation of the importance of experimental and investigatory work in the study of biology;

2.3.2 an awareness of the development and significance of biology in personal, social, economic and technological contexts.

2.4 **To provide**

2.4.1 a worthwhile educational experience for all pupils, whether or not they go on to study biology beyond GCSE Level;

2.4.2 a suitable preparation for careers which require a knowledge of biology;

2.4.3 a suitable framework for studies above the GCSE level in biology and related disciplines.

3 ASSESSMENT OBJECTIVES

The assessment objectives listed below reflect such aspects of the educational aims as appear to be measurable. The objectives are organised within broad groups which reflect key aspects of the educational aims and also allow relationships with the core content themes to be specified (see section 4).

The objectives apply to the whole syllabus and throughout the ability range, although different candidates' performances will reflect the extent to which the objectives have been met.

3.1 **Knowledge and Understanding**

Candidates should be able to:

3.1.1 demonstrate knowledge and understanding of biological facts and principles, practical techniques and safety precautions;

3.1.2 demonstrate knowledge and understanding of the personal, social, economic and technological applications of biology in modern society;

3.1.3 use appropriate scientific terminology in demonstrating this knowledge.

3.2 **Skills and Processes**

Candidates should be able to:

3.2.1 make and record accurate observations;

3.2.2 follow experimental instructions accurately with proper regard to safety;

3.2.3 plan and conduct simple experiments to test given hypotheses;

3.2.4 formulate hypotheses and design and conduct simple experiments to test them;

3.2.5 make constructive criticisms of the design of experiments;

3.2.6 analyse, interpret and draw inferences from a variety of forms of information including the results of experiments;

3.2.7 apply biological knowledge and understanding to the solution of problems, including those of a personal, social, economic and technological nature;

3.2.8 select and organise information relevant to particular ideas and communicate this information cogently in a variety of ways, eg continuous prose, diagrams, graphs, flow charts as appropriate;

3.2.9 present biological information coherently.

4 RELATIONSHIP BETWEEN ASSESSMENT OBJECTIVES, CONTENT AND MARK ALLOCATIONS

4.1 Table 4.1 indicates mark allocations and relationships between the assessment objectives and the core content. It is recognised that marks cannot be allocated with total precision to particular components of the examination but it is intended that the figures should provide a clear guide to the required degrees of emphasis.

4.2 At least 15% of the total marks will be for questions relating to the personal, social, economic and technological applications of biology in modern society, with the greater emphasis being given to technological considerations. These questions will be set in such a way that they can only be answered from candidates' knowledge and understanding of the subject content detailed in section 6 of the syllabus.

5 SCHEME OF ASSESSMENT

5.1 The scheme of assessment consists of coursework assessment and a terminal examination. The papers are in two tiers such that Tier A, consisting of papers 1, 2 and coursework will attract an award on the grade range C–G inclusive. Tier B consists of papers 2, 3 and coursework and will attract an award on the full range of grades A*–F.

5.2 The target grades of the three papers will be:

Paper 1 Grades D–G

Paper 2 Grades C–E

Paper 3 Grades A*–C

5.3 Papers 1 and 2 together with coursework will cover all the assessment objectives and sample the whole range of the syllabus content. The standard of the papers will be such as to give all candidates the opportunity to show what they know, understand and can do.

5.4 Paper 3 will be more difficult than Papers 1 and 2. The questions will be more searching, placing a greater emphasis on application, analysis, experimental design and evaluation.

5.5 The examination papers will be targeted at the content associated with each tier of entry as set out in the content section of the syllabus. However, each paper will contain a number of questions to allow candidates to demonstrate achievement at one grade below the targeted grades for each tier of entry.

In exceptional circumstances grades may be awarded at either end of the stated ranges provided that there is clear evidence of attainment in the grade.

5.6 Examination components:

PAPER 1 (1 hour) will contain a number of compulsory questions requiring short answers.

PAPER 2 (1½ hours) will contain a number of

Table 4.1

CONTENT	ASSESSMENT OBJECTIVES		
	3.1 Knowledge and understanding	3.2 Skills and processes (including experimental and observational skills)	Mark allocations in complete assessment (%)
6.1 Diversity of organisms	—	—	5%–10%
6.2 Inter-relationships between Man and the environment	—	—	25%–40%
6.3 Organisation and maintenance of the individual	—	—	25%–40%
6.4 Development of organisms and the continuity of life	—	—	15%–25%
Mark allocations in complete assessment	Of the order of 45% assessment of experimental	Not less than 40% (including 20% to the and observational skills)	—

compulsory structured questions and an element of free response.

PAPER 3 (1½ hours) will contain a number of compulsory questions. The questions will be structured and include a larger element of free response.

COURSEWORK will be based on practical exercises which arise from the normal practical work carried out during the course and will be assessed by the candidate's teacher and externally moderated by the Council. A memorandum containing full details and guidance on teacher marking on coursework accompanies the syllabus. It is essential that teachers carefully study the memorandum before engaging in the assessment of coursework.

5.7 The allocation of marks to the various examination components will be as follows:

Tier A (C–G)		
Paper 1	Paper 2	Coursework
38	38	24
Tier B (A*–F)		
Paper 2	Paper 3	Coursework
38	38	24

6 SUBJECT CONTENT

Introduction

(a) Where appropriate the study of the material incorporated in the syllabus should be supported by practical work including the observation of living plants and animals.

(b) The content must be related wherever possible to human and social biology and to developments in bio-technology.

(c) None of the material in this syllabus should be treated in such a way that any animal is subjected to wounding or mutilation or to the deliberate infliction of disease of any kind or to conditions likely to cause pain or distress.

(d) It will be assumed that candidates will have a working knowledge of the following mathematical and scientific concepts for which SI units will be used:

(1) decimals, fractions, percentages, ratios, means and probability involving a single simple event;

(2) length, surface area and volume;

(3) line graphs, bar charts, pie charts and histograms with equal intervals;

(4) solid, liquid, gas, solution and evaporation;

(5) elements, mixtures, compounds, atoms, molecules and ions;

(6) acids, bases (alkalis) and pH scale;

(7) temperature, pressure and energy.

(e) It will be assumed that candidates will have a working knowledge of the practical use of the following reagents:

(1) Alkaline solutions (sodium or potassium hydroxide): absorption of CO_2 content of gas mixtures.

(2) Alkaline pyrogallate: absorption of O_2 and measurement of the O_2 content of a gas mixture.

(3) Benedict's reagent: test for reducing sugar.

(4) Biuret reagent (sodium or potassium hydroxide solution plus dilute copper II sulphate solution): test for protein.

(5) Cobalt chloride paper: test for water.

(6) DCPIP solution: comparison of relative concentration of vitamin C.

(7) Hydrogencarbonate indicator: detection of changes in CO_2 content.

(8) Iodine solution: test for starch.

(9) Universal indicator solutions and paper for measuring pH.

(10) Lime water: test for carbon dioxide.

(11) Methanol/ethanol: emulsion test for fats.

(12) Methylene blue: stain for plant and animal tissues.

(13) Soda-lime: absorption of CO_2.

(14) Calcium chloride: absorption of water.

6.1 Theme One: Diversity of Organisms

Characteristics of living organisms	Nutrition, respiration, movement, excretion, response to stimuli, growth, reproduction.
Range of organisms	For each type of organism listed, candidates should be able to give an example (using the common name) and identify a specimen, on the basis of the features listed. Emphasis should be placed on the organism's interaction with man in terms of its role as a pathogen, a vector of disease or source of food.
	The use of simple keys based on features listed below.
(a) Viruses	Smallest living organisms, only reproduce inside living cells, fragment of DNA within a capsule.
(b) Bacteria	Unicellular, no nuclear membrane.

(c) Animals	Arthropods (insects only): exoskeleton, three regions to body (head, thorax and abdomen), three pair of jointed legs, two pairs of wings.
	Chordates as animals with an endoskeleton.
	Bony fish: gills, fins, scales.
	Birds: feathers, beak, constant body temperature.
	Mammals: mammary glands, hair, ear pinna, internal fertilisation and development, parental care, constant body temperature. Relate pattern of fertilisation and development as adaptations to their habitats.
(d) Plants	Spermatophytes (angiosperms only): root, stems, and leaves. Flower and seed production.
(e) Fungi	Absence of chlorophyll, spore production.

6.2 Theme Two: Relationships between Man and The Environment

Energy flow through ecosystems	Food chains: producers: primary, secondary and tertiary consumers: decomposers.
	Energy losses along the food chain.
Strategies in Agriculture	Agricultural production as an energy transfer system as exemplified by agricultural food chains of local significance. The energetics of crop production compared with livestock production.
Cycles of matter	*Within this section no knowledge of names of specific microorganisms or their biochemical processes is required.*
(a) The Carbon cycle	In terms of photosynthesis, respiration and combustion.
(b) The Nitrogen cycle	In terms of the role of microorganisms in providing nitrates for plants by decomposition and nitrification. The absorption of these substances by plants and their conversion to protein. The passage of protein through food chains, death, decay and the return of nitrogen to the soil or atmosphere (denitrification). Nitrogen fixation.
	Fertilisers: natural (manure and compost) and artificial as a means of replacing nitrogen in the soil.
(c) The Water cycle	In terms of evaporation, transpiration, precipitation and drainage.
Domestic Water Supply	The sources (lakes, reservoirs, rivers, springs), treatment (sedimentation, filtration, chlorination) and fluoridation.
Sewage disposal	In terms of filtration (screening), settling, sedimentation, microbial oxidation by biological filtration and activated sludge processes. Sludge disposal including anaerobic sludge digestion.
	For the above topics, candidates are expected to understand the biological principles involved but a detailed knowledge of plant is not required.
Microorganisms as pathogens	Communicable diseases in terms of: (i) causes—viruses (Rubella, Aids), bacteria (Salmonella food poisoning), fungi (athlete's foot), protozoa (malaria): (ii) spread—by contact with water, food, air, insects and other animal vectors. (iii) control and prevention—personal hygiene, resistance of the body to infection: vaccination: immunity (natural: artificial—active and passive): sterilisation, pasteurisation, antiseptics, antibiotics: vector control (mosquito).
Non-communicable diseases	The cause, conduct and prevention of: (i) metabolic disorders (diabetes); (ii) diseases of the respiratory and circulatory systems (bronchitis, and arteriosclerosis); (iii) nutritional deficiency diseases (kwashiorkor, scurvy, and anaemia).

	The health problems associated with smoking (active and passive), obesity, drug abuse (alcohol concept of tolerance and dependence).
	World Health Organisation: its role in developing health services, eradicating diseases (smallpox), providing safe water supplies and sanitation, health statistics.
Microorganisms beneficial in food production and preservation	Use of bacteria in production of yoghurt and cheese from milk: single cell protein production. Use of fungi in baking, brewing and anitbiotic production (penicillin).
	The role of microorganisms in food spoilage.
	Food handling: the need for personal hygiene.
	Food preparation and preservation techniques as deterrents to microbial spoilage. The biological principles underlying the drying, irradiation, refrigeration and freezing of foodstuffs.
Population size: competition and control	The effects of food supply, medical care and sanitation on the rate of human population growth. Problems created by Man's current survival rate. The control of human population size.
Human interactions with the environment	Conservation of resources viewed as responsible management of the Earth's natural resources and redressing, where possible, past mistakes by man (overgrazing of pasture). Recycling of renewable materials (paper).
	The effects of agricultural practices as exemplified by soil fertility (natural artificial fertilisers, crop rotation), the prevention of erosion (appropriate ploughing procedures and reafforestation), monoculture factory farming, silage production (details of techniques not required), plant and animal breeding, pesticides herbicides.
	Food and Agriculture Organisation: its role in promoting food production programmes to eliminate starvation or malnutrition.
Pollution: The problems associated with	air: sulphur dioxide, carbon monoxide, lead, noise, radioactive fall out.
	water: detergent, silage effluent, eutrophication from cattle slurry, sewage and fertiliser run-off.
	land: disposal of domestic refuse (collection techniques not required), biodegradable (waste food) and non-biodegradable (plastic) materials.
	radioactive wastes (the disposal of these).
Parasites: their occurrence methods of spread and control	Ectoparasites (limited to lice and athlete's foot) and endoparasites (limited to Plasmodium, thread worms); their spread and control.

6.3 Theme Three: Organisation and Maintenance of the Individual

Structure of plant and animal cells as seen under the light microscope	Similarities: cytoplasm, nucleus and membranes as features common to most.
	Differences: cell wall and large vacuole as distinguishing features of most plant cells. Chloroplasts as structures containing chlorophyll essential for photosynthesis.
Specialisation of cell types	The concept of adaptation for specific functions exemplified by red blood cells, sperm cells, nerve cells and muscle cells.
Levels of organisation	Cells as building units of tissues, organs and organ systems in Man.
Enzyme action	The role of enzymes as biological catalysts in cellular activity involving both (digestion of starch, protein and fat) and building up of molecules (illustrated by reference to starch metabolism). The principle of substrate specificity: the effects of temperature and pH on enzyme action.
The principles of diffusion, osmosis and active transport	Diffusion as the means by which molecules move in and out of cells.
	Osmosis as a special case of diffusion where water molecules pass through a partially permeable membrane (*details of osmotic pressure, turgor pressure and wall pressure are not required*).

	Active uptake as a process involving the expenditure of energy and the transport of substances against a concentration gradient as exemplified by the absorption of glucose in the ileum.
Photosynthesis as a method of *transforming* and storing energy	Carbon dioxide uptake and oxygen release by a green plant in the light; sugar and starch production. (*Word equation only is required*). Testing of leaves for the presence of starch.
	Sensitivity and response in plants illustrated by phototropism as a growth movement in response to light.
Nutritional requirements for healthy growth in plants and animals	Mineral salts. Importance of the following in connection with functions indicated.
	Iron: haemoglobin;
	Magnesium: chlorophyll;
	Nitrate: amino acids;
	Calcium: teeth and bones;
	Phosphorus: ADP/ATP transformations.
	Occurrence and function of the following organic substances.
	Sugars: glucose and sucrose in green plants; glucose in animals.
	Benedict's test for reducing sugars.
	Starches: plant and animal (glycogen).
	Iodine test for starch.
	Cellulose as the main constituent of plant cell walls.
	Fats: emulsion test.
	Proteins: Biuret test for protein.
	Vitamins: A, B_1, B_3, B_{12}, C, D.
	DCPIP test for Vitamin C.
	Water: Cobalt Chloride test for water.
	Importance of a balanced diet: slimming, regular meals, dietary fibre.
	Distinction between starvation and malnutrition.
	The relative energy values of carbohydrates, proteins and fats. Food requirements in relation to age, sex and occupation: special requirements during pregnancy.
Digestion leading to absorption	Tooth structure: types and functions of teeth; dental decay and oral hygiene.
	The structure and function of the alimentary canal and the roles of the associated glands (including the salivary glands, liver and pancreas) in relation to ingestion, digestion, absorption, assimilation and egestion where appropriate.
	Function of digestion: physical and chemical; peristalsis.
	Digestion, illustrated for starches, fats and proteins with respect to saliva (mucin and amylase), gastric juice (HCl and pepsin), bile (salts) and pancreatic juice (amylase, trypsin and lipase): villi as aids to absorption. The absorption of water by the colon. The role of the liver in the assimilation of glucose, storage of iron and vitamin A.
Transport	The need for transport in Man. Structure and function of the heart, arteries, veins and capillaries. Principal blood pathways to and from the heart (including the coronary system), lungs, kidneys, liver and intestine.
	Blood pressure—principles involved in the use of the sphygmomanometer.
	Factors affecting cardio-vascular system; smoking (nicotine as a contributory factor to an irregular heart-beat and increased blood clotting), diet, exercise, stress.
	Blood: composition and functions.

	Red blood cells: haemoglobin and oxygen transport; the effect of carbon monoxide.
	White blood cells: phagocytosis and antibody formation.
	Platelets: their role in the conversion of fibrinogen to fibrin.
	Plasma: as a transport medium.
	Red bone marrow as the origin of blood cells. Relationship between plasma, tissue fluid and lymph.
	Lymph: formation; circulation; functions (return of tissue fluid to blood, production of lymphocytes, transport of fatty acids and glycerol).
	Blood groups—A, B, AB, O; Rhesus factor. Transfusion: the need for compatability. (*Understanding of mechanisms not required.*)
	Transplants: the need for tissue compatibility (skin grafts, bone marrow grafts, heart, kidney and liver transplants).
Gas exchange	Structure of human thorax and respiratory tract in relation to mechanism of breathing: tidal air, residual air and vital capacity; characteristics of a gas exchange surface; gaseous exchange in lungs and other tissues; composition of inhaled and exhaled air.
	Artificial resuscitation: the principle involved in the use of expired air for ventilation.
	Factors affecting breathing rate: exercise, altitude, number of red blood cells.
Respiration as the release of energy	Tissue respiration as an oxidative process involving the transformation of chemical energy (glucose). (*Word equation only is required.*) The utilisation of energy illustrated by muscle contraction and the transmission of nerve impulses.
	Aerobic respiration compared with anaerobic respiration, fermentation in yeast and lactic acid production in muscle. (*Word equations only required.*)
Excretion—as the elimination of metabolic by-products and the removal of toxic materials taken in from the environment	The origin of metabolic by-products in the tissues. Detoxification of alcohol and deamination in the liver.
	Lungs, skin, liver and kidneys as excretory organs.
	The structure and function of the urinary system. Simple treatment of the nephron (Bowman's capsule, glomerulus, loop of Henle and tubule) in relation to its role in ultrafiltration and selective reabsorption. Variations in the composition of urine in relation to sweating and water intake.
	Dialysis as an artificial method of filtration used in cases of kidney failure.
Sensitivity and response Co-ordination; nervous and hormonal	Human skin with respect to sensitivity to touch, temperature and regulation as a balance between heat production and loss.
	The structure and function of the eye. The principle functions of the component parts of the eye in producing a focused image on the retina under different light conditions. The functions of rods and cones. Eye protection (eyelids, tears and conjunctiva). Common defects of the eye (long and short sight) and their correction.
	Outline of the structure and function of the brain (cerebrum, cerebellum, medulla oblongata) and spinal cord including reflex action and the elements of a simple reflex are: sensory, association and other neurones.
	The endocrine origin and function of the following hormones: oestrogen, progesterone, testosterone, adrenalin and insulin.
Homeostasis	The concept of feedback as illustrated by sugar balance (insulin), temperature control (skin) and the menstrual cycle (oestrogen, progesterone, LH and FSH).
Support and Movement	The structure and functions of the skeleton.
	Names of bones limited to: cranium, vertebrae, clavicle, scapula, ribs, sternum, pelvic girdle, humerus, radius, ulna, femur, tibia, fibula.
	The structure and function of a synovial joint in terms of fibrous capsule, synovial membrane, synovial fluid and articular cartilage.
	Muscles: antagonistic pairing; good posture; the importance of exercise; muscular work, fatigue and recovery.

6.4 Theme Four: Development of Organisms and the Continuity of Life

Chromosomes as sites of genetic information	Chromosomes as the structures which carry genes: the gene as a unit of inheritance: genes as short lengths of DNA (the term DNA simply to identify a complex molecule which directs protein synthesis).
Growth as cell division	Cell division: mitosis as the exact duplication of chromosomes (*names of phases and details of DNA replication not required*).
	Measures of growth: increase in length, mass and cell numbers.
Cancer as abnormal cell division	Environmental triggers: carcinogens (smoking and lung cancer), radiation. The meaning of the terms benign and malignant. The importance of early detection. Scanning for breast and cervical cancers. Treatment of cancer: surgery, lasers, radiotherapy, chemotherapy.
Reproduction and the cyclic nature of life	The structure and function of the male reproductive system in terms of testes, scrotum, sperm ducts, prostate gland, seminal vesicles, urethra and penis.
	The structure and function of the female reproductive system in terms of ovaries, oviducts, uterus, cervix, vagina, vulva.
	The menstrual cycle, ovulation, copulation, fertilisation, implantation, gestation.
	The development of the foetus in outline: the importance of the placenta and foetal membranes.
	Birth, including contraction of the uterus, dilation of the cervix, passage along vagina and through opening. The delivery of the placenta.
	Mammary glands and lactation.
	Health pregnancy: the effects of Rubella, diet, smoking (carbon monoxide) and alcohol.
	Biological principles underlying the promotion (identifying time of ovulation, hormonal treatment, "in vitro" fertilisation) and prevention (natural, mechanical, chemical, surgical) of conception. The distinction between birth control and contraception.
	Sexually transmitted diseases; (gonorrhoea, syphilis, AIDS), their causative agents, transmission, early symptoms, effects and treatment.
	Patterns of growth; onset of puberty; development to maturity; ageing.
Inheritance and Variation	Continuous and discontinuous variation illustrated by height and tongue rolling.
	Inherited and acquired characteristics.
	Basis of variation: meiosis as reduction division and as a process which re-assorts the chromosomes (omitting crossing over and names of phases); fertilisation as a means of restoring the diploid number and combining different sets of chromosomes; mutation as a change in an inherited characteristic, with radiation and mutagenic chemicals as possible causes.
Mendelian inheritance	Limited to one pair of alleles.
	Dinstinctions between phenotype and genotype, heterozygous and homozygous, dominant and recessive alleles. Use of punnett squares to determine genotype frequencies.
	Sex determination.
	Sex linkage—limited to haemophilia and red green colour blindness.
	Genetic abnormalities: Down Syndrome (a chromosome mutation); haemophilia (a gene mutation).
Selection, natural and artificial	Artificial selection: use in animal and plant breeding for selecting variations having economic significance to Man including breeding for increased yield, food value, hardiness and disease-resistance.
	Natural selection: variation within phenotypes and competition for resources leading to differential survival. The implications of natural selection for the concept of evolution as a continuing process.

7 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall and it might conceal weakness in one aspect of the examination which is balanced by above average performance in some other.

Grade F

Candidates achieving grade F are likely to be familiar with a sufficient body of facts to be able to understand a straightforward biological statement or problem and to be able to follow routine procedural instructions.

More specifically, candidates are likely to be able to demonstrate the ability to:

1. recall basic biological facts and principles;
2. describe a limited range of simple biological experiments;
3. understand simple safety precautions in laboratory work;
4. recall simple applications of biology in modern society;
5. make simple observations from a variety of sources (e.g. photographs, drawings, graphs);
6. draw simple inferences from biological information;
7. use a knowledge of biological processes and principles in familiar situations;
8. suggest simple explanations for biological phenomena;
9. suggest and conduct simple experiment to test hypotheses;
10. criticise the design of simple experiments;
11. use sufficient biological terms to avoid misunderstanding when communicating information;
12. present biological information and ideas in a straightforward manner.

Grade C

Candidates achieving grade C are likely to possess a cohesive body of facts sufficient to allow insight into the significance of a biological statement or problem and to be able to plan experiments and to draw conclusions from their results.

More specifically, candidates are likely to be able to demonstrate the ability to:

1. recall a wide range of biological facts and principles;
2. describe a wide range of biological experiments;
3. understand simple safety precautions in laboratory work and explain the principles underlying them;
4. recall simple application of biology in modern society and explain the principles underlying them;
5. make accurate and detailed observations from a variety of sources (eg photographs, drawings, graphs);
6. analyse and interpret biological information;
7. use a knowledge of biological processes and principles in familiar situations and apply it to unfamiliar situations;
8. make hypotheses in testable form;
9. plan and conduct experiments to test and refine hypotheses;
10. criticise the design of simple experiments and suggest improvements;
11. use essential biological terms accurately when communicating information;
12. present biological information cogently in a variety of ways.

Items 1, 2, 3, 4 and 11 relate to knowledge and understanding.

Items 4, 5, 6, 7, 8, 9, 10, 11 and 12 relate to skills and scientific processes.

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The elements of Attainment Target 1 relating to exploring and investigating in science and the use of information technology will be teacher assessed as part of the internal assessment of coursework. This is to enable an assessment to be made of those skills and abilities which are best assessed in the classroom or during field study.

1.2 The statements of attainment at each level in each coursework assessment category represent the criteria against which pupils will be assessed.

Exemplar coursework material, which will assist teachers in their assessment of statements of attainment is published separately from this memorandum.

1.3 The internal assessment of coursework is subject to moderation by the Council. As all students need not be assessed at the same time, nor when carrying out the same experiment/investigation, the assessment should normally be carried out as part of normal class routine.

1.4 It is left to teachers to decide whether or not individual students should be informed that a particular assessment is being made, although it would seem to be appropriate to inform them at the start of a course that internal assessment of practical coursework will be undertaken. Teachers may give feedback on the results of assessment to their students. In such cases students should be informed that levels are subject to moderation and hence are subject to change.

2 AIMS AND OBJECTIVES

2.1 The GCSE Science Criteria stress the importance of experimental work. Some of the aims in the criteria deal directly with the role that experimental work has in the development of the skills of planning and designing experiments, carrying out investigations, interpreting results and recording and communicating these in a variety of ways.

2.2 Leading naturally from the aims, and contained within the National Criteria, are a number of assessment objectives which depend wholly or partly on skills derived from experimental work. To satisfy these objectives students will be expected to show with reference to familiar and unfamiliar situations that they can:

— understand safety procedures;

— design, conduct and interpret the results of simple experiments;

— observe, measure and record accurately and systematically;

— translate information from one form to another;

— extract and evaluate information from that which is given, including evaluation of conflicting ideas arising from experimental findings;

— present information in a precise and logical form; and in different ways;

— recognise mistakes, misconceptions, unreliable data and assumptions;

— draw conclusions and formulate generalisations from experimental data; and

— carry out exploratory tasks and work in groups and as individuals.

2.3 It would not be feasible to attempt to assess each of the objectives on each occasion for all students. Consequently the objectives have been grouped into four assessment categories described in Section 3.

3 ASSESSMENT CATEGORIES

Four assessment categories as listed below will be assessed:

A Planning

B Carrying out investigations

C Interpreting

Students should develop the intellectual and practical skills that allow them to explore biology and to develop a fuller understanding of scientific exploration and investigation. This work should take place in the context of activities that require a progressively more systematic and quantitative approach and which draw upon an increasing knowledge and understanding of science.

Assessment Category A—Planning

This concerns the ability of candidates to formulate questions which can be tested, predict the outcome of a set of experimental procedures and devise investigations to test their ideas. It includes the ability to decide on what measurements to take and how to take them and on how to control variables in order to ensure that their investigation is valid.

Assessment Category B—Carrying out investigations

This concerns the extent to which candidates can use apparatus and materials safely and effectively to make observations and measurements with increasing levels of discrimination and precision. It also involves the ability to record data in a systematic manner using an appropriate range of forms. At the higher levels candidates should be aware of sources of error and limits of accuracy.

Assessment Category C—Interpreting

This concerns the ability of candidates to recognise and explain patterns in data, to handle data in an increasing quantitative manner and to draw valid conclusions from the results of their investigations. It also involves the ability to report the complete investigation systematically and with clarity, using scientific language and notation as appropriate. At the higher levels candidates should be able to account for anomalous results, evaluate their investigation and suggest improvements.

4 CONDUCT OF THE ASSESSMENT

4.1 Assessment of categories A–C must be carried out by the teacher in the context of a complete practical situation/investigation. This should arise naturally out of the normal teaching programme for a course.

Teachers should identify in advance which categories are to be assessed within the practical situation. The teacher must ensure that the work is that of the student(s) being assessed.

4.2 For assessment categories A–C, teachers should be aware that for levels 4–10 assessments must take place in the context of a whole investigation. For levels 8–10 students have to engage in **individual** whole investigations.

4.3 Teachers are not expected to assess all of categories A–D in a single investigation. It is acceptable to record a pupil's performance in each category in the context of different activities.

4.4 It is recognised that practical work is often carried out as a group activity. When assessments are being made during group activity the teacher will have to identify separately the contribution made by an individual student and care must be taken to ensure that a student does not always adopt a more or less dominant role.

4.5 Investigations should be carried out across the full range of contexts provided by attainment targets 4–10.

4.6 Teachers must retain evidence to support the highest level of achievement in each assessment category, the work to be carried out in the context of whole investigations.

4.7 All practical work should be conducted in accordance with current regulations and recommendations relating to safety in the laboratory and in the field.

5 ASSESSMENT CRITERIA

5.1 Descriptions of the performance required for the award of levels in each of the assessment categories are set out following paragraph 5.2.

5.2 For categories A–C, the assessment criteria must be interpreted in the context of the following requirements.

Candidates should be encouraged to develop their investigative skills and understanding of science in activities which:

— are set in their everyday experience and in novel contexts, involving application of knowledge, understanding and skills, where they need to make decisions about the degree of precision and safe working required;

— encourage them to test their own ideas;

— encourage detailed planning of the activity and its subsequent evaluation in the light of findings;

— encourage the use of secondary sources in investigative work;

— are increasingly complex involving more than one independent variable;

— require key variables to be controlled and for them to recognise that need;

— require accurate measurement, with identification of, and accounting for, experimental error and anomalous results;

— encourage the systematic recording and presentation of data using, as appropriate, a full range of forms, including graphs and mathematical relationships;

— encourage pattern searching in complex data and use of these patterns for further predictions;

— involve the critical evaluation of data;

— promote the production of written critical accounts.

6 RECORDING ASSESSMENT

6.1 Teachers must keep a record of the assessment of the work of their students.

6.2 The Candidate's Record Sheet must be used to record the levels for the assessment categories being assessed.

6.3 When submitting candidates' work teachers must clearly indicate those activities/investigations which were used for assessment purposes. Assessed work must be clearly annotated to show the extent of assistance/advice given, if any.

6.4 In order that candidates may show what they can do rather than what they cannot do, the individual skills are written in positive terms rather than negatively. Thus candidates will be rewarded for chpositive achievements rather than negative achievements of failures.

6.5

Assessment Category	Weighting
A Planning	8%
B Carrying out investigations	8%
C Interpreting	8%

Level	Candidates should be able to:	Assessment Category	Possible Contexts
4	Construct fair tests of suggested ideas.	A	**USE MODEL ARM AND RELATE THE EFFORT EXERTED BY THE BICEPS MUSCLE TO THE LOAD ON THE LEVER ARM** Increasing loads at the same distance from the pivot/elbow joint. Followed written instructions. Selected and measured data to be recorded. Recorded data, drew graph and drew conclusion.
4	Demonstrate that science involves methodical and careful ways of thinking and doing. Follow written instructions and diagrammatic representations; select and use a range of measuring instruments, as appropriate, to quantify observations of physical quantities, such as volume and temperature; record results by appropriate means, such as the construction of simple tables, bar charts and line graphs.	B	
4	Draw conclusions from experimental results. Explain that evidence can be interpreted in different ways.	C	
5	Use experience and knowledge to suggest simple questions for investigation. Design investigations to answer these questions.	A	**IDENTIFY FACTORS INFLUENCING THE STRAIN/ EFFORT EXERTED BY A MUSCLE LIFTING A LOAD** Suggest and design investigation. Use measuring instruments accurately. Carry out investigation safely. Produce written conclusion from data obtained.
5	Carry out an investigation with due regard for safety; select and use measuring instruments with the required degree of accuracy.	B	
5	Make written statements of the patterns derived from the data obtained from various sources. Discuss clearly with others their explanation of scientific phenomena.	C	
6	As part of a group: prepare a plan for a simple investigation involving one independent variable, in which the key variables are named and details of the procedures are described; identify appropriate safety precautions.	A	**CONTROLLING AN INDEPENDENT VARIABLE IN MUSCLE ACTION** As part of a group; prepare a plan to control one independent variable in transpiration, eg, light intensity, wind. Work competently and safely to carry out investigation. Record data and process it. Report results and draw conclusions.
6	Participate in a small group to carry out complete simple investigations; demonstrate his/her competence in practical skills and take responsibility for his/her own record of data; use appropriate apparatus and materials safely and competently; record data in tables and translate into appropriate graphical forms.	B	
6	Communicate findings using appropriate reporting skills and a limited technical vocabulary. Draw valid conclusions on the basis of the results obtained.	C	
7	As part of a group: prepare a written plan for an investigation involving two independent variables; identify appropriate variables as independent, dependent and controlled; make decisions about the range of variation of the independent variables; identify appropriate measuring instruments; identify appropriate safety procedures.	A	**ENZYME EXPERIMENTS** **As part of a Group:** Plan investigation involving 2 independent variables. **As an individual:** Identify appropriate measuring instruments and safety procedures. Work competently. Select and record data. Produce report to explain findings.
7	Participate in a small group to safely carry out complete investigations involving two independent variables; demonstrate his/her competence in practical skills and take responsibility for his/her own record of data; be able to assemble the apparatus to form a system; demonstrate sound and safe manipulative skills; select appropriate methods of recording data.	B	
7	Produce his/her own report of a simple group investigation; present and explain patterns in the findings.	C	

Level	Candidates should be able to:	Assessment Category	Possible Contexts
8	Plan his/her own individual investigation involving two independent variables to test either the pupil's idea or one suggested by the teacher; include all aspects of the investigation as outlined in Level 7.	A	**INDIVIDUAL** With some guidance plan and competently and safely carry out an investigation involving two independent variables. Produce a full and systematic account of the investigation.
8	Safely carry out his/her own individual investigation involving two independent variables to test either the pupil's idea or one suggested by the teacher; include all aspects of the investigation as outlined in Level 7.	B	
8	Produce his/her own report of a group investigation involving two independent variables; include all aspects of the investigation as outlined in Level 7 and present these in a systematically structured and, as appropriate, illustrated report of the entire investigation.	C	
9	Plan his/her own individual investigation, testing his/her own idea developed in discussion with the teacher and involving two independent variables; include all aspects of the investigation as defined in Level 8.	A	**SENSITIVITY OF THE SKIN** With a limited amount of guidance plan and carry out safely and competently an investigation involving 2 independent variables. Appreciate the link between repeat observations and measurements and dependable results. Full and accurate presentation of investigation and findings. Evaluate experimental design and accuracy of results.
9	Safely carry out his/her own individual investigation, testing his/her own idea developed in discussion with the teacher and involving two independent variables; include all aspects of the investigation as defined in Level 8 and, in addition, be able to repeat observations and measurements to obtain dependable results.	B	
9	Include all aspects of the investigation as defined in Level 8 and, in addition, be able to: use a full range of methods, including graphs and mathematical relationships, in interpreting findings; use accurately, scientific nomenclature, symbols and conventions in communicating findings; evaluate the experimental design and accuracy of results.	C	
10	In the context of a complete investigation as defined in Level 9, be able to formulate further hypotheses which may then be tested.	A	As for Level 9 and be able to formulate further hypotheses and account for experimental error and anomalous results. Suggest improvements to experimental technique.
10	Safely carry out his/her own individual investigation, testing his/her own idea developed in discussion with the teacher and involving two independent variables; include all aspects of the investigation as defined in Level 8 and, in addition, be able to repeat observations and measurements to obtain dependable results.	B	
10	In the context of a complete investigation as defined in Level 9, be able to: account for experimental error and anomalous results; evaluate critically the entire investigation in terms of sources of unreliability and invalidity; suggest improvements in experimental technique.	C	

7 MODERATION

7.1 Agreement Trials

Agreement trials are conducted annually usually in the spring term where teachers are briefed on the application of the assessment criteria and engage in trial marking.

7.2 Supplementary Training Materials

Supplementary training materials in the form of advice on assessment and exemplar materials are issued to all centres.

7.3 Support Service and Advice

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising from the coursework with the teachers concerned by means of a visit if necessary.

7.4 Internal Standardisation

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal

standardisation it may be necessary to adjust the levels assigned by individual teachers to bring their assessments into line with those of the other teachers in the department and to match the standards promulgated at the Agreement Trial.

7.5 External Moderation

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, scrutinise samples of coursework drawn from each centre in accordance with instructions issued by the Council. The Assistant Coursework Moderators determine whether internal standardisation has been achieved within the centre, whether the assessments are consistent across the levels and whether an adjustment is necessary to bring the assessments into line with the standard agreed at the Agreement Trials. The recommendations of each Assistant Coursework Moderator are summarised and are reviewed by two other Assistant Coursework Moderators working independently. Any cases of disagreement are referred to the Coursework Moderator for resolution. Following the issue of results all centres receive a statement of the adjustments made, if any.

BUSINESS STUDIES

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and components of the examination to which the criteria will be applied, will be issued annually.

COMPUTER LITERACY AND INFORMATION TECHNOLOGY (CLAIT)

The support booklet *IT in Business Studies*, which is available from the Council, highlights the opportunities for candidates taking Northern Ireland GCSE Business Studies to gain a certificate for the information technology (IT) skills they may develop during the course. The certificate in Computer Literacy and Information Technology (CLAIT) is awarded to those candidates who meet the CLAIT requirements set by the Royal Society of Arts (RSA).

1 INTRODUCTION

1.1 The syllabus gives candidates opportunities to develop knowledge and understanding of the features and dynamics of business activity from a wide range of perspectives, for example, from economics, sociology and psychology, and from role-specific (for example, the consumer, the shareholder, the employee and the manager).

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Business Studies. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.3 A course based on this syllabus will help to facilitate the further study of Business Studies at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 The syllabus has been designed to be as free as possible from ethnic, gender, religious, political or other form of bias.

2 AIMS

The aims set out below describe the educational purposes of following a course in Business Studies. Some of these aims are reflected in the assessment objectives whilst others are not because they cannot be readily assessed.

The aims of the syllabus are to enable candidates to develop:

2.1 the ability to make rational business decisions through the application of appropriate knowledge and understanding;

2.2 knowledge and understanding of the language, concepts, techniques and decision-making processes involved in business activities;

2.3 knowledge and appreciation of the business world and of the co-operation and inter-dependence which participation in that world entails;

2.4 skills of numeracy, literacy, information technology, discovery, selection, application, interpretation and presentation of relevant sources of information;

2.5 an awareness of the nature and significance of innovation and change within the context of business activities;

2.6 knowledge, understanding and skills related to appropriate aspects of the objectives of the statutory educational (cross-curricular) themes.

3 ASSESSMENT OBJECTIVES

The Assessment Objectives indicate the skills and abilities which will be assessed. The inter-relationship between the assessment objectives and the examination components is shown in Table 4.2 overleaf.

The assessment objectives have been organised within two categories:

- knowledge and critical understanding (assessment objective 3.1);
- application of knowledge, interpretation, analysis and judgement (assessment objectives 3.2, 3.3 and 3.4).

In relation to knowledge and critical understanding, candidates will be assessed on their ability to:

3.1 demonstrate knowledge and critical understanding of the specified subject content.

In relation to the application of knowledge, interpretation, analysis and judgement, candidates will be assessed on their ability to:

3.2 apply the specified terms, concepts, theories and methods effectively to address problems and issues;

3.3 select, organise, interpret and use information from various sources, using information technology as appropriate;

3.4 evaluate evidence, make reasoned judgements and present conclusions accurately and appropriately.

4 SCHEME OF ASSESSMENT

4.1 The Scheme of Assessment consists of the assessment of coursework (20%) and a terminal examination (80%).

Table 4.2

Component	Knowledge and Understanding (assessment objective 3.1) %	Skills of Application, Interpretation Analysis and Judgement (assessment objectives 3.2–3.4) %	Component Weighting %
Paper 1 (Case Study)	6–10	20–24	30
Paper 2	10–14	36–40	50
Coursework	5	15	20
Totals	21–29	71–79	100

4.2 Table 4.2 above, indicates the relationship between the assessment objectives and the examination components.

4.3 **Differentiation**

4.3.1 Differentiation will be achieved by the provision of a terminal examination, at two Tiers, to cater for candidates of differing abilities. Differentiation in coursework will be achieved by setting tasks appropriate to candidates' levels of ability in order to enable them to demonstrate positive achievement.

4.3.2 *Entry*

There are two Tiers of entry for the examination.

Foundation Tier: Grades C–G

Higher Tier: Grades A*–D(E)

Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade D but who demonstrate the qualities associated with a grade E performance.

Within each Tier, candidates are required to sit two written papers which are externally assessed and to submit coursework which is internally assessed by the teacher and externally moderated by the Council.

4.3.3 Candidates must be entered for one Tier only at the time of entry. Centres are recommended to enter for the Higher Tier only those candidates considered capable of achieving one of the higher grades within the targeted grade range. In judging which is the more suitable Tier of entry for a candidate, centres should consider the candidate's record of performance during the course.

4.4 **Paper 1 Case Study (30%) (1½ hours)**

4.4.1 Paper 1 will be a Case Study. The Case Study material will relate to one or more areas of the syllabus content which is set out in paragraph 5 of this document. It will examine both categories of assessment objectives.

4.4.2 Case Study material for both Tiers of entry will be distributed to schools for issue to candidates on 1 March. The presentation of the material may include the use of written text, graphics, statistics and pictures.

4.4.3 From 1 March until the scheduled date of Paper 1, candidates and teachers will be free to review the material and investigate issues arising from it both within the classroom and at home. This approach permits a greater variety and quantity of stimulus material to be used, provides candidates with opportunities to collaborate with others, and enables them to demonstrate the skills and attributes required in a real-life business situation.

4.4.4 Candidates will, at the time of the examination, be provided with a fresh copy of the Case Study material. Neither the original copy of the Case Study material nor any written information relating to it may be brought into the examination room by the candidates.

4.4.5 The examination will comprise a number of unseen questions set by the Council, based on the Case Study material together with any other minor items of additional information which may be made available to candidates in the examination room.

4.4.6 The questions based on the Case Study will assess the skills, knowledge and understanding required by the syllabus content.

4.4.7 All questions will be compulsory.

4.4.8 Questions will be drawn from the Case Study material and will include the following types:

(a) selection and extraction of information from the Case Study material;

(b) factual recall and understanding of material from the syllabus content which relates to the Case Study material;

(c) analysis, interpretation and evaluation of information from the Case Study material;

(d) manipulation and presentation of data from the Case Study material;

(e) decision-making based on the Case Study material.

4.5 **Paper 2 (50%) (2 hours)**

4.5.1 Paper 2 will examine content from across the syllabus and all the assessment objectives using stimulus material as appropriate.

4.5.2 There will be four compulsory multi-part questions. The stimulus material may take a variety of forms.

4.6 **Coursework**

4.6.1 The Coursework component will consist of one assignment which should involve the candidate in research and investigation, and give scope for originality.

4.6.2 The assignment will be assessed internally by the candidate's teacher and moderated externally by the Council.

4.6.3 A memorandum containing full details on teacher marking and notes for guidance on Coursework is included in this document. It is essential that teachers study carefully the memorandum before engaging in the setting and assessment of Coursework.

5 SYLLABUS CONTENT

5.1 Introduction

5.1.1 *Teaching Strategies*

Business Studies is a dynamic subject and, where possible, candidates should be involved in activities through which they may experience, as far as is possible, the decision-making process which is faced by those involved in business in the real world. Candidates, therefore, should have opportunities to be involved in, for example:

- case studies;
- investigations;
- simulations;
- mini-enterprise.

In addition, candidates should have opportunities to have direct contacts with businesses in their local environment.

5.1.2 *Recurring Themes*

There are two recurring themes which relate to the syllabus content. They cannot be categorised within any one section. Teachers should ensure that these themes are addressed, **at appropriate points**, in their teaching programme. The two themes are outlined below.

Social costs and benefits of business activity

Some examples of the social costs and benefits of business activity are mentioned below. Teachers may wish to incorporate other examples in their schemes of work.

Business activity brings about benefits such as the creation of employment and the provision of goods and services. Nevertheless, candidates need to be aware of the potential costs such as the negative effects of, for example, possible environmental damage caused by particular business activity. The increased use of technology in production, for example, Computer Aided Manufacture (CAM) may lead to enhanced working conditions for some employees while it might create unemployment for others.

Interdependence and co-operation

Interdependence and co-operation are important factors within business activity. Some ways in which they may be seen in operation are discussed below.

Within a business people need to work together. One department may rely on the output from another department. Similarly one business may be dependent upon another for supplies. Teachers should ensure that candidates are aware of the concept of interdependence and co-operation not only within a business but also between businesses.

5.1.3 *Presentation of the Syllabus Content*

For purposes of clarity, the syllabus content is divided into sections. It is stressed, however, that, when developing their schemes of work, teachers should incorporate approaches which demonstrate the integration of the different sections.

The syllabus content is set out in two columns. The topics in the left-hand column include **only those on which candidates may be assessed**. The explanatory notes in the right-hand column specify for teachers the extent of the coverage of the topics which is required.

TOPIC AREAS	EXPLANATORY NOTES
5.2 BUSINESS: AIMS, TYPES AND ORGANISATION	
5.2.1 Aims of businesses in the private sector • Profit • Survival • Growth • Corporate image • Concern for the environment	Knowledge and understanding of how the aims of a business affect its activities.
5.2.2 Resources and assistance for a business *Resources* • Land • Labour • Capital • Enterprise	An awareness of the fundamental importance of these resources for a business.
Assistance Local Enterprise Development Unit (LEDU), Industrial Development Board (IDB), European Union (EU), banks	An awareness that advice and assistance may be obtained from bodies such as those listed. Candidates need only have an awareness of the European Union as a source of help to business.
5.2.3 Business plan Components of a business plan: • business background; • human resources plan; • financial plan; • marketing plan.	Knowledge and understanding of the reasons for the development of a basic business plan together with its essential components and what is included in them.
5.2.4 Types of business organisations *Private Sector* Sole trader Partnership Private Limited Company Public Limited Company Co-operative	Compare and contrast different types of businesses in the private sector with reference to: • ownership; • capital; • risks; • control. Candidates will only be expected to have a knowledge and understanding of worker co-operatives.
Public Sector Public Corporations Municipal Undertakings	General knowledge and understanding of public sector organisations including an awareness of contemporary developments such as the establishment of Trusts, for example, Hospital Trusts. Knowledge and understanding of the business orientated activities undertaken by local authorities such as the establishment and running of leisure centres.
5.2.5 Growth and decline of businesses Ways in which businesses may grow: • internal/organic growth; • external growth; – amalgamation/integration by merger or takeover (vertical, horizontal, lateral); – franchising. Factors which may limit the growth of firms.	Knowledge and understanding of the factors influencing the growth or decline of a business, and the limits to the growth of business.

TOPIC AREAS	EXPLANATORY NOTES
Monopolies, Mergers and Restrictive Practices Act	An awareness only of the existence and main purpose of the Act.
5.2.6 **Management structures in businesses in the private sector** • Hierarchical • Flat	An outline knowledge of, and the reasons for, these management structures.
5.2.7 **Communications** • Internal • External • Factors influencing choice • Impact of IT in communications	An awareness of the importance of communication both within a business, and between a business and external bodies.
5.3 **HUMAN RESOURCES** When considering all aspects of recruitment, selection and training, candidates should develop a knowledge and understanding of the main elements of the Fair Employment and Equal Opportunities legislation, and their implications for procedures within businesses.	
5.3.1 **Recruitment, selection and training** *Recruitment* • job analysis • job description • person specification • contract of employment	Knowledge and understanding of the purposes and content of each of the documents listed.
• methods of recruiting: – media; – Training and Employment Agency (Job Centres); – private employment agencies.	Be able to identify and explain the factors which would influence the choice of method of recruitment.
• control of recruitment: – Sex Discrimination Act; – Race Relations Act.	
Selection Methods of selection: • application form; • Curriculum Vitae (CV); • letter of application; • testing; • interview.	Knowledge and understanding of the methods of selection and why they may be used.
Training Induction and further training: • on-the-job training; • off-the-job training.	Knowledge and understanding of methods of induction and further training, and be able to justify the most appropriate method in particular circumstances.
5.3.2 **Motivation and appraisal** *Motivation* Financial: • bonus; • commission; • profit sharing; • piece work.	Knowledge and understanding of methods of motivation and be able to identify the most appropriate method for particular situations.

TOPIC AREAS	EXPLANATORY NOTES
Non-financial: • job rotation; • status; • fringe benefits.	
Appraisal Methods of appraisal: • observation; • interview.	Knowledge and understanding of the reasons for appraisal, and its benefits for employers and employees.
5.3.3 **Trade unions** • Role of trade unions, in relation to: – collective bargaining; – negotiation/ representation/industrial action.	Knowledge and understanding of the role of trade unions in relation to the issues listed, but not the structure and organisation of individual trade unions.
5.3.4 **Role of the Labour Relations Agency (LRA) in relation to:** • conciliation; • arbitration.	Awareness only of the major role of the LRA in relation to the stated activities.
5.4 **PRODUCTION**	
5.4.1 **Types of production** • Primary • Secondary • Tertiary	Classification of businesses in terms of types of production, and an awareness of the changing trends across the types of production.
5.4.2 **Scale of production** • Small • Large	Be able to identify examples of small and large scale production.
• Economies of Scale – marketing and technical economies.	Be able to explain the benefits of economies of scale.
5.4.3 **Methods of production** • Job • Batch • Flow • The implications of specialisation and division of labour for production • The impact of technology in production	Description of the features of, and distinction between, different methods of production. Explanation of most appropriate method of production in particular circumstances.
5.4.4 **Location of production** • Factors influencing choice of location: – raw materials; – transport; – labour; – incentives; – technology.	Knowledge and understanding of the factors influencing the location of production.

TOPIC AREAS	EXPLANATORY NOTES
5.5 MARKETING	
5.5.1 Market research	
• Methods of market research:	Knowledge and understanding of the methods of market research and be able to justify the most appropriate method in particular circumstances.
– primary or field;	
– secondary or desk.	
• Sampling:	
– random;	
– quota.	
• Market segmentation	
5.5.2 The marketing mix	Knowledge and understanding of the inter-relationship of the elements of the marketing mix.
• *Price*	Knowledge and understanding of the relationship between price and demand.
• Pricing policies:	
– cost based;	
– skimming;	
– competitive;	
– penetration;	
– destroyer;	
– psychological.	
• *Promotion*	
• Methods of promotion:	Knowledge and understanding of those methods of advertising and sales promotion most commonly used.
– advertising methods;	
– sales promotion methods.	
• Constraints on promotion	Elementary knowledge of the role of legislation and other bodies.
• Legal constraints:	
– Trades Descriptions Act;	
– Consumer Protection Act.	
• Work of Advertising Standards Authority;	
• Independent Television Commission;	
• Office of Fair Trading.	
• *Place*	
• Channels of distribution	Knowledge and understanding of the channels most commonly used.
• Trends	An awareness of the changing trends in the channels of distribution.
• Transport	Knowledge and understanding of the methods of distributing goods and reasons for the choice of method.
• *Product*	
• Product life-cycle:	Knowledge and understanding of the product life-cycle, including the strategies used to extend the product life-cycle.
– research and development;	
– introduction;	
– growth;	
– maturity;	
– saturation;	
– decline.	

TOPIC AREAS	EXPLANATORY NOTES
Constraints on Products • Legal constraints: – Sale of Goods Act; – Consumer Protection Act; – Food Act; – Weights and Measures Act.	Outline knowledge and understanding of the legal constraints on production.
• Work of: – Consumers' Association; – Environmental Health Officers; – Trading Standards Officers; – British Standards Institution.	Outline knowledge and understanding of the work of those listed.
Marketing abroad	Knowledge and understanding of the benefits and drawbacks of marketing abroad.
5.6 FINANCE	
5.6.1 **Business financial needs** • Start-up Capital • Additional Capital • Working Capital	Knowledge and understanding of the different types of capital.
5.6.2 **Sources of finance** • Internal sources: – owner's own capital; – retained profits; – sale of fixed assets; – sale of stocks; – debt collection.	Classification of finance into short and long-term.
• External sources: – bank loan/overdraft; – additional partners; – form a company; – leasing assets; – buying on credit; – factoring; – government grants.	
5.6.3 **Reasons for keeping business accounts:** • legal; • management and decision-making; • information for advisers, shareholders and financial consultants.	Knowledge and understanding of why businesses keep accounts.

TOPIC AREAS	EXPLANATORY NOTES
5.6.4 Interpretation of accounts	
• Trading account • Profit and loss account • Balance sheet • Ratios: – Gross profit percentage; – Net profit percentage; – Stock turnover rate; – Return on capital employed (ROCE);	Be able to undertake simple interpretations of final accounts and balance sheet. Candidates will only be expected to calculate ROCE in the following way: $\frac{\text{Net Profit}}{\text{Net Assets (fixed assets plus working capital)}} \times \frac{100}{1}$
– Current working capital ratio; – Acid test ratio.	
5.6.5 Costing	
Fixed and variable costs	Be able to distinguish between types of costs.
Break-even	Calculation of break-even both graphically and by formula. Explanation of the significance of the break-even point for a business. Calculation of the margin of safety.
5.6.6 Forecasting	
Cash flow	Knowledge and understanding of the importance of adequate cash flow within the context of forward planning.
Cash flow statement	Be able to interpret a simple cash flow statement.

6 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates will demonstrate knowledge and understanding of some aspects of the syllabus content. They will begin to apply this knowledge and understanding, using some terms, concepts, theories, processes and methods to address problems and issues. They will show some ability to select, organise, interpret and use simple information from a variety of sources. They will also make judgements and present simple conclusions which are sometimes supported by evidence.

Grade C

Candidates will demonstrate knowledge and understanding of most aspects of the syllabus content. They will apply this knowledge and understanding, using terms, concepts, theories, processes and methods appropriately to address problems and issues. They will select, organise, interpret and use information from a variety of sources. They will also make reasoned judgements and present conclusions which are supported by evidence.

Grade A

Candidates will demonstrate knowledge and critical understanding of the full range of syllabus content. They will apply this knowledge and critical understanding, using terms, concepts, theories, processes and methods effectively to address problems and issues. They will select and organise information from a wide variety of sources and interpret and use this information effectively. They will also evaluate evidence, making reasoned judgements and presenting conclusions accurately and appropriately.

COURSEWORK MEMORANDUM

1 INTRODUCTION

The Scheme of Assessment in Business Studies allocates a 20% weighting to the assessment of coursework and requires each candidate to submit **one** assignment which will be assessed initially by the candidate's teacher and moderated externally by the Council.

2 NATURE OF ASSIGNMENTS

2.1 Coursework for each candidate will take the form of **one** assignment of approximately 2500 words.

2.2 **Candidates must include the use of both a database and spreadsheet in the assignment.** The use of information technology (IT) must be shown to be part of the process of drawing conclusions incorporated in the assignment.

2.3 The work may be submitted in either written or printed form. All sources of information used should be acknowledged.

2.4 The assignment must be related to a business situation.

2.5 The candidate is expected to undertake individual desk and field research and must submit an original piece of work.

2.6 The assignment must adopt the format set out below.

Title
Aim
Planning
Collection and investigation of source material
Conclusions and evaluation
Bibliography
Appendices.

3 THE ROLE OF THE TEACHER

3.1 Teachers should ensure that the assignment:

- has a relevant title together with a clear aim;
- is an appropriate task for the candidate to undertake and can be completed effectively within a reasonable timescale;
- arises from an identifiable area or areas of the syllabus;
- relates to a realistic business situation which may concern a particular business or a more general business situation;
- can be marked appropriately using all of the assessment criteria set by the Council as detailed in paragraph 4 of the memorandum.

3.2 Candidates should be encouraged to use the teacher as a resource, but direct intervention by the teacher should be kept to a minimum. Such intervention must be reflected in the final marks awarded (see section 4). In general, however, it is expected that the teacher will give initial guidance to candidates on the following matters.

(i) Setting the task

The teacher and the candidate (or a group of candidates) should discuss the task, its aim and title;

(ii) Managing the task

Teachers may advise candidates on possible approaches and sources, for example, text books, people to consult and interview or places to visit. Teachers may also assist candidates in relation to, for example, ensuring that the candidate's work is relevant to the intended task, organisation of group activities and arranging visits.

3.3 Candidates may work in groups although each candidate must present an individual piece of work.

3.4 Teachers are responsible for ensuring the authenticity of their candidates' work.

3.5 **Annotation of Coursework**

In assessing the assignments teachers should annotate thoroughly the candidates' coursework. This will not only ensure that marks are awarded, where merited, to the candidates but will also assist the moderating process. Annotation should take the form of:

- summative comments on the work usually at the end and on the Candidate Record Sheet; and
- key pieces of evidence identified throughout the work by annotation in the margin or in the text, and comments should relate to the degree to which the work reflects the assessment criteria.

4 ASSESSMENT CRITERIA

Coursework is to be assessed under the three major headings of Planning, Collection and Investigation of Source Material, and Conclusions/Evaluation. The marks available for each of these is shown in square brackets [ ].

Marks

PLANNING **[15]**

Preparation of a detailed plan of action, listing the tasks to be completed in order of working. 10 marks

0–4 marks

The candidate's plan is vague, ill conceived and contains only a few tasks related to the aim for the assignment. The candidate has not developed a clear strategy to meet the demands and opportunities offered by the aim within a stated timescale.

5–7 marks

The candidate's plan shows evidence of identified targets to be met within a particular timescale. The order of working is not always clear but there is considerable detail to show that the candidate has developed an approach which will meet most of the demands and opportunities offered by the aim.

8–10 marks

The candidate has presented a coherent plan, with an identified order of working which is manageable within a stated timescale. The tasks to be completed are clearly identified and it is obvious that the candidate is confident about the targets to be met in order to address the demands and opportunities offered by the aim.

Identification of sources of information which may be used, together with a statement of the range of methods used for collecting information. 5 marks

0–1 marks

Little or no evidence that the candidate has been able to identify relevant sources of information, appropriate to the circumstances, which will help to fulfil the aim of the assignment. In addition, it is unclear how the candidate intends to collect the information.

2–3 marks

There is some evidence that the candidate has been able to identify a limited range of relevant sources of information, appropriate to the circumstances, which will help to fulfil the aim of the assignment. The candidate has begun to clarify some of the methods of collection but not always the most appropriate, for accessing the sources.

4–5 marks

The candidate has identified an imaginative and comprehensive range of resources, appropriate to the circumstances, which will help to fulfil the aim of the assignment. The candidate has set out clearly the proposed methods of accessing the information from the identified sources.

COLLECTION AND INVESTIGATION OF SOURCE MATERIAL [60]

Reasons for choice of range of methods used for collecting information 5 marks

0–1 marks

Little or no valid reasons given by the candidate for the choice of range of methods for collecting information.

2–3 marks

A few valid reasons given by the candidate and these reasons are reasonably well explained.

4–5 marks

Comprehensive and valid reasons, with full elaboration, are given for the choice of range of methods for collecting information.

Examination of information collected and selection of information relevant to the assignment. 25 marks

0–8 marks

The candidate is able only to undertake a rather superficial examination of the information collected. It is apparent that the candidate is unable to synthesise what is available and consequently does not identify and select what is relevant to the aim of the assignment.

When writing up the outcomes of the examination of the information collected, the assignment is poor in terms of coherence, logical reasoning, and general presentation. The information technology element appears contrived and does not add significantly to the explanation of the data collected or enhance its analysis.

9–17 marks

The candidate is able to show evidence of a more perceptual and in-depth examination of the information collected. It is apparent that the candidate, in the main, is able to synthesise the information available, and consequently, can identify a substantial amount of what is relevant to and supports the aim of the assignment.

When writing up the outcomes of the examination of the information collected, the assignment is quite good in terms of coherence, logical reasoning and general presentation. The information technology, in the main, is reasonably substantial, and is quite well integrated into the assignment. The IT helps to further elucidate the comments being made and helps to enhance the explanation of the data collected and its analysis.

18–25 marks

The candidate shows evidence of a thorough grasp of the information collected. Consequently the candidate is able to probe effectively what is available and pinpoint, with confidence and accuracy, what is relevant to and supports the aim of the assignment.

When writing up the outcomes of the examination of the information collected, the assignment is succinct, coherent and the ideas and reasoning are presented clearly and logically. The information technology has been carefully considered and planned in the context of the assignment so that it integrates fully with the assignment. The IT is substantial and is used to impressive effect to enhance the explanation of the data collected, and its analysis.

Spreadsheet max 15 marks

Use of existing spreadsheet to input or amend information

0–5 marks

or

Creation of a spreadsheet using a given design

6–10 marks

or

Design of a spreadsheet appropriate to the investigation and making use of formulae

11–15 marks

Database max 15 marks

Use of existing database to select information selecting on one criterion

0–5 marks

or

Creation of a database using given fields to record data

6–10 marks

or

Design a database appropriate to the investigation and select information using at least two criteria

11–15 marks

CONCLUSIONS/EVALUATION **[25]**

Interrogation of database and use of spreadsheet together with a statement of conclusions based on it. 10 marks

0–2 marks

Little or no evidence of any interrogation of the database or use of the spreadsheet. Consequently there are little or no conclusions drawn out from the use of IT tools.

3–6 marks

The candidate shows some ability to interrogate the database and use the spreadsheet although there are obvious limits to the level and scope of the use of the IT tools. Some conclusions have been drawn by the candidate as a result of the use of the IT tools although, once again, these conclusions are also limited in terms of quality, validity and depth.

7–10 marks

The candidate shows a high level of ability to interrogate thoroughly and imaginatively the database and use the spreadsheet. It is obvious that the candidate knows how to exploit fully these IT tools as an aid in the business context. The conclusions drawn are comprehensive, valid and show a depth of analysis which is evidence of a very competent candidate.

Draw conclusions based on relevant information. 10 marks

0–4 marks

In the context of the entire assignment only one or two conclusions drawn. The validity of these conclusions is questionable mainly because either they do not relate directly to the aim of the assignment or they are based on obscure or irrelevant information. Little or no direct connection is made with the results of the interrogation of the database and spreadsheet.

5–7 marks

In the context of the entire assignment some valid conclusions are drawn. The conclusions are somewhat limited both in terms of the use of the information, reasoning and explanations included in the earlier parts of the assignment. The conclusions are fairly superficial but there are some apparent connections made with the results of the interrogation of the database and spreadsheet. In general, a good attempt has been made to address the aim of the assignment.

8–10 marks

Wide ranging, substantial, and valid conclusions are drawn by the candidate who shows a mature understanding and overall grasp of the reasoning and thinking which is evident throughout an impressive assignment. The aim of the assignment has been exploited fully and addressed. The conclusions are both penetrating and sound and effective connections have been made with the outcomes of the interrogation of the database.

Justification of the above conclusions 5 marks

0–1 marks

The conclusions lack any real justification and are simply stated.

2–3 marks

Some attempt has been made to justify the conclusions although the justification is weak and unconvincing.

4–5 marks

The conclusions have been justified in a thorough and convincing manner.

Total **[100]**

5 MODERATION PROCEDURES

5.1 Agreement Trials

Agreement Trials will be conducted annually, prior to the date of the examination (usually in the Spring Term) where teachers will be briefed on the application of the assessment criteria and will engage in trial marking.

5.2 Support Service and Advice

At any stage during the course teachers may contact the Council if they require further advice, assistance or support regarding any aspect of Coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising from the Coursework with the teachers concerned by means of a visit if necessary.

5.3 Internal Centre Standardisation

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marking of individual teachers to bring their assessments into line with those of the other teachers in the centre and to match the standards promulgated at the Agreement Trial. Where such an adjustment is necessary the total/final mark recorded on the Candidates' Record Sheets for that Tier of entry should be amended.

5.4 External Moderation

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, will scrutinise samples of Coursework from each centre in accordance with instructions issued by the Council. The Assistant Coursework Moderators will determine from the evidence available whether internal standardisation has been achieved within the centre, whether the assessments are consistent across the rank order of candidates and whether any adjustment is necessary to bring the assessments into line with the standards agreed at the Agreement Trials. The recommendations of each Assistant Coursework Moderator are summarised and reviewed by two other Assistant Coursework Moderators working independently. Any cases of disagreement are referred to the Coursework Moderator for resolution. Following the issue of results all centres will receive a statement of the adjustments made, if any.

5.5 Full instructions about the details of the moderation procedures and the nature of sampling will be issued by the Council at the appropriate time.

CLASSICAL CIVLISATION

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria and components of the examination to which the criteria will be applied will be issued annually.

1 INTRODUCTION

1.1 The purpose of the course is to provide an understanding of some elements of the literature, civilisation and history of the Greeks and Romans which have had great influence on our own; to stimulate interest in and enthusiasm for the study of them and to fire imagination and develop experience. It specifically aims to provide both a satisfying experience in itself and a sound basis for further study.

1.2 The syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Classical Civilisation.

1.3 A course based on this syllabus will help to facilitate the further study of Classical Civilisation at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 AIMS

The aims set out below describe the educational purposes of following a course in Classical Civilisation. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed. The aims of the syllabus are to:

- acquire some understanding, in their historical context, of the civilisations of the Greeks and Romans, studied through literature and other evidence;
- read, understand, appreciate and make a personal response to some literature in translation;
- understand, appreciate and respond to some achievements of the Greeks and Romans in areas such as art, architecture and technology;
- acquire an awareness of the differences and similarities between the classical civilisations and our own; and of the contributions of those civilisations to one's own ideas and culture;
- encourage the ability to consider, select and analyse relevant information from various sources, familiar and unfamiliar; to detect bias or prejudice; to develop an awareness of others' motives and attitudes; and to set down information and ideas in a logical and concise manner.

3 ASSESSMENT OBJECTIVES

The assessment objectives indicate the skills and abilities which will be assessed.

3.1 In relation to the specified works of literature in translation candidates will be assessed on their ability to:

3.1.1 demonstrate knowledge of content, literary form and contexts;

3.1.2 understand literary, social and historical significance;

3.1.3 interpret, evaluate and respond to literature.

3.2 In relation to specified source materials and topics, candidates will be assessed on their ability to demonstrate:

3.2.1 knowledge of the society, politics and culture of the classical world;

3.2.2 understanding of the causes, consequences and relationships;

3.2.3 the ability to interpret motives and attitudes, evaluate achievements and draw comparisons between classical and later times.

This study must be in the context of archaeological, historical and literary evidence.

4 RELATIONSHIP BETWEEN THE ASSESSMENT OBJECTIVES AND CONTENT

The weighting of the objectives will be:

Paper 1: Testing Assessment Objective 3.1 – 40%

Paper 2: Testing Assessment Objective 3.2 – 40%

Coursework: Testing Assessment Objective 3.1 – 10% **and** Assessment Objective 3.2 – 10%.

5 DESCRIPTION OF EXAMINATION COMPONENTS

Paper 1: Literature in Translation

Paper 2: History and Civilisation

Paper 1

- Homer: *Odyssey*, D C H Rieu Penguin revised translation, Books 5, 6, 9, 10, 12;
- Herodotus: *The Persian War*, W Shepherd (CUP) Chapters 3-10;
- Virgil: *Selections from the Aeneid*, G Tingay (CUP) Books 1, 2, 4, 6;
- Plautus: *The Pot of Gold* and *The Swaggering Soldier*, (The Pot of Gold and Other Plays, Penguin).

Paper 2, Part 1

Athenian Democracy in its historical context.

The Roman Republic: The Age of Pompey and Caesar.

The Life and Achievements of Alexander the Great.

Aspects of the Roman Conquest of Britain 43–84 AD.

Paper 2, Part 2

Social Life in Athens in the 5th century BC.

Social Life in Rome in the 1st century AD.

6 SCHEME OF ASSESSMENT

The assessment will consist of two written papers and coursework. There will be two tiers of assessment:

Foundation Tier: for students entering for grades C–G.

Higher Tier: for students entering for grades A*–D(E).

Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade D but who demonstrate the qualities associated with a grade E performance.

Paper 1 – 40%

Literature in Translation: Two texts – 20% each

Paper 2 – 40%

History and Civilisation: Part 1 – 20%
Part 2 – 20%

Coursework – 20%.

7 TECHNIQUES OF ASSESSMENT

Paper 1 – Literature in Translation

Candidates will be expected to answer questions on two texts. Within each text there will be two source based questions and an essay question.

Within the Foundation Tier the essay question will be replaced by structured questions.

Paper 2 – History and Civilisation

Within Paper 2 there will be two source based and one essay question on each topic. Candidates must answer one topic from Part 1 and one topic from Part 2. If candidates choose a Greek topic in Part 1 of Paper 2, they must choose a Roman topic in Part 2 of Paper 2 and vice versa.

Within the Foundation Tier the essay question will be replaced by structured questions.

8 WEIGHTING OF SKILLS WITHIN THE ASSESSMENT OBJECTIVES

Knowledge and Use of Information – 30%

Ability to make statements of basic facts which are adequate, relevant and accurate and to make use of original source material.

Understanding – 30%

- ability to comment on, compare and interpret sources both prescribed and unprescribed;
- ability to explain and comment on central ideas or facts;
- ability to understand styles and techniques in literature, technology etc.

Evaluation and Response – 40%

- ability to show insight into aspects of style, character, etc;
- ability to make personal and imaginative responses;
- ability to form and express opinions logically.

Specification Grid

	Knowledge, understanding and evaluation						
Assessment Objective/ Paper	3.1			3.2			Totals
	3.1.1	3.1.2	3.1.3	3.2.1	3.2.2	3.2.3	
Paper 1	12	12	16	–	–	–	40
Paper 2	–	–	–	12	12	16	40
Coursework	3	3.5	3.5	3	3.5	3.5	20
Total	15	15.5	19.5	15	15.5	19.5	100

9 CONTENT

Paper 1: Literature in Translation

Homer: *Odyssey*, Books 5, 6, 9, 10, 12 (Penguin).

Main themes; Homer as an oral poet; the hero's code; characterisation of Odysseus; literary technique.

Herodotus: *The Persian War*, W Shepherd (CUP), Chapters 3–10.

Main themes; Herodotus as an historian; his views of Greeks and Persians; his literary technique.

Virgil: *Selections from the Aeneid*, G Tingay (CUP) Books 1, 2, 4, 6.

Main themes; Virgil's aims; his portrayal of character and of the gods; his literary technique.

Plautus: *The Pot of Gold and The Swaggering Soldier* (The Pot of Gold and Other Plays: Penguin).

Main themes; Plautus as a comic playwright; stock characters; dramatic devices and conventions; his literary technique.

Paper 2, Part 1

Athenian Democracy in its Historical Context

GROWTH OF ATHENIAN DEMOCRACY

- Solon's class system.
- Cleisthenes' tribal reorganisation.
- Further democratic reforms under Ephialtes and Pericles, decline of the oligarchs.
- Influence of demagogues.

Workings of Athenian Democracy

- Citizenship, rights and duties of citizens, status of women, metics and slaves.
- Ecclesia, Boulé, Law courts.
- Strategoi, archons, other officials.
- Military service, ostracism, Areopagus.

Consequences of the Growth of Democracy

- Formation and development of the Delian League.
- The manipulation of the League and maritime expansion.
- Extension of Athens' power in mainland Greece; conflict with Sparta and the Greek states.
- Thirty Years Peace.
- Outbreak of the Great Peloponnesian War.
- The death of Pericles and the emergence of the demagogues.

Within this section it is not necessary to have a knowledge of military campaigns after 429 BC.

The Roman Republic: The Age of Pompey and Caesar

The Government of Rome

- Citizenship: nobles, equites, plebs, clientela.
- Legislation: Senate, Assemblies.
- Magistrates and officials: consuls, praetors, aediles, quaestors, tribunes; elections.
- Provinces and armies: appointment of governors; organisation and recruitment of armies; armies and their generals.
- The legacy of Sulla: the law courts, restrictions on tribunes, provincial governors and other officials.

The Rise of Pompey and Cicero

- Pompey's commands down to 70 BC; the first consulship with Crassus.
- The early career of Cicero.
- Pompey's commands 67–62 BC; the settlement of the East.
- Rome in Pompey's absence 67–62 BC; Catiline.

The Power of Caesar

- The formation of the First Triumvirate and Caesar's first consulship; the views of Cicero.
- The principal figures and events of the fifties: Clodius, Cato, the exile of Cicero, the Conference of Luca, the death of Crassus, Pompey and the Senate: the significance (not the military history) of Caesar's command in Gaul.
- The causes and course of the Civil War between Caesar and Pompey.
- The Dictatorship of Caesar; his murder.

The Life and Achievements of Alexander the Great

Conquests

- His campaigns in: Europe, Asia, Syria, Egypt, Persia and the Far East.
- The scale and significance of his conquests.

Alexander as General

- His abilities as a soldier, general and conqueror.
- Major battles, tactics and strategies; sieges.

Alexander: Aims and Achievements

- Reasons for his conquests.
- The nature (apart from military) of his campaigns; his efforts at administration.
- Hellenisation, mixing of races, etc, reaction of his own men.
- Changes in Alexander's character, his views on religion; conspiracies and revolts; plans for the future; his death.

Aspects of the Roman Conquest of Britain 43–84 AD

Early Stages

- Earlier contacts; motives for conquest.
- Claudius' invasion and initial settlement.
- Caractacus and Ostorius: further expansion.

From Boudicca to Agricola

- Boudicca: flaws in Roman government; the outbreak of revolt; defeat and aftermath.
- Tacitus' views on Roman policy: his attitude to Agricola, and comparison with other governors.
- Agricola: the policy of expansion; conquests in Scotland; the recall of Agricola.

Romanization: Towns and Communities

- Roman provincial government: officials.
- Creation and development of different types of towns.
- Typical town plans, with examples: function and layout of various public buildings.
- Local organisation: officials and bodies.

Paper 2, Part 2

Social Life in Athens in the 5th Century BC

Home and Work

- Houses: clothes, food, women and children, daily activities.
- Work: agriculture, industry and crafts, trade and shipping, commerce.
- Slaves: origins, types of work, treatment.

Religion

- Major gods and goddesses.
- Public and private ceremonies; marriage; death.

Leisure and Education

- Baths, gymnasia, symposia, the agora, theatre, games, festivals, palaistra.
- Teachers, various stages, sophists.

Social Life in Rome in the 1st Century AD

HOME AND WORK

- Houses: (insulae, domus), clothes, food, women and children, paterfamilias, daily activities.
- Work: public and private employment, trade and commerce.
- Slaves: origins, types of work, treatment, manumission, freedmen.

RELIGION

- Major gods and goddesses.
- Public and private ceremonies; marriage; death.

LEISURE AND EDUCATION

- Baths, dinner parties, amphitheatres, Circus Maximus, theatres.
- Schools, teachers, various stages.

10 DIFFERENTIATION

Differentiation will be achieved by the use of outcomes in tiered structures in the examination papers. Differentiation will be achieved through the setting of coursework appropriate to candidates varying abilities.

11 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

In relation to specified works of literature, candidates demonstrate a basic knowledge and understanding of the prescribed texts by identifying simple narrative aspects and by offering some personal response at a basic level.

In relation to specified source material and topics, candidates demonstrate some knowledge and understanding of the customs, institutions, events and/or achievements of the classical world. They show some awareness of evidence and draw simple conclusions. Where appropriate, they make simple comparisons between classical and later times.

Grade C

In relation to specified works of literature, candidates demonstrate a sound knowledge and understanding of the prescribed texts, with an awareness of their social and historical context. They identify narrative aspects, appreciate literary techniques and offer a personal response, evaluation or interpretation.

In relation to specified source material and topics, candidates demonstrate a sound knowledge and understanding of the customs, institutions, events and/or achievements of the classical world. They evaluate evidence and draw relevant conclusions. Where appropriate, they make reasoned comparisons between the classical world and later times.

Grade A

In relation to specified works of literature, candidates demonstrate a detailed knowledge and understanding of the prescribed texts within their social and historical context. They offer an informed evaluation and interpretation of the author's ideas, opinions and literary techniques.

In relation to specified source material and topics, candidates demonstrate a good knowledge and understanding of the customs, institutions, events and/or achievements of the classical world. They evaluate evidence in depth and draw informed conclusions. Where appropriate they make perceptive comparisons between the classical world and later times.

COURSEWORK MEMORANDUM

1 INTRODUCTION

Coursework involves teacher assessment of two assignments which are the original work of a candidate. This coursework must be designed to develop the more subjective skills which are not adequately assessed by terminal written papers, and to recognise more fully the range of work undertaken by a candidate during the course. It excludes dictated notes, tests of recall, statements copied from textbooks and exercises based on regurgitation of memorised material.

2 FORM OF COURSEWORK

Candidates will be required to complete two assignments. Each assignment may consist of one piece of work or a number of structured tasks.

Assignment A – This assignment should relate to literature in translation (Paper 1).

Assignment B – This assignment should relate to the study of source material from any section of the course other than Paper 1.

Over the two pieces the total number of words used should be not less than 1500 words and not more than 2000. Within the assignment however, use can be made of diagrams, models, illustrations etc.

Teachers must submit to the Council brief details of the assignment including the titles which their candidates are proposing to offer for coursework before 31 March in the first year of the course.

3 AUTHENTICATION

Each teacher will be required to sign a declaration that the coursework presented is the work of the candidate.

4 TEACHER'S ROLE

Teachers may:

4.1 discuss with candidates a suitable choice of topics which should allow each candidate to develop his or her own particular interests; teachers should not prescribe specific topics which candidates should study, but should ensure that the topics chosen will allow all the assessment objectives to be met and that they are within the ability range of the candidate.

4.2 discuss the general organisation and treatment of the proposed topics and direct their candidates to sources of information.

4.3 encourage candidates during their work not simply to gather information but to develop skills of selection, analysis and presentation of ideas.

4.4 ensure that a full reference list of source material consulted is compiled. Teachers, however, must not draft work for the candidates to copy or directly assist them with the compilation and presentation of coursework.

5 ANNOTATION

5.1 Teachers must show clearly how marks have been awarded in relation to the marking criteria defined under Paragraph 7 of the syllabus.

5.2 It is expected that teachers should provide meaningful comment on both the candidate record sheet and on the written assignment.

5.3 Annotation should be clear and unambiguous and enable a moderator to check easily the application of the marking criteria to the marking.

6 DETAILS OF ASSIGNMENTS

Some examples are provided for guidance: they are in no way prescriptive or exclusive. Candidates will not be expected to give a comprehensive survey of all the aspects in a suggested topic but to concentrate on a few and place them in the wider context.

Assignment A

This assignment which relates to Assessment Objective 3.1 will require candidates to demonstrate their ability to undertake a study of some aspect(s) of the literature they have read in translation. They will be expected to show that they can relate their knowledge of the immediate text to the wider historical context, can comment on central ideas and facts and can appreciate the literary techniques of the author in general terms. They will also be expected to present some personal opinions and evaluation of the subject they have studied.

Teachers should encourage their pupils to compare the information and opinions given in the texts with those of other sources – literary, archaeological, and visual wherever possible and to make some judgement on their relative value.

Examples of topics

- Homer: *The Odyssey* as a collection of travellers tales, possible sources and locations for the adventures, eg Scylla and Carybdis, the Siren's Rock etc comparison with the archaeological evidence.
- Individuals in Herodotus: biographical details; part played in campaign; evidence of bias; contrast with other sources (eg Themistocles in Thucydides, Plutarch etc).
- Virgil and religion: part played by gods and goddesses in the *Aeneid*; the idea of fatum; the importance of Aeneas' visit to the Underworld: "pius Aeneas", Virgil's aims in relation to the policy of Augustus.
- Plautus: Plautus and his plots, his obligation to earlier models, contrived happy endings, later use of his themes, audience reaction.

Assignment B

This assignment which relates to Assessment Objective 3.2 will require candidates to demonstrate their ability to undertake the study of some aspect(s) of the topics on

Paper 2. The assignment should be based on source material such as translated passages from authors, archaeological evidence, scenes from vases, coins etc. Candidates will be expected to show that they can gather evidence about aspects of the classical world, compare and interpret different types of sources and make relevant use of them. They will also be expected to understand and evaluate some of the achievements of the Greeks and Romans, and to make a personal response to the information they have gathered in a logical and concise manner.

The piece of coursework can be chosen from any of the options within Paper 2. It need not be restricted to the topic chosen in the examination paper.

Examples of topics

- Roman roads; improvement in Roman Empire; choosing and surveying a route; surveying equipment (perhaps construct a groma); materials used; stages of building; comparison with modern methods; compile a week's log book of the manager of a mansio detailing his guests.
- Women in Athenian Society; sex differentials in upbringing and education; family position and responsibilities; rights and social status; comparison with women in modern society.
- The Roman Army in Britain during the conquest: limits, recruitment, tactics, camps, leisure activities; effect on civilian population.
- Life of a farmer in Attica/of a craftsman in Athens: living conditions, work, leisure, religion.

7 CRITERIA FOR THE AWARD OF MARKS

Each of the skills identified in the appropriate assessment objectives should be assessed on four bands of performance. Teachers should decide which band is most appropriate to a candidate's ability and award marks in the range indicated.

Each assignment will be marked out of 80. Within each assignment the weighting of marks must be indicated. Final marks should be out of 160, the mark will be scaled by the Council to provide a score of 20% for the overall marks for the examination.

7.1 **Knowledge and use of information** – 24 marks (6%)

Band 1 (0–5 marks) The candidate can present some selected items of information reasonably accurately, some of which are relevant: can locate appropriate source/sources, extract some specific information from it/them, and make some relevant use of it/them, with guidance.

Band 2 (6–11 marks) The candidate can present a range of selected information accurately, most of which will be relevant, in a manner which shows some connection: can locate appropriate source(s), extract information from it/them, and make some relevant use of it/them, with minimum guidance.

Band 3 (12–18 marks) The candidate can present a wide range of selected information accurately, most of which will be relevant, in a connected manner: can locate a range of sources, extract appropriate information from them and record the findings in a coherent pattern.

Band 4 (19–24 marks) The candidate can present a wide range of selected information in a connected and consistent manner: can locate all readily available sources and extract information which will fully satisfy the demands of the subject.

7.2 **Understanding** – 28 marks (7%)

Band 1 (0–6 marks) The candidate can make basic comments on the material(s) and there will be some attempt at an interpretation of it/them. There will be some evidence of comprehension of the wider aspects of the topic.

Band 2 (7–13 marks) The candidate is able to make adequate comments on the material(s) and make a reasonable attempt at interpreting it/them. There will be satisfactory evidence of comprehension of the wider aspects of the topic.

Band 3 (14–21 marks) The candidate is able to make pertinent comments on the material(s) and make a good attempt at interpreting it/them. There will be clear evidence of comprehension of the wider aspects of the topic.

Band 4 (22–28 marks) The candidate is able to make carefully assessed comments on the material(s) and show considerable skill in interpreting it/them. There will be a high degree of comprehension of the styles and techniques involved, presented in a coherent manner.

7.3 **Evaluation and Response** – 28 marks (7%)

Band 1 (0–6 marks) There will be some evidence of evaluation of the material and of the ability to give a personal response, at a basic standard.

Band 2 (7–13 marks) There will be evidence of a satisfactory evaluation of the material and the ability to draw some relevant conclusions. The personal response will show some imagination and logical thought.

Band 3 (14–21 marks) There will be clear evidence of comprehension of the material and the ability to draw coherent and relevant conclusions. The personal response will show considerable imagination and logical thought.

Band 4 (22–28 marks) There will be a high degree of comprehension and of evaluation in a coherent manner. The personal response will show a high standard of imagination.

8 MODERATION

Moderation will be by inspection on a sampling basis according to procedures laid down by the Council.

CRAFT, DESIGN AND TECHNOLOGY: Design and Realisation

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar in Paper 1 only. Details regarding the criteria and components of the examination to which the criteria will be applied will be issued annually.

1 INTRODUCTION

1.1 Craft, Design and Technology is a generic term to cover the activities required to exercise control over the man-made environment. The common core of activity can be identified as designing and communicating, making, testing and evaluating. Within this context, CDT: Design and Realisation is principally concerned with design and problem-solving processes leading to the making and evaluation of artefacts. Further details on how the syllabus promotes these processes are given in Section 6.

1.2 The scheme of assessment, common to all candidates, consists of three components: coursework, a design paper and a theory paper. Coursework will be internally assessed by the candidate's teacher and externally moderated by the Council. Further details on the scheme of assessment are given in Section 5.

1.3 The scheme of assessment is intended to discriminate across the full range of grades A*–G. Differentiation will be achieved through:

(i) differentiated questions in the theory paper;

(ii) the use of open-ended questions in the design paper to differentiate by outcome;

(iii) ensuring that in coursework, candidates are presented with tasks appropriate to their ability.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

2 AIMS

The aims set out below describe the educational purposes in following a course in CDT: Design and Realisation suitable for candidates of both sexes of the ability range appropriate to the GCSE examination. Some of these aims are reflected in assessment objectives; others are not because they cannot readily be translated into measurable objectives.

The aims of the syllabus are to:

2.1 foster awareness, understanding and expertise in those areas of creative thinking which can be expressed and developed through investigation and research, planning, designing, making and evaluating, working with materials and tools;

2.2 encourage the acquisition of a body of knowledge applicable to solving practical/technological problems operating through the processes of analysis, synthesis and realisation;

2.3 stimulate the development of a range of communication skills which are central to design, making and evalution;

2.4 stimulate the development of a range of making skills;

2.5 encourage students to relate their work, which should demand active and experiential learning based upon the use of materials in practical areas, to their personal interests and abilities;

2.6 promote the development of curiosity, enquiry, initiative, ingenuity, resourcefulness and discrimination;

2.7 encourage technological awareness, foster attitudes of co-operation and social responsibility, and develop abilities to enhance the quality of the environment;

2.8 stimulate the exercising of value judgments of an aesthetic, technical, economic and moral nature.

3 ASSESSMENT OBJECTIVES

The assessment objectives listed below reflect those aspects of the educational aims as appear to be measurable.

Candidates should be able to:

3.1 describe and apply facts, principles and concepts related to artefact and/or systems design, realisation and evaluation;

3.2 demonstrate graphical and other communication skills necessary to give, in a clear and appropriate form, information about an artefact or system;

3.3 identify problems which can be solved through practical/technological activity;

3.4 analyse problems which they have identified, or which have been posed by others, and produce appropriate design specifications taking into account technical and aesthetic aspects;

3.5 identify the resources needed for the solution of practical/technological problems;

3.6 identify the constraints imposed by knowledge, resource availability and/or external sources which will influence proposed solutions;

3.7 gather, order and assess the information relevant to the solution of practical/technological problems;

3.8 produce and/or interpret data (eg diagrams, flow charts, graphs, experimental results);

3.9 generate and record ideas as potential solutions to problems;

3.10 appraise solutions to a design problem relative to the initial specification;

3.11 select and develop a solution after consideration of the constraints of time, cost, skill and resources;

3.12 plan the production of the selected solution;

3.13 demonstrate appropriate skills, make or model the artefact or system;

3.14 propose or make modifications to a product or system both during manufacture, and after completion and evaluation;

3.15 compare and evaluate the performance of an artefact or system against its specification;

3.16 satisfy all mandatory and other necessary safety requirements during the planning and making of an artefact or system;

3.17 describe the inter-relationship between design/technology and the needs of society.

4 RELATIONSHIP BETWEEN ASSESSMENT OBJECTIVES AND CONTENT

4.1 The assessment objectives are organised into three broad categories.

4.1.1 Design skills (3.1, 3.3–3.7, 3.9–3.11, 3.14–3.15);

4.1.2 The subject related skills of making and application of knowledge about techniques and processes when using materials (3.1, 3.2, 3.4, 3.6–3.8, 3.11–3.16);

4.1.3 Knowledge (3.1, 3.4–3.6, 3.11, 3.14–3.17).

4.2 The allocation of marks to each of the above categories will be:

Design skills 40%

Subject related skills 40%

Knowledge 20%

5 SCHEME OF ASSESSMENT

5.1 The scheme of assessment, common to all candidates, will be comprised of three components: coursework, a design paper and a theory paper.

5.2 The scheme of assessment is designed to ensure proper discrimination across the ability range so that candidates can show what they know, understand and can do through:

5.2.1 a combination of short answer questions and structured questions in the theory paper;

5.2.2 the use of open-ended questions in the design paper to differentiate by outcome of response;

5.2.3 ensuring that in coursework, candidates are presented with tasks appropriate to their ability.

5.3 **Examination Components**

5.3.1 PAPER 1 (THEORY)—2 hours, will consist of two sections.

Section A will contain a number of compulsory short answer questions. Candidates will be advised to spend approximately 45 minutes on this section.

Section B will contain 3 compulsory structured questions. Each question will be designed to be of about 25 minutes duration and test application of knowledge to a specific problem solving situation.

5.3.2 PAPER 2 (DESIGN)—2¼ hours, will require candidates to answer a single design problem from one of five set. Each problem will include a design brief. The rubric to accompany the paper will contain the following instructions to candidates.

For the one problem you select, present your answer in the following manner.

(i) (a) Make a series of notes and/or sketches which indicate that you have fully analysed *five* relevant factors which should be included in an appropriate solution.

(b) Produce a range of freehand sketches showing that you have considered three alternative solutions. Evaluate each idea proposed.

(c) Select one of the solutions and develop it. Consideration should be given to the following:

function, materials, construction, aesthetics, finish.

(ii) On a new sheet of paper draw your chosen solution by an appropriate means to clearly illustrate details of materials, dimensions, construction and finish. Relevant BSI recommendations should be applied where appropriate.

5.4 **Coursework**

A memorandum containing full details and guidance for teachers in the marking of coursework accompanies the syllabus. It is essential that teachers study this memorandum before commencing assessment.

Candidates will be required through coursework to illustrate their ability to design and make. Candidates should be encouraged to identify problems or needs of their own choice which can be solved through practical activity. Design studies can be realised in any suitable material or combination of materials in the school workshop and should reflect a high standard of workmanship.

5.5 The allocation of marks to the various examination components will be as follows:

Coursework 50%

Theory Paper 25%

Design Paper 25%

5.6 The percentage weightings of the grouped assessment objectives within each of the components will be:

	Design Skills	Subject related skills	Knowledge	Total
Coursework	20	30 (making)	—	50
Theory Paper	5	5 (principles)	15	25
Design Paper	15	5 (principles)	5	25
Total	40	40	20	100

6 CONTENT

Introduction

(a) The subject content is intended to promote the teaching of design and realisation through design and problem-solving processes leading to the making and evaluation of artefacts. It requires candidates to have imagination and an understanding of materials and technologies. It also demands active workshop experience and leads to the appreciation and production of work of quality.

Students will be expected to have a fundamental knowledge of wood, metal and plastic but it is not intended to restrict candidates to these materials. It will be possible in coursework for candidates to use other materials in everyday use and new materials as they develop. It is also recognised that in some cases it may be either difficult or inappropriate for students to have hands-on workshop experience in a range of materials. The syllabus will provide for such cases by allowing them to specialise in a single material in their coursework and the design paper.

(b) It is intended that the theoretical work in the syllabus should not be taught in isolation but will arise in association with candidates' practical work undertaken during the course.

Throughout the course candidates should be made aware of the possible dangers involved in using workshop equipment.

Safe working practices should be emphasised in all practical work.

(c) The subject content on the subsequent pages is arranged under the following headings:

6.1 Design

6.2 Communication

6.3 Technology

6.4 Materials

6.5 Planning

6.6 Making

Under each of the headings the topics are described in terms of objective outcomes and accompanied by notes for guidance.

6.1 Design

Topic	Objectives	Notes for guidance
6.1.1 General problem area	Candidates should be able to	
	Recognise problems and within them identify particular needs which can be solved through practical activity.	
	Analyse problems which have been self-identified or posed by others and produce a design specification.	Specify exact need.
	Write defined design task/brief which sets parameters.	Candidates should show an awareness of factors upon which a solution will depend.
6.1.2 Identification research	Identify the resources needed for the solution of practical problems.	Analyse design brief, research and collect data.
	Identify the constraints imposed by knowledge, resource availability and/or external sources which influence proposed solutions.	List attributes required and constraints encountered.
	Gather, order and assess information relevant to the solution of practical problems.	
6.1.3 Possible solutions	Generate and record ideas as potential solutions to identified problem or need.	Resources used to help develop a solution which include sketches, models, mock-ups, photography, calculations and discussions. Access to sources of assistance inside and outside the school should be encouraged.
	Appraise solutions to a design problem relative to the initial specification.	
	Select and formulate design proposal.	

6.1.4	Optimum Solution	Select a solution stating reasons for choice.	The choice of solution should be based on consideration of factors such as time, cost, skill, resources, etc.
		Develop chosen solution reverting back to an earlier stage if necessary.	
6.1.5	Evaluation Testing	Discriminate and establish criteria for assessing the extent to which their own solutions meet the initial specification.	Candidates should test an artefact with reference to the original need.
	Diagnosis	Devise simple tests to identify faults and weaknesses in their own solutions and artefacts.	
	Critical appraisal	Criticise their own work with the need to modify or rethink ideas and methods; demonstrate the ability to gauge the efficiency of a designed system.	Assess relevant factors such as technical, aesthetic, economic, safety, durability, marketability, environmental or social effects.
6.2	**Communication**		
6.2.1	Initiation, development and recording of ideas and information	Extract relevant information from sources (written, graphical, oral);	
6.2.2	Communication of ideas	Demonstrate graphical and other communication skills necessary to give in a clear and appropriate form, information about an artefact or system.	Use technical vocabulary and number skills and produce sketches, models, diagrams, drawings (such as perspective, isometric, orthographic, etc) and written materials which communicate their ideas with precision and clarity.
			Working drawings to be fully dimensioned with consideration given to relevant British standards.
6.3	**Technology**		
		Demonstrate a qualitative understanding of the technological principles and terminology which underlies their design and realisation work.	Produce and/or interpret data, eg diagrams, flow charts, graphs, experimental results with respect to 6.3.1–6.3.5 below.
6.3.1	Structures	Demonstrate knowledge and understanding of the factors influencing the design of a structure (situation, materials, constructional methods and structural principles) and how they relate to the form of a structure.	Calculations will not be required.
			Analyse and identify the nature of the following effects of forces acting in structure: tensile, compressive, shear, torsional, bending. Fundamental consideration of equilibrium.
6.3.2	Energy	Demonstrate knowledge and understanding of alternative forms of energy.	Awareness of the various sources of energy: wind, water, solar, coal, gas and oil.
			Appreciate simple energy transformation and be aware of the main forms in which energy is used and conserved.
		Demonstrate understanding of kinetic potential and heat energy.	Use of springs, elastic bands, clockwork motors etc.
6.3.3	Mechanisms	Demonstrate knowledge and understanding of basic mechanical movement.	Knowledge of four basic kinds of motion: linear, reciprocation, rotary and oscillating.
6.3.4	Control	Apply knowledge of simple control techniques to the solution of practical problems.	Components should be worked as input, output or conditioning devices. Electrical switching in circuits.

6.3.5	Ergonomics and Anthropometrics	Apply knowledge about human dimensions and physical attributes to design problems.	Candidates should be aware of standard sources of information. Mock-ups and information should be used as design aids and simple tests carried out to check ergonomic factors.
6.3.6	Design & Safety	Demonstrate knowledge and understanding of the effect of design and technological activity on social, environmental and economic issues.	Case studies could be taken for group discussion, eg the microelectronics revolution.

6.4 Materials

This section should be studied with an emphasis placed on the applications and uses of materials in practical problem solving situations. Candidates should be able to have a reasonable selection of suitable materials for a stated application.

	Topic	Objectives	Notes for guidance
6.4.1	*Timbers*		
	Identification	Demonstrate knowledge and understanding of the basic differences between natural and manufactured forms of timber including the differences between hardwoods and softwoods.	Basic differences in hard and softwoods for one named hardwood and one named softwood normally found in school workshops. A working knowledge of one of the following manufactured boards: plywood, block board, chipboard or hardboard, m.d.f.
6.4.2	*Metals*		
	Identification	Distinguish between ferrous and non ferrous metals. Identify each of the following metals: iron, aluminium, copper, tin, lead and their alloys.	Alloys restricted to carbon steel, stainless steel, solder.
		Demonstrate knowledge and understanding of the effect of carbon content on the working properties of steels.	To include hardening and tempering.
6.4.3	*Plastics*		
	Identification	Identify and state the basic differences between thermoplastic and thermosetting materials. Demonstrate a working knowledge of vacuum forming plastic coating GRP, use of acrylics and injection moulding.	Candidates must be able to name one example of a thermoplastic and one example of a thermoset. Available forms and working properties.
6.4.4	Materials selection and use	Demonstrate knowledge and understanding through the applications of the above named materials (timbers, plastics, metals and alloys) in practical problem solving situations.	To select materials in relation to their properties and characteristics.
6.4.5	Structure of materials		
	Working properties	Demonstrate a working knowledge of the physical properties and characteristics of the above named materials.	To make basic comparisons between these materials in relation to tensile and compressive strength, hardness, toughness, stiffness, density, weight, plasticity, conductivity, durability and aesthetic qualities.
6.4.6	Sources of materials	Demonstrate a knowledge of the sources and availability of the above-named materials. Relationships between material, size and form in particular problem solving situations.	To include the shapes, sizes (general not particular) and sections in which these materials are available and a comparative knowledge of their cost.

6.4.7	Surface degradation and protection	Select appropriate materials for a stated environmental condition and suggest methods of protection. Select suitable protective finishes.	Show awareness of the effects of environmental conditions on the degradation of materials. To include preservation and common workshop applied coatings.
6.4.8	Conservation	Demonstrate a knowledge and understanding of the need to consider the conservation of resources in the design of a project.	
6.4.9	Safety	Demonstrate a knowledge and understanding of the hazards associated with processing and storage of materials in the school workshop.	A proper regard for all mandatory and other necessary safety precautions relevant to the use of tools, machines, materials and other resources.
6.5	**Planning**		
6.5.1	Planning	Demonstrate the ability to plan a practical development through sequence of operations and ensure its completion. Present both the sequence and details in the form of a simple flow-chart.	Specification of both the sequence of operations and the most appropriate materials, tools and equipment for design realisation is important.
6.6	**Making**		
6.6.1	Implementation and realisation	Candidates should be able to demonstrate competence in the skilful and safe use of materials and processes as appropriate to the material(s) they have used.	The proper procedure for the preparation of materials. The correct and accurate use of marking out, measuring and testing tools. The skilful use of processes for shaping, forming, cutting, joining, fitting, assembling and finishing. The correct and skilful use of hand and machine tools and equipment. A proper regard for all mandatory and other necessary safety precautions relevant to the use of tools, machines, materials and other resources. A concern for economy in the use of materials, time, energy and other resources.

7 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall and it might conceal weakness in one aspect of the examination which is balanced by above average performance in some other.

Grade C

Design

The candidate will have identified a problem and made a clear statement of the design brief. Investigation and analysis of the most important aspects will have led to the generation of a range of ideas as possible solutions to the problem. There will have been some evidence of first hand collection of relevant information and an application of knowledge of materials, components and constructions. The candidate's powers of discrimination will have enabled reasons to be given for the selection/ rejection of those details considered in arriving at a preferred solution, and a valid evaluation will have been made on the basis of simple criteria.

Making

The candidate will have shown evidence of good workmanship and sound construction in the material(s) used. When an artefact was realised, fitting parts will have located well, the finished item will have been constructionally sound and functional. Where appropriate, suitable finishing techniques will have been used and "finishes" will have been successfully applied.

Communication

The candidate will have demonstrated a range of communication skills sufficient to initiate and develop ideas and to convey them to others. He will have written a factual and accurate report, shown oral competency and been able to use freehand and other graphical techniques.

Knowledge

This will have reflected an understanding of technical and scientific principles, materials, components, constructions, tools and machines sufficient to solve problems and realise solutions which meet identified criteria. Knowledge of processes will have enabled sufficient planning and sequencing to ensure that work was effectively carried out to a good standard. A sound understanding of safety require-ments will have been shown together with an awareness of the need for conservation of energy and other resources.

Grade F

Design

The candidate will have made a limited investigation of a problem posed by others and adopted by him. He will have listed the main features without a detailed analysis but may have collected relevant information from one source. Only one possible solution will usually have been offered although there may have been simple variations suggested and any evaluation will have been in the light of one or two elementary criteria. Some appreciation will have been shown related to the choice of materials, constructions and components with reasons or observations related to choice in at least one area.

Making

The candidate will have demonstrated limited manipulative skills with at least one material but these will not have been of the order to enable him to avoid difficulties with constructional operations. When an artefact was realised, fitting parts will have located adequately and the solution will have been functional. Where appropriate, there will have been evidence of the use of a suitable finish.

Communication

The candidate's oral and written communication will have been restricted and his graphic skills limited. Incomplete or poor drawings will have shown some of the information required for making an artefact or control system, and there are likely to have been only a few dimensions.

Knowledge

This will, in the main, have been superficial and the understanding of technical and scientific principles, materials, components, constructions, tools and machines will have been limited to breadth. The candidate will have stated the important properties of some materials or had a more detailed knowledge of one and been able to apply this to appropriate common uses and most frequently used working processes. Difficulties will have been experienced in planning the detailed sequential operations necessary for effective realisation. An awareness of the importance of good safety practice will have been shown, together with a modest grasp of simple facts related to the conservation of energy and other resources.

8 PROHIBITED COMBINATIONS

Students taking this subject are not constrained in the choice of other CDT/Technology and Design subjects which may be taken in the same series of examinations. They may therefore take the following in combination with CDT: Design and Realisation:

- GCSE CDT: Design and Communication;
- GCSE Technology and Design, **or** GCSE Technology (Product and Systems Design).

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The scheme of assessment in CDT: Design and Realisation carries a 50% weighting for coursework. It will be internally assessed by the candidate's teacher and externally moderated by the Council.

2 BACKGROUND

2.1 One of the prime aims of the syllabus is to encourage students to become involved with design and problem-solving processes leading to the making and evaluation of artefacts.

2.2 The purpose of the coursework is to give students the opportunity to demonstrate what they know, understand and can do in these areas without the constraints imposed by formal examinations.

2.3 The coursework of each student will be assessed in terms of the following four areas:

2.3.1 ability to analyse and investigate the problem;

2.3.2 ability to generate alternative solutions and to select and detail an appropriate solution;

2.3.3 ability to produce a finished artefact together with any special tools, jigs and moulds which may be required;

2.3.4 ability to evaluate the finished artefact.

The detailed criteria for the award of marks to each of the above areas is given in paragraph 4 of this document.

3 NATURE OF COURSEWORK

3.1 For the purposes of assessment, coursework is the work carried out by the candidate normally during five terms leading to the examination, and representative of the quality expected of a candidate in the final stages of the GCSE examination.

Candidates should present their best quality work, reflecting a wide range of experience and showing evidence of involvement in the whole design and realisation process.

3.2 Where a candidate attempts one substantial project which displays a wide range of knowledge and skill, this will suffice as the sole coursework submission. Candidates who choose to do this must satisfy the visiting moderator that all assessment objectives have been achieved within the single project.

3.3 Teachers should advise candidates on the selection of appropriate coursework. It is expected that substantial evidence of related design and realisation will be presented by the candidates. Teachers will be expected to ensure that coursework can be appropriately marked using the assessment criteria.

3.4 Design studies can be realised in any suitable material or combination of materials in the school workshop and should reflect the highest standard of craftmanship of which the candidate is capable.

3.5 Candidates should produce a design portfolio for each piece of coursework to be assessed. The portfolio should contain all the investigatory work, the final working drawings and the evaluation and suggested modifications. Marks *cannot* be awarded to areas 2.3.1, 2.3.2 and 2.3.4 if this material is not present.

3.6 The emphasis should show that the candidate has been involved in design and realisation as an integrated process. However, in certain circumstances the content generated through a topic may not adequately demonstrate the candidate's ability to meet the full range of subject-related skills as set out in para. 4.1.2 of the syllabus. In such circumstances other work completed during the course may be taken into consideration.

3.7 Although normally the coursework will be an individual-based activity, a group approach to design and realisation is not excluded. In order to assess group coursework, the contribution of each individual must be clearly identifiable.

3.8 Research investigations, which form part of the "problem solving" process, are a necessary element of any design and realisation project and evidence of this research should be submitted. Technology and theory notes which form part of the learning process are not required for coursework assessment.

3.9 Coursework carries a 50% weighting towards the total mark of the examination. Within the coursework component, the allocation of marks to design and subject related skills will be:

Design Skills: 20% (areas 2.3.1, 2.3.2 and 2.3.4)

Subject related skills (making): 30% (area 2.3.3)

The breakdown of marks to each of the above areas will be:

— ability to analyse and investigate the problem (5 marks)

— ability to generate alternative solutions and to select and detail an appropriate solution (10 marks)

— ability to produce a finished artefact together with any special tools, jigs and moulds which may be required (30 marks)

— ability to evaluate the finished artefact (5 marks)

The above mark allocations ensure that the ratio of design and making within coursework is 2:3 and hence in accordance with paragraph 5.4 of the syllabus.

4 ASSESSMENT PROCEDURES

For each of the qualities to be assessed criteria are specified below in terms of ranges of marks. The teacher is asked to apply the criteria as specified and draw the

fine distinction within each range on the basis of the standard of work presented. In each assessment area it is likely that some students will need guidance from the teacher in order to complete the assignment. Assessments should, therefore, take account of this and where students require such guidance the marks which can be awarded must be restricted.

A zero mark should only be awarded in the following extreme cases:

(i) a student refuses to tackle an activity which would allow the skill(s) to be assessed;

(ii) a student is totally devoid of the skill(s) in question.

4.1 Ability to analyse and investigate the problem (0–5 marks).

4–5 Gives a clear statement of problem demonstrating understanding. Selects a full list of appropriate factors affecting design and gives a full analysis of each factor. Produces a clear and full specification based on the factor analysis.

3 Has a sound understanding of the problem but may miss one or two of the factors involved or select an inappropriate factor: analysis is not as full as for top marks. Specification produced is not entirely relevant to the factor analysis.

2 Lists most of the factors but is weak in critical analysis. Produces an incomplete specification.

1 Produces an inadequate list of appropriate factors only.

4.2 Ability to generate alternative solutions and detail an appropriate solution (0–10 marks).

8–10 Generates a range of imaginative ideas. Evaluates each idea against the specification. Selects the most appropriate ideas and develops these through sketching and/or modelling to a point where they become possible solutions. Selects the most appropriate solution and develops it to produce a final solution. Details a final solution. Produces a working drawing.

5–7 Generates a range of ideas. Evaluates each idea against the specification. Selects appropriate ideas and shows evidence of development. Chooses an idea and completes most of the potential development stage towards the final solution. Details a final solution. Produces a working drawing.

3–4 Generates a range of ideas and shows some evidence of evaluation. Selects an idea and completes some of the potential development stage towards the final solution. Produces a working drawing.

1–2 Produces a solution from limited range of ideas. Shows little or no ability to develop the solution. Attempts to produce a working drawing.

Working Drawing: The working drawing may vary in complexity according to the solution arrived at. The main criteria for judging the working drawing are that it should be capable of being fully understood by a third person and that, where appropriate, it should satisfy the British Standards Institution's recommendations.

4.3 Ability to produce a finished artefact together with any special tools, jigs and moulds which may be required (0–30 marks).

Artefact: When assessing the artefact which has been made, the main criterion is that of craftsmanship.

23–30 Work displaying high quality craftsmanship in all or most aspects.

16–22 Work of good standard just lacking the quality in craftsmanhip required for top marks.

8–15 Acceptable work in most aspects or work showing a limited range of making skills.

1–7 Poor work or work showing few making skills.

4.4 Ability to evaluate the finished artefact (0–5 marks)

4–5 Well documented critical assessment of the artefact against the specification with consequent suggestions for modifications which may be sketched or modelled.

2–3 Evidence to suggest attempt made to evaluate the artefact against the specification but little attempt made to suggest modification.

1 Judgements made unrelated to original specification.

5 RECORDING FORMAL ASSESSMENTS

5.1 Teachers must keep their own detailed record of each candidate and a suggested format for this is available from the Council on request.

5.2 The final mark of each candidate should be recorded on the Council's Mark Sheet which must be forwarded to the Council by a specified date in the year of the examination.

6 MODERATION OF THE ASSESSMENT

The procedures will be in accordance with the Council's general policy on coursework monitoring and moderation.

DRAMA

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 This syllabus has been designed to meet the requirements of the Northern Ireland Regulations GCSE. It also meets the requirements of the Northern Ireland outline programme of study for Drama at Key Stage 4.

1.2 It seeks to consolidate and extend the knowledge and skills developed in the earlier key stages and will facilitate further study at a more advanced level.

1.3 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.4 The syllabus has been designed to be as free as possible from ethnic, gender, religious, political or other form of bias.

2 RATIONALE

2.1 The syllabus has been designed to support good practice in teaching and learning through effective assessment procedures which will allow students to demonstrate what they know, understand and can do.

2.2 The course aims to give students the opportunity to enjoy the experience of exploring drama through the programmes of study which provide emotional challenge and intellectual satisfaction.

3 AIMS

3.1 The aims set out below describe the educational purposes of following a course in Drama. Some of the aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

3.2 The aims of the syllabus are to develop:

3.2.1 an awareness of self and others and the world around us in a dramatic context;

3.2.2 self-confidence and mutual respect in a dramatic context;

3.2.3 the ability to express ideas and emotions;

3.2.4 negotiation skills, concentration and control;

3.2.5 an appreciation, understanding and enjoyment of the drama process and live theatre;

3.2.6 an appreciation and understanding of dramatic texts.

4 ASSESSMENT OBJECTIVES

4.1 The assessment objectives indicate the skills and abilities which will be assessed.

4.2 The assessment objectives listed below, under each component, are clearly interdependent and interrelated. Whilst all must be assessed it is not envisaged that each objective will be tested in isolation.

Making

4.3 Within Drama, *Making* means creating or using drama forms and competencies in order to understand and express ideas about the world. It generally means becoming involved with other people and employing such processes as negotiating, experimenting, problem-solving, refining, shaping and performing.

4.4 Candidates will be assessed on their ability to:

4.4.1 use drama to explore relationships, their own and others' attitudes, beliefs and emotions about the world in which we live;

4.4.2 adopt, develop and sustain a role;

4.4.3 work productively as part of a group in and out of role;

4.4.4 use dramatic skills appropriate to audience, context, purpose and task.

4.5 They must therefore be provided with opportunities to develop their competence and confidence in the *Making* attainment target through engagement with a range of situations, audiences and activities.

Appraising

4.6 Within drama, *Appraising* involves applying the skills of reflection, analysis and evaluation to the process of *Making*, in order to enhance understanding of how meaning may be made and expressed through the use of dramatic skills. *Appraising* involves seeing the work within a context of known forms and conventions so that its effectiveness may be judged. *Appraising* should occur during and after the drama, both in and out of role.

4.7 Candidates will be assessed on their ability to demonstrate:

4.7.1 an understanding of the development process involved in the making of meaning and the ability to evaluate critically the meaning made;

4.7.2 a critical understanding in written and non-written form of their own work and that of other people;

4.7.3 a critical knowledge of dramatic context and the ability to analyse and evaluate drama forms, theatrical genres and conventions;

4.8 They must therefore be provided with opportunities to develop their competence and confidence in the *Appraising* through engagement with a range of situations, audiences and activities.

5 SYLLABUS CONTENT

5.1 In both *Making* and *Appraising* in drama, students should have opportunities to come to terms with themselves and the world in which they live; to

develop intellectually, emotionally and imaginatively and as a member of a society or culture. Their work should take place both in role and out of role. They should develop knowledge of and the ability to apply dramatic forms, performance and technical skills and strategies.

5.2 Although not all work undertaken will be for an audience, where appropriate, students should have opportunities to present their work to a range of audiences including their peers and an outside audience. They should develop an understanding of and employ specialist or technical vocabulary.

Making

5.3 Students should have opportunities to:

— bring their experience of life to the drama in order to develop its action and meaning;

— look at problems in a new way and experiment with language to express what they feel;

— see their own and others' ideas take shape;

— explore a range of human cultural issues;

— respond to and negotiate with others;

— interpret their own and others' experiences and emotions in a structured way by choosing the appropriate drama form;

— adopt a range of roles;

— deepen a belief in the fiction through their ability to develop and sustain a role;

— take part in improvisation using a variety of strategies;

— employ sign, symbol, metaphor and image;

— respond to a variety of texts;

— devise their own texts;

— engage in movement in mime and dance;

— develop knowledge of and competence in stage management skills.

In addition where facilities and resources are available students might also be given the opportunities to:

— explore characterisation through the use of masks;

— use puppets to present improvised, devised and scripted drama;

— research, devise, script, present and record their own dramas using video equipment where available;

— to become competent in the use of electronic media where possible and should be guided towards an understanding of the potential of these media in relation to their work in drama.

Appraising

5.4 *Appraising* should occur continuously during and after the drama, both in and out of role. Students should have opportunities to:

— assess what they are doing and why they are doing it;

— deepen their understanding of character and situation;

— make judgements about their own and others' progress and work;

— reflect on, analyse and evaluate the stage of development of the drama so that they can continue to learn from the process.

5.5 Students should also have regular opportunities to make choices about the kind of appraisal they wish to apply. It is important that all pupils have opportunities to undertake appraising in practical, oral and written forms throughout their study of drama.

5.6 Students should have opportunities to:

— use strategies such as hot-seating, thought-tracking, conscience-alley, tableaux, freeze-frame, ritual and ceremony and character transfer;

— ask and answer questions, in and out of role;

— reflect on, analyse and evaluate their role within the drama;

— reflect on, analyse and evaluate how the imagined context relates to the real situation, drawing upon their own ideas and those of others;

— reflect on, analyse and evaluate their work in order to discover what they have learnt about concepts, attitudes, beliefs and emotions;

— reflect on, analyse and evaluate the process of the drama in terms of character development, storyline, group inter-action, use of language, representation of group and individual thoughts;

— reflect on, analyse and evaluate the variety of language used in a dramatic activity in order to evaluate the appropriateness of choice for the circumstances;

— reflect on, analyse and evaluate the effectiveness of the skills of editing and shaping material, in written and improvised form, which have been employed to improve the sequence and structure of the drama in order to intensify its impact;

— reflect on, analyse and evaluate the choice of forms in the overall structure and shape of the drama;

— reflect on, analyse and evaluate their choice of sign, symbol, metaphor and image in a dramatic activity;

— reflect on, analyse and evaluate the use and appropriateness of acquired dramatic skills for example, *linguistic register, voice (pitch, pace, pause, inflection), gesture, movement and stillness, facial expression and technical skills (stage management, set, sound, costume, light, make-up)*;

— reflect on, analyse and evaluate theatre performance, for example Theatre in Education, media texts, scripted text, other drama forms, for example mime, dance, puppets, and the opinions of others.

6 SCHEME OF ASSESSMENT

6.1 The scheme of assessment is designed to enable students to demonstrate achievement in *Making* and *Appraising* combining, where appropriate, evidence from the coursework with that produced by the terminal examination as set out opposite.

Assessment Component	Weighting
Terminal Examination (1½ hours) Answer two questions	30%
(a) compulsory question based on prescribed text	10%
(b) or (c) based on prescribed text	20%
Coursework – Assessment in three drama forms or competencies in each attainment target – End of course assessment in *Making* and *Appraising* in one drama form or competence	70%

6.2 The weightings for each component and their distribution between coursework and terminal examination as set out below.

	Coursework	Terminal Examination	Weighting
Making	35%	15%	50%
Appraising	35%	15%	50%
Overall Weighting	70%	30%	100%

6.3 Assessment objectives will be assessed within the various components as set out in the table below.

	Coursework	Terminal Examination
Making	4.4.1 4.4.2 4.4.3 4.4.4	4.4.2 4.4.4
Appraising	4.7.1 4.7.2 4.7.3	4.7.1 4.7.2 4.7.3

7 DIFFERENTIATION

Differentiation will be achieved by task and by outcome in the coursework and practical activities and by the use of tiered papers in the terminal examination.

8 TERMINAL EXAMINATION

8.1 Two tiers of examination targeted at distinct but overlapping levels of attainment will be offered. Each tier will measure achievement against the criteria for assessment for the targeted grades. In exceptional circumstances grades may be awarded at either end of the stated ranges provided that there is clear evidence of attainment in that grade.

Foundation Tier **Grades C–G**

Higher Tier **Grades A*–D(E)**

Grade E will be awarded exceptionally to candidates entered for the Higher Tier who do not achieve a Grade D but who demonstrate the qualities associated with a Grade E performance.

8.2 Each tier of the terminal examination will comprise a single paper carrying a weighting of 30%. Candidates will be provided with a question paper which will contain the stimulus material and a separate answer booklet. The time allocated to the examination will be 1½ hours.

8.3 Candidates will be expected to answer two questions on one prescribed text. They must answer question (a) and **either** question (b) or (c) in each tier. **When answering questions the candidates should draw on their own personal experience of and engagement with the drama text.** The format of questions for each tier are set out below.

8.4 **Tier S: answer question (a)**

Candidates will be presented with an excerpt of 20–30 lines and be expected to annotate the text. In Tier S, candidates should be able to give stage directions for characters and include ideas for voice, movement, gesture and facial expressions.

and either question (b)

This question will be a three part stimulus question, again based on another and more substantial excerpt from the prescribed text, and will require the candidates to:

(i) list the stage properties and/or the sound effects required for this extract and give reasons for their decisions;

(ii) either design a costume or a set (both choices will be offered) and to support their design with reasons and sketches;

(iii) provide an interpretation of a character in performance.

or question (c)

Candidates will be expected to answer an essay type question based on character in performance.

8.5 **Tier T: answer question (a)**

Candidates will be presented with an excerpt of 20–30 lines and be expected to annotate the text. In Tier T, candidates should be able to write director's notes which would include ideas on mood, atmosphere and performance.

and either question (b)

This question will be a three part stimulus question, again based on another and more substantial excerpt from the prescribed text, and will require the candidates to:

(i) either design a costume or a set (both choices will be offered) and to support their design with reasons and sketches;

(ii) provide an interpretation of a character in performance;

(iii) suggest appropriate rehearsal methods and justify their choices.

or question (c)

Candidates will be expected to answer an essay type question which would detail how a theme or character in the prescribed text might be explored in rehearsal or realised in performance.

8.6 Candidates will be permitted to bring **clean copies** of prescribed texts into the examination. ***No additional sheets, pages or annotations may be included in the texts.*** The prescribed texts for both tiers are:

Macbeth	Shakespeare
She Stoops to Conquer	Goldsmith
**The Italian Straw Hat*	Labiche

The Importance of Being Earnest	Wilde
Juno and the Paycock	O'Casey
The Crucible	Miller
Tea in a China Cup	Reid
Lovers	Friel
[1]*Our Day Out*	Russell

*Last year as a prescribed text.
[1]The stage version of this text should be used.

9 COURSEWORK COMPONENT

All work which is internally set and assessed by the teacher is classified as coursework. Evidence of attainment in coursework will be demonstrated through continuous monitoring in *Making* and *Appraising* in three drama forms or competencies and in an end of course assessment in one form or competence. The *Coursework Memorandum* sets out the forms to be assessed within the Drama course.

10 MODERATION

The work of candidates in each component should be internally standardised and will be moderated according to the procedures set down by the Council and outlined in the *Coursework Memorandum.*

11 GRADE DESCRIPTIONS

11.1 Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus: they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

11.2 **Subject Grade**

Grade F

Making

Students demonstrate the ability to use drama effectively to show how events, issues and texts of varying complexity may be interpreted differently. They invent and develop a range of appropriate roles for specific situations. In their work in drama, they develop and define a role through exploring different dramatic forms using a range of strategies to structure their work appropriately. They make competent use technical effects to enhance their work.

Appraising

Pupils demonstrate the ability to analyse effectively explicit and implicit meaning in and out of role and to describe clearly how forms and strategies may or may not help develop a role. In their work in drama, they can assess accurately the use of technical effects to enhance meaning and atmosphere and demonstrate a clear understanding of how the skills of editing and shaping material may improve sequence and structure.

Grade C

Making

Students demonstrate the ability to explore, independently and in depth, through a range of dramatic forms, ideas, beliefs, relationships and motivation. They use drama in an original and innovative way to explore and present complex meaning to an audience. In their work in drama, they interpret, create and sustain, independently and in a valid and controlled way, a variety of roles integrating sound, silence, light and darkness, movement and stillness to make effective use of space. They use appropriate theatrical genres and conventions according to context.

Appraising

Students will demonstrate the ability to understand how people's ideas, beliefs, relationships, emotions and motivations are related to their experiences and circumstances. They can analyse how the use of different drama forms or strategies may be used to explore complex situations and texts and evaluate their own, and others comments, on aspects of their characterisation thus providing a rationale for consequent modifications. In their work in drama, they evaluate performance and analyse how effective their range of technical effects has been in enhancing meaning and effect. They assess the effectiveness of the use of technical skills in a range of theatrical genres and conventions.

Grade A

Making

Students demonstrate the ability to use drama independently, in original and innovative ways, to explore complex meaning and present a common understanding to an audience. They use an extensive range of practical drama skills to explore, develop and create a coherent presentation of their own work to an audience. In their work in drama, they create, independently, a controlled development of a complex role or roles taking account of character, purpose, form and audience.

Appraising

Students demonstrate the ability to understand that there may be alternative interpretations of meaning which have equal validity and negotiate a common understanding and presentation of complex issues and texts through drama. They evaluate independently how theatrical genres and conventions, dramatic forms and strategies can be employed in making meaning in a performance in their work in drama, they can present a considered rationale for the interpretation of character, choice of dramatic form, structure and technical skills taking into account purpose and audience.

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The term coursework refers to the range of activities and processes in *Making* and *Appraising* content which are undertaken by the student and assessed by the teacher during Key Stage 4. These activities should be embedded in classroom practice and arise naturally from a planned process of teaching and learning.

1.2 The syllabus, through coursework, seeks to support good practice and to encourage creative approaches to the delivery and assessment of drama. **It should therefore be a feature of this course that teaching, learning and assessment should normally be carried out during activities which involve the individual student working in a group.**

1.3 The assessment of coursework will be carried out by the teacher. This process should not be regarded as an additional burden but as the formalisation of good practice. For the purposes of standardisation, however, the Council requires certain procedures to be followed in the assessment of processes and activities which contribute to drama.

2 TEACHER ASSESSMENT

2.1 Teachers should take the opportunity to assess pupils regularly in each component throughout the course using the criteria provided in *Appendix B*. The criteria should be applied holistically allowing for compensation between strengths and weaknesses in achievement.

2.2 Each formally assessed task should be awarded a mark based on an impression of how the student has fulfilled the criteria, realising that the individual appropriateness of each criterion will vary from task to task. The mark should reflect the teacher's overall judgement of the student's achievement.

2.3 For summative purposes an overall mark for coursework will then be awarded for *Making* and *Appraising* in coursework. This mark should not simply be an average of the individual marks awarded but will reflect the achievement of the student and the considered judgement of the teacher.

3 AUTHENTICATION

3.1 The candidate will authenticate his or her own work on the candidate record sheet and the teacher will authenticate the work of the teaching group as a whole on the *Teacher's Coursework Record*.

3.2 Pupils will be expected to keep a *Record of Work* of drama activities undertaken in class. This record should provide a brief description of the activity, the drama form(s) or competencies used and the date on which the activity took place. An example of such a record is given in *Appendix C*. The *Record of Work* will not be formally assessed.

3.3 Written coursework will include the teacher's comments, corrections, annotations and a level of performance for each task or activity formally assessed.

4 COURSEWORK

4.1 For the purposes of assessment seven drama forms and competencies have been identified and listed below. All forms will carry equal weighting. **Pupils must be assessed in improvisation and in at least two other forms or competencies from the full list during the course.** Details of the scope of each form and competence are given in *Appendix A*.

Teachers should ensure that they fully understand the Council's definitions and interpretations of the forms and competencies.

Drama Forms

- Improvisation
- Acting
- Mime
- Dance Drama

Drama Competencies

- Design
- Electronic Media
- Critical and Creative Writing

4.2 The criteria set out in *Appendix B* will be used to assess students within the following contexts and will reflect as appropriate the ability to:

- work within a group
- interpret and create within drama
- structure work for presentation to others
- develop and sustain a role and to support others in role
- reflect on and analyse the meaning made and its communication to the chosen audience

4.3 In addition to assessments in the three forms or competencies from the list above, all students must be formally assessed in *Making* and *Appraising* near the end of the course following procedures set out by the Council in Section 5.

4.4 Continuous monitoring will involve the regular assessment by the teacher of pupils during the course using the criteria set out in *Appendix B* of the coursework memorandum. The course must provide equal opportunities to assess both *Making* and *Appraising* in themes or topics negotiated by teacher and students.

4.5 The overall mark in a particular form or competence should be based on the **three best formative assessments** in each component of the candidate during the course and will be determined at the end of the course. The assessments submitted may have occurred within one unit of work or in a number of units and over a period of time. The only criteria for selection are that they represent the best work of the student and cover the range of drama forms and drama competencies.

4.6 These overall marks should then be converted to a summative mark taking into account the marks for *Making* and *Appraising* in the end of course assessment. The proformas below indicate possible profiles of attainment in drama.

5 END OF COURSE ASSESSMENT

5.1 Candidates must also be formally assessed in **one** of the following drama forms or competencies at a time specified by the Council.

- **Prepared Improvisation**
- **Acting/Performance**
- **Mime**
- **Dance drama**
- **Design**

Students may again be assessed in a form or competence in which they have been assessed earlier in the course. However teachers should ensure that the end of course assessment provides a fresh challenge for the student.

5.2 Unlike continuous monitoring the level awarded for *Making* and *Appraising* will be based on performance on the day. The assessment of each pupil will have to be completed within a two week period specified by the Council. Teachers should ensure that sufficient time is given by the student to appraising the work offered for assessment. Assessment should also take account of the same contexts as specified in 4.2.

5.3 **In the cases of prepared improvisation, mime and dance drama, centres must select and prepare work based on one of three themes issued by the Council** in December in the year prior to the examination. Different activities may address different themes. Each activity should last 10–25 minutes and may consist of a long piece of work or a series of shorter scenes and will involve 3–9 candidates.

5.4 A technical activity within design, eg costume, set, make-up, lighting etc must be based on the work being done in the drama forms by other members of the class. The design will be realised in real or model form and be accompanied by supporting evidence of research.

Example 1

		Formative Assessment			Overall Marks	
Drama Form/Competence		**1**	**2**	**3**	**Making**	**Appraising**
Improvisation	Making	24	26	25	25	////////// //////////
	Appraising	29	26	26	////////// //////////	27
Mime	Making	27	29	26	28	////////// //////////
	Appraising	29	26	32	////////// //////////	30
Dance Drama	Making	28	30	30	30	////////// //////////
	Appraising	30	30	32	////////// //////////	31
End of Course Assessment: Improvisation	Making	////////// //////////	////////// //////////	////////// //////////	28	////////// //////////
	Appraising	////////// //////////	////////// //////////	////////// //////////	////////// //////////	31
	Summative Mark				28	30

Example 2

Drama Form/Competence		Formative Assessment 1	2	3	Overall Marks Making	Appraising
Improvisation	Making	40	36	40	39	////////// //////////
	Appraising	35	31	35	////////// //////////	34
Electronic Media	Making	42	40	41	41	////////// //////////
	Appraising	39	36	37	////////// //////////	37
Critical and Creative Writing	Making	33	34	34	34	////////// //////////
	Appraising	39	39	42	////////// //////////	40
End of Course Assessment: Design	Making	////////// //////////	////////// //////////	////////// //////////	40	////////// //////////
	Appraising	////////// //////////	////////// //////////	////////// //////////	////////// //////////	37
	Summative Mark				39	38

Example 3

Drama Form/Competence		Formative Assessment 1	2	3	Overall Marks Making	Appraising
Improvisation	Making	34	31	34	33	////////// //////////
	Appraising	30	26	29	////////// //////////	28
Acting	Making	32	34	31	32	////////// //////////
	Appraising	30	26	32	////////// //////////	29
Electronic Media	Making	32	34	35	34	////////// //////////
	Appraising	29	29	32	////////// //////////	30
End of Course Assessment: Acting	Making	////////// //////////	////////// //////////	////////// //////////	34	////////// //////////
	Appraising	////////// //////////	////////// //////////	////////// //////////	////////// //////////	31
	Summative Mark				34	30

6 PRESCRIBED TEXTS AND COURSEWORK

While students are encouraged to engage with a range of texts, the prescribed texts for the terminal examination should be used as stimulus material for coursework activities including the end of course assessment. The pupil's own dramatic text which may have been generated in the *Creative and Critical Writing* competence may also be used in other coursework activities.

7 MODERATION

7.1 Standardisation will be achieved by means of supplementary guidance materials, examples, agreement trials, internal standardisation carried out by the centres and sampling of the work in each attainment target by moderators appointed by the Council.

7.2 Supplementary training materials in the form of advice on assessment and illustrative materials will be issued to all centres as necessary.

7.3 Agreement trials are conducted annually usually in the spring term when teachers will be briefed on the application of the assessment criteria and engage in trial marking.

Support Service and Advice

7.4 At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of the coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising out of the coursework component with the teachers concerned by means of a visit if necessary.

Internal Standardisation

7.5 Where there is more than one teaching group in the subject, centres must carry out internal standardisation of assessments across the various forms and competencies before submitting summative marks to the Council. The purpose of this exercise is to ensure, as far as is possible, that each teacher in a department has applied the criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the assessment of individual teachers to bring their assessments into line with those of other teachers and to match the standards set at the agreement trial. Where such adjustments are necessary all the summative marks recorded on the Candidate's Record Sheet for each component should be adjusted accordingly.

External Moderation

7.6 External moderation will be carried out according to the Council's procedures. Schools will be informed of the actual arrangements prior to the dates allocated in the examinations timetable.

Appeals

7.7 If a centre wishes to appeal the outcome of moderation of either of the coursework components, a second visit by senior moderators will be arranged. The decisions taken on this visit will be final.

APPENDIX A: DRAMA FORMS AND COMPETENCIES

A.1 For the purpose of this course the various drama forms have been defined and the contexts for assessment set out below. The criteria set out in *Appendix B* will be used to assess students within the following contexts and will reflect the ability to:

- work within a group
- interpret and create within drama
- structure work for presentation to others
- develop and sustain a role and to support others in role
- reflect on and analyse the meaning made and its communication to the chosen audience

A.2 A technical activity within design, eg costume, set, make-up, lighting etc must be based on the work being done in the other practical activities by other members of the class. The design will be realised in real or model form and be accompanied by supporting evidence of research.

DRAMATIC FORMS

A.3 **The overall mark in a particular dramatic form must be based on the three best formative assessments in *Making* and *Appraising* of the student's work during the course and will be determined at the end of the course. (See paragraph 4.5 of the Coursework Memorandum.)**

A.4 **Improvisation**

Improvisation is the enactment, or re-enactment, of real or fictional situations, usually without a script, although the stimulus for an improvisation may be text-based. In improvisation, pupils take on roles within a group and engage in a variety of situations, addressing a series of problems from an adopted point of view. Improvisations may be spontaneous or prepared, during which pupils develop a response and employ the skills necessary to gain insight into and deal with the problem presented. Improvisation often involves pupils in a number of drama strategies such as hot-seating, thought tracking and freeze-frame. During improvisation, pupils often develop the skill of structuring the improvisation to a logical conclusion which may or may not be presented to an audience.

A.5 **Acting**

Acting involves the process of exploration of text, and of working on a piece of scripted dialogue, as though preparing it for performance. Pupils, as part of a group, explore a piece of written play text and address the problems which it presents in taking it from page to performance. The exploration of text will deepen pupils' understanding of situation, role, theme, style, convention or form. Exploration will take place in different ways, for example, through discussion, through conventional rehearsal, through blocking moves and developing the piece technically, as well as through improvisation stimulated by the text. The latter may employ such strategies as hot-seating, thought tracking and freeze-frame, or use of movement or music.

A.6 **Mime**

Mime is a form which employs movement without words to represent, in a heightened and stylised way, action in the real and imagined world. Mime explores the significance of gesture and movement and allows participants freedom through the use of symbolic action. In mime, pupils may explore a theme, issue or idea. Progression occurs as pupils refine movement and gesture to make them more flexible, subtle and suggestible. As with improvisation and acting, work on a particular theme may be developed for an audience, but the main focus is on the quality of the exploration, the understanding achieved and the skills developed.

A.7 **Dance Drama**

Dance drama uses movement and sound to express ideas and emotions and to represent action in the real or imagined world. In dance drama, pupils explore, in groups, themes, issues or ideas, using sound and expressive movement. Progression occurs as pupils refine movement and gesture to make them more expressive and appropriate to the theme or idea. As with the previous forms, work on a particular theme may be developed for an audience, but the main focus is on the quality of the exploration, the appropriateness of the marriage of sound and movement, the visual quality of the work, the understanding achieved and the skills developed.

Drama competencies

A.8 **Design**

Design should be taken to mean the technical process by which improvisation, text, mime or dance drama is visually, spatially and aurally realised for performance. The main elements of design are:

- Set Design
- Costume Design
- Lighting
- Sound
- Make-Up

Candidates may choose **one or more** design elements in which to be assessed, but each piece of work should be closely related to the process undertaken by other members of the class in one of the performance competencies. **The work should not be undertaken in isolation practically or conceptually.**

There may be occasions when the design work is fully integrated into a final presentation or performance. In such cases this should be taken into account in the assessment. The primary object, however, of this component is that the candidate should be given the opportunity to refine his or her expertise through tackling specific design problems occasioned by the work in progress. **Students should be assessed on at least three occasions in *Making* and *Appraising* in this competence.**

Candidates will be assessed through:

(i) *A Working Notebook*

This will contain notes on the work with which the design skill is associated, together with any background information or research which the candidate will have undertaken. Drafts of designs together with indications of cost, practicability, availability of material, etc **where appropriate** will be included and there should be evidence of the progress of thought.

(ii) *Practical Demonstration*

This need **not** be a finished piece of work, but will include a drawing or model of a set, a drawing or portion of a made costume, an attempt to use light to interpret a scene creating an appropriate atmosphere and effect, a short original sound track, an example of make-up on a member of a group.

A.9 **Electronic Media**

For the purpose of assessment 'electronic media' should be taken to mean work with audio and video recording facilities and **students must demonstrate competence in both within this form**. Students should, in the course of their work in electronic media be guided towards an understanding of the potential of these media in relation to their work in drama. Work in these media should be distinct from work in other forms and should not simply be a recording of work already undertaken. Acting or improvisation should develop with the **express purpose** of recording, thus developing the creative and technical aspects of the work simultaneously and not separately. **Students should be assessed on at least three occasions in *Making* and *Appraising* in this competence.**

Recorded work in this competence need not be finished. Rather, candidates should be encouraged to experiment and work in ways which refine their expertise. Forms in which candidates might be encouraged to work might include:

- scripted drama
- documentary
- advertising
- sound track for mime or dance drama
- sound track for a play.

Candidates will be assessed through:

(i) *A Working Notebook*

This will contain notes which record and comment on the progress and development of the work which the student has undertaken in this competence and on which he or she has been formatively assessed.

(ii) *Practical Demonstration*

This need **not** be a finished piece of work, but will include three samples of work which the student has addressed and on which he or she has been assessed during the course.

A10 **Critical and Creative Writing**

In this form candidates will be expected to submit a file of written work containing three pieces.

(i) *Written Account of Work Undertaken in Class*

This would involve a commentary on work undertaken in one of the drama forms over an extended period, eg, the exploration or development of a theme through improvisation, mime or dance drama or the exploration and development of a piece of dramatic text. The account should contain

- a description and summary of the work undertaken;
- an evaluation of
  - —the skills learned and developed during the course of lessons;
  - —the interpretation and development of the themes or ideas;
  - —the manner in which the groups worked and dealt with problems encountered;
  - —the nature of the candidate's personal contribution;
  - —the overall success of the work.

(ii) *Review of a Live Theatre Performance*

Live theatre performance should be taken to mean both amateur and professional performance at any venue and may include Theatre In Education, Street Theatre, and the School Play. Musicals, opera and ballet may be reviewed, but **not** Puppet Theatre or any performance transmitted via the electronic or cinematic media.

The Review should include, where relevant:

- a **brief** summary of the plot;
- an analysis of the staging and its suitability for the purposes of performance, eg, set, costume, lighting, sound, props, make-up, costume and general staging;
- an evaluation of the actors' interpretation, commenting on characterisation and such technical skills as voice, movement, timing, pace and relation to the ensemble;
- a discussion of the director's contribution which might include comments on grouping, ensemble movement, interpretation;
- an evaluation of the production's success in achieving the author's intentions or purposes;
- a reflection upon the response of the audience.

Reviewers should include close and relevant reference to specific scenes, incidents or moments within the production to support the view expressed. Diagrams and sketches may be included.

(iii) *Creative Writing Arising From Work Undertaken In Class*

This would include creative writing for a dramatic purpose and context, eg

- a piece written in a role undertaken by the candidate.
- piece of written play dialogue of about 10–15 minutes duration.

For this piece, a brief description will be required of the context out of which the work emerged.

APPENDIX B: GUIDANCE FOR ASSESSMENT

B.1 Depending on the work to be assessed, students will demonstrate achievement in some of the criteria listed below. Other criteria may not be appropriate or pertain to the assessmnent of certain tasks and teachers are asked to use their professional judgement to select and apply the criteria appropriately and fairly to the work of students. **Compensation between higher achievement in one aspect of an activity and lower achievement in another is permissable and encouraged.**

B.2 Teachers should first attempt to make broad judgements by deciding which into which mark band attainment falls, eg Mark Band 21–30. This initial judgement should then be further refined by deciding which part of the mark band best represents the attainment of the student.

B.3 If the criteria have been fulfilled in a minimum fashion, then the work is probably worth 21–23 marks. On the other hand, if the evidence demonstrates fulfilment of most of the applicable criteria in a reasonably competent manner then the work is possibly worth 24–26 marks. Where the criteria are very competently fulfilled and some evidence of achievement of the higher mark band is apparent then the work may be judged to be worth 27 –30 marks. Teachers must use their professional judgement to determine which is the most appropriate mark to award.

MAKING

Mark Band 0–10

Pupils will be expected to demonstrate in drama in a simple and straightforward way the ability to:

- create situations in an imaginative way on their own or with others
- take on a role in a fictitious context
- use props to define action and character
- use symbols and images to represent meaning
- respond to and negotiate with others
- engage in movement.

Mark Band 11–20

Pupils will be expected to demonstrate in drama the ability to:

- use drama to begin to explore their own and others attitudes, beliefs and issues
- explore issues creatively through the use of drama
- adopt a role making a conscious use of basic movement, gesture and speech
- develop and sustain a role in a limited way in a specific situation
- structure the drama to make basic meaning for the audience
- respond in a limited way to a variety of texts as a basis for performance
- develop a basic knowledge of technical skills.

Mark Band 21–30

Pupils will be expected to demonstrate in drama the ability to:

- use drama effectively to demonstrate how events, issues and texts of varying complexity may be interpreted differently
- invent and develop a range of appropriate roles for specific situations
- develop and define a role through exploring different dramatic forms
- use a range of strategies to structure their work appropriately
- competently use technical effects to enhance their work.

Mark Band 31–40

Pupils will be expected to demonstrate in drama the ability to:

- explore through a range of dramatic forms independently and in depth, ideas, beliefs, relationships and motivation
- use drama in an original and innovative way to explore and present complex meaning to an audience
- interpret, create and sustain independently in a valid and controlled way a variety of roles
- integrate sound, silence, light and darkness, movement and stillness to make effective use of space
- use appropriate theatrical genres and conventions according to context.

Mark Band 41–50

Pupils will be expected to demonstrate in drama the ability to:

- use drama independently, in original and innovative ways to explore complex meaning and present a common understanding to an audience
- use an extensive range of practical drama skills to explore, develop and create a coherent presentation of their own work to an audience
- create independently a controlled development of a complex role or roles taking account of character, purpose, form and audience.

APPRAISING

Mark Band 0–10

Pupils will be expected to demonstrate in a simple and straightforward way the ability to:

- understand that drama may be used to explore issues
- recognise when participants in the drama are moving in and out of role
- understand that taking part in the drama requires the use of certain skills
- recognise that a dramatic activity can be changed as a result of reflecting on it.

Mark Band 11–20

Pupils will be expected to demonstrate in drama the ability to:

- describe briefly and with some insight what they have learned and experienced
- describe in a simple way how drama confirmed or challenged their understanding both in and out of role
- give reasons for and support modifications to the choice of speech, movement and gesture in a role
- show awareness of basic dramatic structures
- show some awareness of how basic technical effects may be used in drama.

Mark Band 21–30

Pupils will be expected to demonstrate in drama the ability to:

- analyse effectively explicit and implicit meaning in and out of role
- describe clearly how forms and strategies may or may not help develop a role
- assess accurately the use of technical effects to enhance meaning and atmosphere.
- demonstrate a clear understanding of how the skills of editing and shaping material may improve sequence and structure.

Mark Band 31–40

Pupils will be expected to demonstrate in drama the ability to:

- understand how people's ideas, beliefs, relationships, emotions and motivations are related to their experiences and circumstances
- analyse how the use of different drama forms/strategies may be used to explore complex situations and texts
- evaluate their own and others comments on aspects of their characterisation providing a rationale for consequent modifications
- analyse how effective their range of technical effects has been in enhancing meaning and effect
- analyse and evaluate performance and the effectiveness of the use of technical skills in a range of theatrical genres and conventions.

Mark Band 41–50

Pupils will be expected to demonstrate in drama the ability to:

- understand that there may be alternative interpretations of meaning which have equal validity
- negotiate a common understanding and presentation of complex issues and texts through drama
- evaluate independently how theatrical genres and conventions, dramatic forms and strategies can be employed in making meaning in a performance
- present a considered rationale for the interpretation of character, choice of dramatic form, structure and technical skills taking into account purpose and audience.

ECONOMICS

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria and components of the examination to which the criteria will be applied will be issued annually.

1 INTRODUCTION

1.1 Economics is a branch of social enquiry in which specialist concepts are applied in order to develop an understanding of how resources are allocated to produce and distribute income and wealth.

The study of Economics increases candidates' knowledge and critical understanding of the world in which we live. It helps them to make sense of the wide range of economic decisions which are taken by consumers, producers and citizens as an integral part of everyday life and to appreciate the causes and effects of these decisions. It develops candidates' skills of investigation, questioning, reasoning and evaluation in the context of a study of real economic problems and issues and allows for consideration of the values which underpin alternative economic systems. As such Economics can make a major contribution to candidates' intellectual development and their preparation for adult life.

1.2 The syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Economics. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4 Economics.

1.3 A course based on this syllabus will help to facilitate the further study of Economics at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 AIMS

The aims set out below describe the educational purposes of following a course in Economics suitable for candidates across the ability range appropriate to the GCSE examination. The course enables candidates to:

2.1 develop the ability to make effective use of terminology, concepts and methods relevant to the subject of Economics and to recognise the strengths and limitations of the ideas used;

2.2 develop the ability to apply their knowledge and understanding in a wide range of contexts, distinguishing between facts and opinions and evaluating data in order to make informed judgements;

2.3 develop knowledge and understanding of the working of economic systems and the interdependence and dynamics in economic behaviour;

2.4 apply the knowledge and understanding (referred to in 2.3 above) to a range of problems and issues;

2.5 develop knowledge, understanding and skills related to the statutory educational (cross-curricular) themes.

3 ASSESSMENT OBJECTIVES

The Assessment Objectives indicate the essential skills and abilities which will be assessed through the examination. The inter-relationship between the assessment objectives and the examination components is shown in Table 4.1 overleaf.

The assessment objectives have been organised within two broad groups:

- those testing knowledge and understanding (assessment objective 4.1);
- those testing application of knowledge, analysis and judgement (assessment objectives 4.2, 4.3 and 4.4).

In relation to knowledge and understanding, candidates will be assessed on their ability to:

3.1 demonstrate a knowledge and critical understanding of the specific subject content.

In relation to the application of knowledge, analysis and judgement, candidates will be assessed on their ability to:

3.2 apply the specified terms, concepts, theories and methods effectively to address economic problems and issues;

3.3 select, organise, interpret and use information from various sources;

3.4 evaluate evidence, make reasoned judgements and present conclusions accurately and appropriately.

4 SCHEME OF ASSESSMENT

4.1 The Scheme of Assessment consists of the assessment of Coursework (20%) and a Terminal Examination (80%).

4.2 Within each Tier of entry the scheme of assessment will consist of two written papers and coursework.

Relationship between the Assessment Objectives and the Examination Components

Table 4.1 (overleaf) indicates the relationship between the Assessment Objectives and Examination Components.

Table 4.1

Component	Knowledge and Critical Understanding %	Application of Knowledge %	Selection, Organisation and Interpretation %	Evaluation, Analysis Judgement and Conclusions %	Component Weighting %
Paper 1	4–6	4–6	4–6	4–6	20
Paper 2	14–16	14–16	14–16	14–16	60
Coursework*					20
Total	25	25	25	25	100

* The allocation of percentage weightings to each of the assessment objectives for the coursework component will depend on the nature of the assignment submitted by candidates.

4.2 **Differentiation**

4.2.1 Differentiation will be achieved by the provision of Terminal Examinations to cater for candidates of differing abilities. Differentiation in Coursework will be achieved by setting tasks appropriate to each candidate's level of ability.

4.2.2 *Entry*

There are two Tiers of entry for the examination.

Foundation: Target Grades C–G

Higher: Target Grades A*–D(E)

Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

Within each Tier candidates are required to sit two written papers, which are externally assessed, and to submit Coursework for assessment by the teacher and externally moderated by the Council.

4.2.3 Candidates must be entered for one Tier only at the appropriate time of entry. In judging which is the more suitable Tier of entry for a candidate, centres should consider the candidate's record of performance throughout the course. Each Tier will include two examination papers. These are described below.

4.3 **Paper 1 (20%) (1¼ hours)**

4.3.1 Paper 1 (One hour and fifteen minutes duration) will be a Case Study exercise, the content of which will be drawn from one or more of the areas of the syllabus detailed in paragraphs 5.2.2 to 5.2.7. It will examine both groups of Assessment Objectives.

4.3.2 Case Study material for both Tiers of entry will be supplied by the Council and will be based on an economic issue, problem or event. The material may be in a variety of forms, for example, written, graphical, statistical, pictorial.

4.3.3 **The Case Study material will be distributed to schools for issue to candidates on 1st March.**

4.3.4 From 1st March until the date of Paper 1, candidates will be free to review the material and investigate issues arising from it, both within the classroom and at home. This approach permits a greater variety and quantity of stimulus material to be used, provides candidates with opportunities to collaborate with others and enables them to demonstrate the skills and attributes required in a realistic situation.

4.3.5 Candidates will be provided with a fresh copy of the Case Study material at the time of the examination. Neither the copy of the Case Study material, nor any written information relating to it, may be brought into the examination room.

4.3.6 The examination will comprise a number of unseen questions based on the Case Study material and any other minor items of additional information which may be made available to candidates in the examination room.

4.3.7 All questions will be compulsory.

4.3.8 Questions will relate to the stimulus material included in the Case Study and will include the following types:

(a) selection and extraction of information from the stimulus material;

(b) factual recall and understanding of material from the syllabus content which relates to the stimulus material;

(c) analysis, interpretation and evaluation of information from the stimulus material;

(d) decision-making based on the stimulus material.

4.4 **Paper 2 (60%)**

4.4.1 Paper 2 (two hours and fifteen minutes duration) will examine content drawn from across the syllabus, and will examine both groups of Assessment Objectives.

4.4.2 The Foundation Tier Paper will consist of two sections. Section A will contain approximately five short-answer type questions. Section B will contain two compulsory stimulus response questions.

The Higher Tier Paper will consist of two sections. Section A will contain two compulsory stimulus-response questions. Section B will consist of a choice of structured essay type questions. Candidates will be expected to answer two questions from a choice of five.

4.5 **Coursework (20%)**

4.5.1 The coursework component will consist of one assignment chosen by the candidates from a list of titles set by the Council and will examine both groups of Assessment Objectives.

4.5.2 The assignment should involve the candidate in research and investigation and give scope for originality. Candidates will be required to demonstrate the skills shown in the coursework assessment criteria (paragraph 3 of the Coursework Memorandum) included within this document.

4.5.3 The assignment will be assessed internally by the candidate's teacher and moderated externally by the Council.

4.5.4 A Coursework Memorandum containing full details on teacher marking and notes for guidance is included in this document. It is essential that teachers study carefully the Coursework Memorandum before candidates commence their coursework. Teachers must consult the Coursework Memorandum when assessing candidates' work.

5 SYLLABUS CONTENT

5.1 Introduction

5.1.1 Teachers should encourage students to make use of a wide variety of sources of current information, for example, local and national newspapers, economic publications and literature from Government agencies in order to apply economic concepts and theory to topical events, local situations and contemporary issues. Teachers should also encourage candidates to appreciate some of the links between political processes and the working of the economy.

5.1.2 A wide range of interesting and challenging teaching strategies should be adopted to ensure full and active participation by candidates in the learning process. Examples of appropriate strategies are listed below.

(i) A case study which is based on some aspect of the local economy as a means of bringing the outside world into the classroom.

(ii) Simulations.

(iii) Role-play which actively involves pupils in the application of economic understanding and problems relating to the outside world.

(iv) Economic games.

(v) Problem-solving activities.

(vi) Data response.

(vii) Individualised learning programmes.

(viii) Projects.

(ix) Fieldwork which involves direct contact with consumers, citizens and producers.

(x) Computer-assisted learning.

5.2 Detailed content

5.2.1 The content is intended to introduce candidates to fundamental economic concepts. Candidates will be expected to demonstrate a knowledge and understanding of these concepts, apply them to practical economic problems and relate them to the European and world economies, with particular reference to the Northern Ireland economy and to the United Kingdom (UK).

The content is set out under six main headings. The Guidance Notes which support each of the main headings are intended to help to clarify for teachers what should be covered.

5.2.2 ***Resource Allocation and the Market Mechanism***

The economic problem.

The allocation of resources in a market economy including the function of price.

Determination of market price and quantity. Market equilibrium and disequilibrium. Movements along, and shifts of market demand and supply curves.

Factors affecting wages and share prices.

Market failure.

Alternative methods of allocating resources.

Guidance Notes

Candidates:

- should be aware of how the basic economic problem of scarcity leads to decisions having to be made regarding resource allocation;
- should be able to apply the tools of demand and supply analysis to price changes in product and factor markets;
- should be aware of market failure with regard to, for example, public goods, merit goods and externalities;
- will require a knowledge of alternative economic systems ie command economy and mixed economy.

5.2.3 ***Organisation of Production***

Types of business organisation.

Business costs, revenue and profit.

Differences in scale and organisation of business units.

Location of industry.

The changing structure of the UK economy.

Guidance Notes

Candidates:

- should be aware of the types of business organisation in both the public and private sectors;
- will **only** require a basic knowledge of fixed and variable costs and break even analysis (including graphical presentation);
- should be aware of how firms grow, for example, through expansion and integration and the reasons for growth, for example, economies of scale, sales maximisation and the limitations of growth, for example, diseconomies of scale, availability of finance;
- should be aware of the factors influencing location of industry including multinational corporations;
- should be aware of changes in employment and output in the different sectors of the economy.

5.2.4 *Population*

The main changes in, and factors influencing, the UK population.

The economic implications of change in the population of the UK.

The effects of Government policies on the geographical and occupational distribution of the population.

Guidance Notes

Candidates:

- should be aware of the main changes in the age, sex, occupational and geographical distribution of the population;
- should be aware of the economic implications with regard to occupational structure of the working population in the different economic sectors.

5.2.5 *The Financial Sector*

Nature, functions and types of money.

Services provided by banks and other financial institutions.

The role of banks and other financial institutions in the credit creation process.

The role of the Bank of England and other regulatory authorities.

Guidance Notes

Candidates:

- will **not** require a knowledge of the different ways in which the money supply is defined;
- will require a knowledge of services provided to both the personal and business sector;
- will require only a basic knowledge of the methods by which banks and other financial institutions create credit;
- will require only a basic knowledge of the functions of the Bank of England;
- should be aware of the principle of regulation **not** a detailed knowledge of specific regulations.

5.2.6 *The Role of Government in the Economy*

How it affects:

- **unemployment;**
- **inflation;**
- **economic growth, national income and its distribution;**
- **balance of payments.**

Taxation, Government expenditure, the Budget and the Public Sector Borrowing Requirement (PSBR).

Government as a regulator of private sector activity.

Guidance Notes

Candidates:

- will require a knowledge of the definition, measurement, causes, effects and remedies for unemployment and inflation;
- will only be expected to understand the significance of aggregate terms such as Gross National Product and Gross Domestic Product so that they can interpret figures. They will **not** require a knowledge of the methods used to calculate National Income. The usefulness and limitations of National Income statistics should be covered;
- should be aware of Government fiscal policy as announced in the Budget and its implications;
- will require a knowledge of the government objectives of promoting the efficient functioning of markets and of controls established to help to correct market failure, for example, environmental considerations and OFTEL;
- should be aware of the possibility of policy conflicts.

5.2.7 *The International Economy*

Reasons for and gains from international trade.

Barriers to trade.

Changes in the patterns of UK, European and world trade.

The balance of payments.

Exchange rates.

International economic organisations.

Developed and developing economies.

Guidance Notes

Candidates:

- will require a basic knowledge of the theory of comparative advantage;
- will require a knowledge of the forms of protection and the reasons for them;
- should have a knowledge of changes that have occurred in the structure and composition of exports and imports;
- will require a knowledge of visible and invisible trade and capital flow;
- will require a knowledge of how exchange rates are determined and the effects of changes in exchange rates;
- will require a knowledge of the purpose and effects of organisations such as the European Union (EU), The World Bank, International Monetary Fund (IMF) and World Trade Organisation (WTO).

Candidates also require a knowledge of the characteristics of developed and developing countries. They should be able to compare standards of living, patterns of trade and sources of aid available to developed and developing countries.

6 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates will demonstrate knowledge and understanding of some aspects of the syllabus content. They will begin to apply this knowledge and understanding, using some terms, concepts, theories, processes and methods to address problems and issues. They will show some ability to select, organise, interpret and use simple information from a variety of sources. They will also make judgements and present simple conclusions which are sometimes supported by evidence.

Grade C

Candidates will demonstrate knowledge and critical understanding of most aspects of the syllabus content. They will apply this knowledge and understanding, using terms, concepts, theories, processes and methods appropriately to address problems and issues. They will select, organise, interpret and use information from a variety of sources. They will also make reasoned judgements and present conclusions which are supported by evidence.

Grade A

Candidates will demonstrate knowledge and critical understanding of the full range of syllabus content. They will apply this knowledge and critical understanding, using terms, concepts, theories, processes and methods effectively to address problems and issues. They will select and organise information from a wide variety of sources and interpret and use this information effectively. They will also evaluate evidence, making making reasoned judgements and presenting conclusions accurately and appropriately.

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 **Coursework carries a 20% weighting and requires each candidate to submit an assignment based on an investigation of a problem or issue set by the Council. The assignment will be internally assessed by the candidate's teacher and externally moderated by the Council.**

1.2 The coursework is designed to enable candidates to demonstrate their knowledge and understanding of Economics without the constraints imposed by the formal examination.

1.3 The coursework should enable candidates to develop and use skills (including IT where appropriate) and abilities which may not be developed or used while preparing for the terminal examination. It should provide candidates with an opportunity to:

- make and record accurate observations;
- organise the collection and ordering of pertinent information;
- identify, evaluate and use a wide range of sources;
- co-operate with others in an activity;
- demonstrate the ability to design, conduct and evaluate a simple survey to test some hypothesis or illustrate some issue;
- demonstrate the ability to sustain a study from beginning to end.

2 NATURE OF COURSEWORK

2.1 Coursework for each candidate will take the form of one assignment, selected from a list of options set by the Council (see below). **The assignment should not exceed 2,000 words.** The emphasis in the assessment of the assignment will be on the quality of the work, not the quantity.

2.2 The report should include the:

Title and;

Aim of Assignment.

The format for the assignment is set out below.

(a) Planning

(b) Collection, organisation and presentation of data

(c) Analysis of data

(d) Evaluation and conclusions

(e) Bibliography

(f) Appendices

2.3 Coursework titles.

Candidates must choose one of the titles listed below:

(1) Examine the development or proposed development of a national retail chain and investigate the possible economic effects in the local community.

(2) Research the rates of pay and conditions of employment in three different occupations and investigate the economic reasons for any differences in their rates.

(3) Investigate the economic costs and benefits of developing a tourist amenity in an area of Northern Ireland.

2.4 Coursework, which may be typed or word-processed, should be presented on paper of A4 size. Each sheet must be numbered and secured together and the work identified at the front with the candidate's name, examination number, and centre number.

Scrap-book type material which takes the form of cuttings from newspapers, magazines or other sources is acceptable only if it forms an integral and relevant part of a more extensive piece of work. Notes, copied from books and other sources, will be of little value. Dictated notes will be given no credit.

2.5 Coursework may provide the opportunity for candidates to work in groups. Nevertheless it is stressed that each candidate must produce a unique piece of work.

3 ASSESSMENT CRITERIA

The assessment criteria are set out in a series of stages representing the sequence of work undertaken.

The total number of marks available for coursework is 40. They are available as follows.

Coursework is to be assessed under the four major headings of Planning, Collection, Organisation and Presentation of Data, Analysis of Data and Evaluation and Conclusions. The marks available for each of these is shown in square brackets.

Stage 1 Planning **[8]**

Prepare a plan detailing the main courses of action to be taken. (6)

Identify the main sources of information. (2)

Stage 2 Collection, Organisation and Presentation of Data **[8]**

Collect relevant information using appropriate research skills and techniques. (3)

Organise information in a logical and systematic fashion which clearly follows the structure. (3)

Present information neatly and clearly using a range of appropriate techniques and skills. (2)

Stage 3 Analysis of Data **[8]**

Analyse the information, for example, candidates should be able to identify cause and effect, patterns and trends. (8)

Stage 4 Evaluation and Conclusions **[16]**

Demonstrate application of economic ideas. Evaluate the relevance of the information collected and analysed to these ideas. (8)

Draw conclusions based on the critical understanding and application of economic ideas and the reasoned evaluation of evidence. (8)

4 ROLE OF THE TEACHER

4.1 Guidance may be given by the teacher as follows.

(a) Initial briefing

Teachers may advise candidates on source materials, for example, text books, published data, institutions to visit, persons to interview.

(b) Ongoing advice

Candidates may be given guidance on any problems encountered to ensure that the work is kept within reasonable bounds of relevancy. Further advice may be given after the submission of a short written or verbal report if this is considered desirable.

(c) When making assessments during a group activity the teacher must clearly identify the contribution made by each individual candidate. However, each individual candidate must present a unique piece of work to minimise the difficulty inherent in validation and moderation.

4.2 Beyond the initial guidance given by teachers, the marks awarded to candidates at each stage should be influenced by the level of teacher intervention as set out in Table 4.2 below.

4.3 Teachers will be required to sign a declaration to certify that, to the best of their knowledge, all the work submitted for assessment is the candidate's own.

5 ANNOTATION OF COURSEWORK

Coursework must be annotated in detail in order to ensure fairness for candidates and to assist with the moderation process. Annotation should take the form of:

- summative comments on the work, usually at the end, and on a Candidate Record Sheet;

and

- key pieces of evidence identified throughout the work by annotation either in the margin or in the text.

6 MODERATION PROCEDURES

6.1 **Agreement Trials**

Agreement Trials will be conducted annually, prior to the date of the examination (usually in the Spring Term) where teachers will be briefed on the application of the assessment criteria and will engage in trial marking.

6.2 **Support Service and Advice**

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of Coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres. Arrangements can be made for a moderator to contact individual centres to discuss issues arising from the Coursework with the teachers concerned by means of a visit if necessary.

6.3 **Internal Centre Standardisation**

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marking of individual teachers to bring their assessments into line with those of the other teachers in the centre and to match the standards promulgated at the Agreement Trial. Where such an adjustment is necessary the total/final mark recorded on the Candidates' Record Sheets for that Tier of entry should be amended.

6.4 Full instructions about the details of the moderation procedures and the nature of sampling will be issued by the Council at the appropriate time.

Table 4.2

	Planning	Collection, Organisation and Presentation of Data	Analysis of Data	Evaluation and Conclusions
	Maximum Mark 8	Maximum Mark 8	Maximum Mark 8	Maximum Mark 16
Candidate is able to carry out independently all/most aspects of the work in the relevant stage of enquiry.	7–8	7–8	7–8	13–16
Candidate is able to carry out most aspects of the work in the relevant stage with minimum teacher guidance.	5–6	5–6	5–6	9–12
Candidate is able to carry out most aspects of work in the relevant stage but requires continuing guidance.	3–4	3–4	3–4	5–8
Candidate is able to carry out some aspects of the work in the relevant stage but requires extensive guidance.	1–2	1–2	1–2	1–4

ENGLISH

1 INTRODUCTION

1.1 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and the subject criteria for English. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.2 A course based on this syllabus seeks to consolidate and extend the knowledge and processes developed in the earlier key stages and will facilitate further study at a more advanced level.

1.3 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.4 The syllabus has been designed to be as free as possible from ethnic, gender, religious, political or other forms of bias.

2 RATIONALE

2.1 The syllabus will support good practice in teaching and learning through effective assessment procedures which will allow students to demonstrate what they know, understand and can do.

2.2 The course will be assessed through three components: *Talking and Listening*, *Reading* and *Writing*.

2.3 The final subject grade will be awarded following the review of performance of candidates at the end of the course. The overall subject grade will be reported on a scale of A*–G. The *Talking and Listening* component will contribute to the overall grade and will also be certificated separately using the same grade scale.

2.4 *Reading* and *Writing* will be assessed through a terminal examination carrying a weighting of 60%. A coursework element carrying a weighting of 40% covering all three components will enable candidates to provide evidence of achievement arising out of the range of classroom activities and processes. *Talking and Listening* will be assessed by teachers during the course.

2.5 The syllabus has been designed to be as compatible as possible with the CCEA GCSE English Literature syllabus. Coursework submitted for the *Reading* and *Writing* components may also be submitted, where appropriate and suitable, for assessment in English Literature. In all cases it must be assessed against the appropriate criteria.

3 AIMS

3.1 The aims set out below describe the educational purposes of following a course in English. Some of the aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

3.2 The aims of the syllabus are to:

3.2.1 develop the ability to express and communicate meaning in spoken language, listen to and interpret what others say and match style and response to audience, context and purpose;

3.2.2 develop the ability to read, understand and engage with various types of text for enjoyment and for learning;

3.2.3 develop the ability to make and shape text in order to communicate meaning in written language appropriate to context, purpose, reader and audience;

3.2.4 develop and express ideas in creative and imaginative contexts;

3.2.5 develop the ability to retrieve information for identified purposes;

3.2.6 appreciate themes and attitudes and the ways in which writers achieve their effects.

4 ASSESSMENT OBJECTIVES

4.1 The assessment objectives indicate the abilities and processes which will be assessed.

Talking and Listening

4.2 Students should continue to derive pleasure and enjoyment from *Talking and Listening*; they should continue to see *Talking and Listening* as an integral part of their classroom activity and equally important as *Reading* and *Writing*. Students will be expected to engage in a range of activities in a variety of contexts as specified by the programme of study for Key Stage 4.

4.3 Candidates will be assessed on their ability to:

4.3.1 communicate clearly, structuring and organising their talk and adapting it to different situations;

4.3.2 use standard English where appropriate;

4.3.3 listen to and understand varieties of speech;

4.3.4 participate in discussion, judging the nature and purposes of contributions and the roles of participants.

4.4 They must therefore be provided with opportunities to develop their competence and confidence in *Talking and Listening* through a range of situations, audiences and activities as set out in the programmes of study. Students should be assessed in situations where they are working in pairs or groups. They are required to:

- explain, describe and narrate;
- explore, analyse and imagine;
- discuss, argue and persuade;

in formal and informal situations.

Reading

4.5 Candidates will be assessed on their ability to:

4.5.1 read with insight and engagement, making appropriate references to texts and developing and sustaining interpretations of them;

4.5.2 distinguish between fact and opinion and evaluate how information is presented;

4.5.3 follow an argument, identifying implications and recognising inconsistencies;

4.5.4 select material appropriate to their purposes, collate material from different sources and make cross references;

4.5.5 understand and evaluate how writers use linguistic, structural and presentational devices to achieve their effects and comment on the ways that language varies and changes.

4.6 The syllabus, through the combination of coursework and terminal examination, enables students to present evidence of engagement in *Reading* with at least one of each of the following:

- prose text;
- poetry text;
- drama text;
- media text;
- non-fiction text.

The texts selected for study must enable students to present written evidence of the study of one of the plays of William Shakespeare, literature from other cultures and traditions and at least one text written before 1900 and one text written after 1900. However it should be noted that one text may fulfil a number of these requirements.

4.7 *Reading* should not be treated as a discrete component but be integrated with the other components of *Talking and Listening* and *Writing* and include as one of its purposes reading for pleasure.

Writing

4.8 Candidates will be assessed on their ability to (drafting, re-ordering and revising, using paper or computer screen as appropriate):

4.8.1 communicate clearly, adapting their writing for a range of purposes and audiences;

4.8.2 use and adapt forms and genres for specific purposes and effects;

4.8.3 organise ideas into sentences, paragraphs and whole texts;

4.8.4 use accurate spelling and punctuation and present work neatly and clearly;

4.8.5 use the grammatical structures of standard English and a wide vocabulary to express meanings with clarity and precision.

4.9 Evidence for assessment must include writing which demonstrates the ability to:

- explore imagine and entertain;
- inform, explain and describe;
- argue, persuade and instruct;
- analyse, review and comment.

Distribution of Assessment Objectives

4.10 The assessment objectives will be assessed in each component as set out in the table below.

	Paper 1 Section A *Reading*	Paper 1 Section B *Writing*	Paper 2 Section A *Writing*	Paper 2 Section B *Reading*
Terminal Examination	4.5.1 4.5.4 4.5.5	4.8.1 4.8.3 4.8.4 4.8.5	4.8.1 4.8.2 4.8.3 4.8.4 4.8.5	4.5.1 4.5.2 4.5.3 4.5.4 4.5.5
	Talking and Listening	*Reading*	*Writing*	
Coursework	4.3.1 4.3.2 4.3.3 4.3.4	4.5.1 4.5.4 4.5.5	4.8.1 4.8.2 4.8.3 4.8.4 4.8.5	

5 INTERDEPENDENCE OF ASSESSMENT OBJECTIVES

The assessment objectives listed above, under each component, are clearly interdependent and interrelated. Whilst all must be assessed it is not envisaged that each objective will be tested in isolation.

6 SCHEME OF ASSESSMENT

The scheme of assessment is designed to enable students to demonstrate the attainment they have achieved in relation to each component by combining evidence from coursework with that produced by the terminal examination. The terminal examination will consist of two written papers. The weightings for each component and their distribution between coursework and terminal examination are set out in the following table.

	Coursework	Terminal Examination		Weighting
		Paper 1	Paper 2	
Talking and Listening	20%	0%	0%	**20%**
Reading	10%	15%	15%	**40%**
Writing	10%	15%	15%	**40%**
Overall weighting	40%	30%	30%	**100%**

7 DIFFERENTIATION

Differentiation will be achieved by task and by outcome in the coursework and by the use of tiered papers in the terminal examination. The tiers of entry within the examination will reflect the requirements set out in the grade descriptions.

8 TERMINAL EXAMINATION

8.1 Two tiers, each comprising two papers, targeted at distinct but overlapping grades will be offered.

Foundation Tier: Grades C–G

Higher Tier: Grades A*–D(E)

8.2 Grade E may be awarded exceptionally to candidates entered for the higher tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

8.3 Centres must indicate at the time of entry which of the two tiers candidates will sit. Teachers are advised to consider carefully which tier is more appropriate. The higher tier is targeted at pupils who are expected to attain a Grade C or above.

Format of Examination Papers

8.4 Each tier will comprise two papers. In Paper 1 Section A will be dedicated to *Reading* and Section B to *Writing*. In Paper 2 Section A will be dedicated to *Writing* and Section B to *Reading*. Both sections will carry equal weighting.

Paper 1 (2 hours: 30%)

Section A: Reading (15%)

This section will comprise a literary prose text or texts followed by 4–6 questions which will allow candidates to demonstrate a variety of responses based on their reading of the text. In this section candidates will be expected to demonstrate the ability to:

- recognise themes and ideas;
- recognise layers of meaning and trace progression of ideas and shifts of emphasis and tone;
- empathise with characters, ideas and situations;
- recognise the intentions of the writer and the effect of literary devices and other uses of language.

Section B: Writing (15%)

A **single** question will be set which will require the candidate to analyse, review and comment on stimulus material.

Paper 2 (2 hours: 30%)

Section A: Writing

A **single** question will be set on a topic which requires either functional or practical writing. In this section candidates will be expected to:

- inform, explain and describe.

Section B: Reading

A **single** question will be set on the reading and interpretation of non-fiction. In this section, candidates will be expected to demonstrate the ability to:

- locate, analyse and explicate implications;
- evaluate and synthesise information and points of view and draw convincing conclusions;
- analyse text in terms of audience, purpose and form.

9 COURSEWORK COMPONENT

9.1 By the end of the course all candidates will be expected to produce evidence of attainment in the form of coursework in *Talking and Listening*, *Reading* and *Writing*.

9.2 Evidence of *Talking and Listening* will be based on teacher records. Assessment of *Talking and Listening* must be based on observation of the students' ability to listen and talk in a variety of situations during the whole course. The final assessment will be based on the **three best assessments** within the contexts specified in the *Coursework Memorandum* (See paragraph 3.1).

9.3 Each candidate will be expected to compile a coursework folder comprising four assignments which will provide evidence of attainment in both *Reading* and *Writing* (two assignments for *Reading* and two assignments for *Writing*). The *Coursework Memorandum* details the process for the assessment of the *Reading* and *Writing* assignments.

10 MODERATION

The coursework of candidates in each of the three components must be internally standardised and will be moderated according to the procedures set down by the Council in the *Coursework Memorandum*.

11 GRADE DESCRIPTIONS

11.1 Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus: they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

11.2 **Grade F**

Talking and Listening

Candidates talk and listen in a range of contexts. Their talk is adapted to the purpose; developing ideas, describing events and conveying their opinions clearly. In discussion they listen with concentration and make contributions which are responsive to others' ideas and views. They use some of the core features of standard English vocabulary and grammar appropriately.

Reading

In responding to texts candidates show understanding of key ideas, themes, events and characters, using inference and deduction. They refer to aspects of texts when explaining their views. They locate and retrieve ideas and information from different sources.

Writing

Candidates' writing communicates clearly, shows liveliness and is organised. The main features of different forms are used appropriately, beginning to be adapted to different readers. Sequences of sentences extend ideas logically and words are chosen for variety and interest. The grammatical structure of simple and some complex sentences is usually correct. Spelling is usually accurate. Full stops, capital letters and question marks are used correctly and other punctuation is also used, mostly accurately. Handwriting is legible.

11.3 **Grade C**

Talking and Listening

Candidates match their talk to the demands of different contexts. They use varied vocabulary and organise their talk to communicate clearly, engaging the interest of the listener. In discussion, candidates make significant contributions varying how and when they participate. They show confident use of standard English in situations which require it.

Reading

Candidates show understanding of the ways in which meaning and information are conveyed in a range of literary and non-literary texts. They give personal and critical responses to literary texts, referring to aspects of language, structure and themes in justifying their views. They select and summarise a range of information from different sources.

Writing

Candidates' writing engages and sustains the reader's interest. It shows adaptation of style and register to different forms, including using an impersonal style where appropriate. Candidates use a range of sentence structures and varied vocabulary to create effects. Paragraphing and correct punctuation are used to make the sequences of events or ideas coherent and clear to the reader. Spelling is accurate and handwriting is neat and legible.

11.4 **Grade A**

Talking and Listening

In a range of contexts, candidates select and use appropriate styles and registers. They vary their sentence structure, vocabulary and expression confidently for a range of purposes. They sustain discussion through the use of a variety of contributions, listening with sensitivity. They show assured use of standard English in a range of situations and for a variety of purposes.

Reading

Candidates articulate and sustain their responses to texts, developing their ideas and referring in detail to aspects of language, structure and presentation. They identify and analyse argument, opinion and alternative interpretations, making cross references where appropriate. They make apt and careful comparison within and between texts.

Writing

Candidates' writing has shape and assured control of a range of styles. Narratives use structure as well as vocabulary for a range of effects and non-fiction is coherent, logical and persuasive. A wide range of grammatical constructions is used accurately. Punctuation and spelling are correct; paragraphs are well constructed and linked to clarify the organisation of the writing as a whole.

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The term coursework refers to the range of activities and processes in each component arising from the programmes of study which are undertaken by the student and assessed by the teacher during the course. These activities should be embedded in classroom practice and arise naturally from a planned process of teaching and learning. The syllabus, through coursework, seeks to support good practice and to encourage creative approaches to the teaching and assessment of English.

1.2 The assessment of coursework will be carried out by the teacher. For the purposes of standardisation, however, the Council requires certain procedures to be followed in the marking of assessment assignments and activities and in the submission of this work for assessment.

2 TASK SETTING

2.1 The purpose of coursework is to provide students with the opportunity to:

- negotiate tasks, set goals and develop independence in their studies;
- produce their own writing;
- talk about topics which interest them and listen to opinions or interpretations which challenge their own viewpoints;
- participate actively in the assessment process;
- show evidence of research which reflects their own particular choices and interests;
- present considered and developed personal responses to issues and texts which they have encountered during their course;
- develop skills and competencies in processes which will contribute to their preparation for the terminal examination.

2.2 Coursework enables teachers to match tasks to the abilities and aptitudes of individual students. The course provides opportunities for assessment by the setting of tasks which will challenge the student and from which he or she can derive the satisfaction and enjoyment of achievement.

2.3 Tasks should be accessible to students and have sufficient structure to enable positive achievement and differentiation. It is therefore essential that students have:

- a clear understanding of the nature of the task;
- the criteria by which it will be assessed;
- the opportunity to evaluate their own work;
- the opportunity to discuss the ongoing work with the teacher;
- the opportunity to engage in a collaborative learning process.

2.4 For written coursework the Council suggest that a total upper word limit of 2500 words for all four assignments should provide sufficient scope for students to demonstrate attainment in coursework.

2.5 Candidates should be advised that the emphasis will be on the quality and suitability of their responses rather than the quantity of material produced. Coursework in excess of the suggested word limit should be examined critically for its relevance to the task set.

3 FORMAT OF COURSEWORK

Talking and Listening

3.1 Assessment in *Talking and Listening* must address the purposes and processes of the course using the assessment criteria set out in *Appendix A*. Students should be assessed in situations, where working in pairs or groups, they address, in formal and informal situations, tasks or activities in which they are required to:

- explain, describe and narrate;
- explore, analyse and imagine;
- discuss, argue and persuade.

3.2 The final mark for this component should be derived from **the three best assessments** of each student. At least two of the situations in which students will be assessed should be informal in context and at least one situation should be formal.

3.3 Where there is more than one teaching group in a centre the Head of Department should ensure that there is internal standardisation of the assessments of teachers within a centre.

Reading* and *Writing

3.4 A coursework folder should be submitted comprising two *Reading* (Assignments A and B) and two *Writing* assignments (Assignments C and D) which will provide written evidence of attainment in *Reading* and *Writing*. All the assessment objectives for *Reading* and *Writing* should be assessed across the four coursework assignments.

3.5 The formats for the four assignments are set out below.

Assignment A

A personal response to poetry, eg students might look at how a theme is treated in a series of poems. The poems studied should include at least one poem written before 1900 and another which reflects a different culture and tradition. The task set should require the student to:

- recognise themes and ideas;
- recognise layers of meaning and trace progression of ideas and shifts of emphasis and tone;
- locate, analyse and explicate implications.

Students could look at some love poetry which could include work before 1900 and other more modern poems by Asian or American poets. Responses could range from a straight-forward personal reaction to the poetry to a sophisticated comparison of style and content.

Assignment B

The realisation of a scene or scenes from the printed text of a Shakespeare play into another medium, eg stage, radio, film or television. This task would involve the student:

- recognising themes and ideas;
- recognising layers of meaning and trace progression of ideas and shifts of emphasis and tone;
- analysing text in terms of audience, purpose and form.

Tasks undertaken could range from reviewing a televised or stage version of *The Merchant of Venice*; planning the rehearsal of a scene in *Macbeth;* writing a screenplay or teleplay of one of the scenes with the witches in *Macbeth*.

Assignment C

Students must engage in a writing task which requires them to:

- argue, persuade and instruct.

Students could write an article which attempts to persuade people to take "green" issues more seriously.

Assignment D

Students must submit a writing task which requires them to engage in a form of personal or creative writing. In their writing they should:

- explore, imagine and entertain.

They could for example write a short story or poems or a scene for a play which arises entirely from their own imagination or might have been inspired by some event in their lives or by something they have read. The last might involve writing a different ending to a novel or short story.

3.6 While work submitted for coursework may be word processed, **at least ONE assignment must be hand-written**.

4 ASSESSMENT OF COURSEWORK

4.1 Each formally assessed task in *Talking and Listening, Reading* and *Writing* should be awarded a mark out of 50 based on how the student has fulfilled the criteria set out in *Appendix A,* realising that the individual appropriateness of each criterion may vary from task to task. The mark should reflect the teacher's overall judgement of the students' achievement and should allow for compensation between strengths and weaknesses in the performance of the task.

4.2 In *Talking and Listening*, teachers should keep an ongoing record of assessments in this component. This record should identify the primary purpose or purposes of the task, eg explain, describe, narrate, and the tentative grade or mark awarded for that task. This record should be available to the moderator when the centre is being externally moderated.

4.3 In *Reading* and *Writing* drafting will be a crucial process within coursework. Students should be encouraged to draft their work and present it to the teacher and fellow students for comment and review. Teacher comments and discussion of work should:

- ensure that the original focus of the work is being addressed;
- reflect the strengths and weaknesses of the work;
- pose questions about what has been attempted and how successful the student has been;
- explore the reasons why the work has been successful or otherwise;
- indicate how the work could be developed and improved.

4.4 **At no time should the teacher correct the work in detail and return it to the student to write up a fair copy.** The responsibility for developing a piece of work is entirely the student's. Once a student has handed in an assignment and it has been awarded a mark, that mark is final and no further work should be carried out by the student.

4.5 An assignment may be submitted in both English and English Literature if it fulfils the assessment objectives and rubric for those subjects. However it must be reassessed using the criteria for English Literature coursework.

5 AUTHENTICATION AND ANNOTATION

5.1 Each assignment or task recorded or included in the coursework portfolio must be the students' own work. This should be authenticated by both teacher and students. The students will authenticate their own work on the *Candidate Record Sheets* and the teacher will authenticate the work of the teaching group as a whole on the *Teacher's Coursework Record* which will be included along with the *Candidate Record Sheets* and samples selected from each teaching group for external moderation.

5.2 **Written coursework will include the teacher's comments, corrections, annotations and a mark for each assignment assessed. Annotation must consist of key comments or use of symbols such as ticks etc. throughout the text and an appropriate but suitably succinct summative comment based on the assessment criteria.**

5.3 While the primary purpose of annotation is to assist students in seeing the strengths and weaknesses of their work, in moderation, annotation is the most effective method of enabling a moderator to understand how a teacher has awarded a particular mark.

6 EVIDENCE FOR SUMMATIVE ASSESSMENT

6.1 The summative mark for *Talking* and *Listening* will be derived by aggregating the marks awarded for the three best assessments which meet the requirements of this component and dividing the total by three. Individual marks should be recorded on the *Candidate Record Sheet* opposite the identified task. A brief summative comment must be included for each student indicating how he or she has fulfilled the requirements of the assessment criteria and addressed the assessment objectives.

6.2 The tasks which will form the basis for determining the final mark for *Talking and Listening* should be described in sufficient detail on the *Candidate Record Sheet* to illustrate how main purposes of and assessment objectives for *Talking and Listening* have been addressed.

6.3 In *Reading* and *Writing* a single overall mark for both components will be awarded. The summative mark will be derived by aggregating the marks awarded for each assignment submitted and dividing the total by four. The individual marks for each assignment should be recorded on the *Candidate Record Sheet* opposite the task identified.

6.4 **All written coursework assignments should be clearly annotated with reference to the assessment criteria so that the awarding of marks can be evaluated by the coursework moderators.**

6.5 Where there has been an infringement of the requirement for coursework, centres will be informed and asked to provide the appropriate evidence of attainment. While it is not normally the Council's policy to penalise students for teacher error, failure to do so might involve the marks awarded to students being adjusted accordingly.

6.6 Work submitted for external moderation should be enclosed in a manila envelope or other appropriate and secure flat binding. Ring binders, because of their bulk and insecurity, are not an acceptable binding for the submission of coursework.

7 MODERATION

7.1 To assist standardisation of assessments, the Council will supply supplementary exemplar materials, conduct agreement trials, and provide instructions on carrying out internal standardisation within centres and by sampling the work from each centre by moderators appointed by the Council.

7.2 Agreement trials are conducted annually, usually in the spring term, when teachers will be briefed on the application of the assessment criteria and engage in trial marking.

7.3 Supplementary exemplar materials in the form of advice on assessment and illustrative materials will be issued to all centres.

7.4 **Support Service and Advice**

At any stage during the course, teachers may contact the Council if they require advice, assistance or support regarding any aspect of the coursework assessment. The Council has made provision for an assistant coursework moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising out of the Coursework Component with the teachers concerned by means of a visit if necessary.

7.5 **Internal Standardisation**

Where there is more than one teaching group in the subject, centres must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as is possible, that each teacher in a department has applied each of the criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marking of individual teachers to bring their assessments into line with those of other teachers and to match the standards set at the Agreement Trial. Where such adjustment is necessary the final marks recorded on the *Candidate Record Sheet* for each component will be adjusted.

7.6 **External Moderation of *Talking and Listening***

An assistant coursework moderator will visit each centre and assess a sample of candidates from each teaching group. The time of the visit and the method of selection of candidates will be determined by the Council. The candidates will be required to engage in group discussion on a topic chosen from six drawn up by the Council.

7.7 Using the criteria for *Talking and Listening*, the assistant coursework moderator will assess performance of the candidates and award a mark. In the light of these judgements, the assistant coursework moderator, in consultation with the teacher, will review the assessments of the teacher and decide whether the marks awarded are appropriate or require adjustment to bring them into line with the standards set at the agreement trials. Teachers may appeal against the decision of the assistant coursework moderator in which case a second visit will be made by the Coursework Moderator whose decision will be final.

7.8 Teachers are reminded of the necessity to keep and have available at the time of external moderation an ongoing record of assessments in *Talking and Listening*.

7.9 **External Moderation of *Reading* and *Writing***

Assistant coursework moderators, working under the direction of the coursework moderator, will scrutinise samples of coursework drawn from each centre. The samples will be drawn in accordance with instructions issued by the Council and will represent a range of attainment. Teachers will be informed of the outcomes of the moderation process.

APPENDIX A: ASSESSMENT CRITERIA

Teachers should use their professional judgement to select and apply the criteria appropriately and fairly to the work of candidates. Each successive grade description assumes the continued demonstration of the qualities described in the lower grades.

Candidates should be awarded the appropriate mark within any range on a "best fit" basis, making allowance for balancing strengths and weaknesses within each response. When assessing coursework assignments, teachers should follow the procedure set out below.

- Teachers should make a broad judgement **using the general criteria**, eg Grade C: 33–37 marks.
- This initial judgement should then be further refined using the specific criteria. If the criteria have only just been fulfilled in minimum fashion, then the work is likely to be worth 33–34 marks. (Bottom of mark band.)
- If the assignment demonstrates fulfilment of most of the criteria in a reasonably competent manner then the work is likely to be worth 35–36 marks. (Middle of mark band.)
- Where the criteria are very competently fulfilled and some evidence of achievement of the higher grade / mark band may be apparent then the work may be judged to be worth 36–37 marks. (Top of mark band.)

The GCSE grade to mark equivalents are given for general guidance only.

ASSESSMENT CRITERIA: TALKING AND LISTENING

Grade Mark Range	GENERAL CRITERIA	SPECIFIC CRITERIA		
		Explain – Describe – Narrate	**Explore – Analyse – Imagine**	**Discuss – Argue – Persuade**
U **0–10**	Candidates will attempt to communicate in *Talking and Listening*			
G **11–16**	Candidates talk and listen with regard to personal interests and familiar contexts. They talk audibly and listen to others, showing some recognition of the functions of standard English.	• use some detail and straightforward vocabulary and chronology • respond to general points	• begin to follow and explain main points • make general contributions	• listen and respond to some points made by others • occasionally make contributions • express a point of view
F **17–21**	Candidates talk with some confidence in a range of familiar contexts, communicating clearly and adapting and organising talk to audience and purpose. They use some of the features of standard English vocabulary and grammar appropriately. They listen carefully to a range of talk and respond appropriately.	• use an increasing vocabulary for defining and ordering events • able to provide a factual account	• are able to raise questions • compare key features of subject matter • follow the central ideas and possibilities	• respond appropriately to others' contributions • express a point of view and occasionally use empathetic language
E **22–26**	Candidates talk confidently in different contexts, showing sensitivity to situation and audience. They generally use standard English vocabulary and grammar where appropriate. They listen with concentration to a range of talk.	• use straightforward and appropriate language to fit audience and purpose • give structured and, on occasions, developed accounts, responding to requests for clarification when asked	• respond to familiar and less familiar subject matter • show some ability to develop a line of enquiry	• listen with concentration and respond with some order • express an opinion and make a useful contribution • occasionally make decisive points to good effect
D **27–32**	Candidates make relevant contributions to talk and are able to organise speech in collaborative contexts, varying their style of delivery as appropriate. They are increasingly aware of the need for, and use of standard English vocabulary and grammar. They listen carefully and make responses which show some understanding.	• give ordered and, at times, focused accounts of events and processes • use detailed points of clarification in response to listeners' requests	• present an interpretation of central issues • show some understanding of unfamiliar ideas • show evidence of deductive empathetic skills	• listen and respond with some discrimination • recognise others' opinions • use language effectively to convey opinion or line of argument

Grade Mark Range	GENERAL CRITERIA	SPECIFIC CRITERIA		
		Explain – Describe – Narrate	**Explore – Analyse – Imagine**	**Discuss – Argue – Persuade**
C **33–37**	Candidates talk with fluency and make significant contributions to talk in a variety of different contexts. They show a competent use of standard English vocabulary and grammar in situations which demand it. They adapt their talk to a range of different audiences, showing judgement in their choice of style and delivery to interest listeners. They listen closely and sympathetically, responding as appropriate.	• use varied and appropriate vocabulary and expression • sustain the interest of the listener • show a consistent style of delivery	• show order and precise use of vocabulary to communicate ideas and issues • respond with understanding to ideas of varying complexity	• make a significant contribution to discussion • engage with others' ideas, recognising obvious assumptions and biases • are able to promote a point of view
B **38–42**	Candidates talk purposefully in a range of contexts of increasing complexity, managing the contributions of others. They exhibit confidence and fluency in talk and show effective use of standard English vocabulary and grammar in a range of situations. They listen with some sensitivity and respond accordingly.	• respond using a flexible range of vocabulary and grammatical structures to convey meaning, including inferential aspects • manage challenging subject matter effectively	• analyse and reflect effectively on real or imagined experience • formulate and interpret information, developing significant points	• manage collaborative tasks • build on and challenge the points made by others • make probing contributions, structuring and organising points for impact on audience
A **43–47**	Candidates initiate speech and take a leading role in discussion, responding in detail to the ideas of others. They understand and discuss aspects of challenging content. They show an assured use of standard English vocabulary and grammar in a range of situations and for a variety of purposes. They listen and respond to a range of situations and for a variety of purposes. They listen and respond to a range of complex speech.	• show cogency and explicit depth of detail when required • use a range of highly developed vocabulary to suit a range of purposes and processes • skilfully involve listeners	• articulate and analyse complex ideas and information • identify priorities • synthesise essential points, resolving outcomes	• initiate and sustain discussion through a variety of sensitive contributions • respond persuasively and engagingly
A* **48–50**	Candidates show an exceptionally high ability in handling a wide range of roles. They adapt readily to task and audience, showing originality and flair where appropriate, and exhibiting a depth of understanding of challenging content. They are sensitive in their choice of speech style and their use of standard English vocabulary and grammar is mature and assured. They listen perceptively to a range of complex speech.	• show originality and flair in the use of vocabulary, information, expression and gesture • express irony or detachment	• show sophistication and originality in applying and cross-referencing ideas	• use language in a dynamic and influential way • make thought-provoking contributions through powerful expression and command of the situation

ASSESSMENT CRITERIA: READING

Grade Mark Range	GENERAL CRITERIA	SPECIFIC CRITERIA	
		Assignment A Response to Poetry	Assignment B Response to Shakespeare
U 0–10	Candidates make some attempt to respond to texts		
G 11–16	Candidates make a response to texts. They identify some aspects of content, characters or situation.	**Candidates show response to** • the poem as a whole • specific words and phrases • the main ideas	**Candidates show response to** • the play as a whole • significant characters and relationships • the main events • particular details of the presentation
F 17–21	Candidates make a personal response which shows understanding of key ideas, themes, events and characters. They use inference and deduction and refer to aspects of texts when explaining their views.	**Candidates show awareness when describing** • the poem's explicit meanings and ideas • significant features of the subject matter • the poet's language	**Candidates show awareness when describing** • the play's explicit meanings and ideas • significant features of character and plot and their realisation • Shakespeare's language • how the play is presented in the chosen medium
E 22–26	Candidates make a personal response to texts commenting on key ideas, themes, events and characters. They make inferences and deductions and identify some features of language and structure. They refer to aspects of the text when explaining their views.	**Candidates show familiarity when describing** • the nature of the poems' meaning and ideas • the range and variety of language • the impact on the reader	**Candidates show familiarity when describing** • the nature of the play, its meaning and ideas • sequence of and presentation of events and variety of characters • the impact on an audience • audio-visual images/ staging
D 27–32	Candidates give a personal response to literary texts. They show understanding of meaning and some of the ways in which it is conveyed. They comment on aspects of structure, language and theme as well as expressing their views.	**Candidates show understanding when discussing** • the nature and implications of the poem • structure and verse form • the poets' language	**Candidates show understanding when discussing** • the nature and implications of the play and its structure • the appeal of the play to an audience • Shakespeare's language • use of audio-visual images/stage effects

Grade Mark Range	GENERAL CRITERIA	SPECIFIC CRITERIA	
		Assignment A Response to Poetry	**Assignment B Response to Shakespeare**
C **33–37**	Candidates give personal and critical responses to literary texts which show understanding of the ways in which meaning is conveyed. They refer to aspects of language, structure and themes to support their views.	**Candidates show insight when discussing** • the nature of poetry, its implications and relevance • verse style and structure and tone • the poet's characteristic use of language	**Candidates show insight when discussing** • the nature of the play, its implication and relevance • characters and their presentation, structure and stagecraft • Shakespeare's use of language • effects of audio-visual images/stagecraft
B **38–42**	Candidates develop a perceptive personal response. There is understanding of the techniques by which meaning is conveyed and of ways in which readers may respond. They support their responses with detailed references to language, theme, structure and context.	**Candidates show analytical skill when exploring** • the poem's implications, contemporary relevance and historical context • verse style, structure and tone • the poet's use of linguistic devices	**Candidates show analytical skill when exploring** • the play's implications, contemporary relevance and historical context • characterisation, structure and theatricality in its realisation • Shakespeare's use of linguistic devices • intended effects of audio-visual images/ stage effects
A **43–47**	Candidates appreciate and analyse alternative interpretations, making cross references where appropriate. They develop their ideas and refer in detail to aspects of language, structure and presentation making apt and careful comparison within and between texts.	**Candidates show analytical and interpretative skill when evaluating** • moral and philosophical context of poems • significant achievements within the poetic genre • the poet's exploitation of language for emotive, aural and figurative effect	**Candidates show analytical and interpretative skill when evaluating** • the play's moral and philosophical context • significant achievements within the dramatic genre and medium • Shakespeare's exploitation of language for dramatic, poetic and figurative effect • exploitation of audio-visual/stage effects for emotive or figurative effect
A* **48–50**	Candidates make cogent and critical responses to texts in which they explore and evaluate alternative and original interpretations. They show flair and precision in developing ideas with reference to structure and presentation. Candidates make subtle and discriminating comparisons within and between texts.	**Candidates show originality of analysis and interpretation when evaluating** • moral, philosophical or social significance of poems • poet's verse craft and appeal to audience • the patterns and details of words and images	**Candidates show originality of analysis and interpretation when evaluating** • the play's moral, philosophical or social significance • Shakespeare's stagecraft and appeal to audience • the patterns and details of words and images • patterns of audio-visual images/stage effects used to present the play

ASSESSMENT CRITERIA: WRITING

Grade Mark Range	GENERAL CRITERIA	SPECIFIC CRITERIA	
		Assignment C Argue – Persuade – Instruct	Assignment D Explore – Imagine – Entertain
U 0–10	Candidates will make some attempt to convey information and ideas in writing.		
G 11–16	Candidates' writing shows some signs of organisation. They spell simple words correctly and begin to use basic punctuation with some accuracy. Handwriting is reasonably legible.	• convey information and ideas simply • state a point of view in simple terms • show a sense of structure	• show awareness of events • narrate events in simple style and language • show a sense of structure
F 17–21	Candidates' writing is organised and independent. Form and style show liveliness and awareness of audience and purpose. The grammatical structures of simple and complex sentences, spelling and punctuation are usually accurate. Handwriting is legible.	• convey clearly a limited range of information and ideas • attempt to justify a point of view • organise and sequence ideas and information	• recognise and express explicit meanings and attitudes • relate experience • organise ideas into an appropriate sequence
E 22–26	Candidates' writing is reasonably competent. There is an attempt to match form and style to audience and purpose. Syntax is usually appropriate and they use an apt range of punctuation. Common and most irregular words are spelt correctly.	• present a range of ideas and information • support point of view with some relevant information • present their ideas in an appropriate structure	• recognise and express explicit and some implicit meanings and attitudes • relate experience and attempt to express what is felt and imagined • sequence their ideas in an appropriate structure
D 27–32	Candidates' writing is competent. Form and style usually matches audience and purpose. Engagement with the reader is evident. Syntax and spelling are generally accurate. Punctuation helps to clarify meaning.	• present and develop a range of ideas and information • support point of view with relevant information • begin to make use of structure, vocabulary and style to convey information and make points	• express and reflect on a range of explicit, and some implicit, meanings and attitudes • relate experience and express clearly what is felt and imagined • begin to make use of structure, vocabulary and style to achieve particular effects

Grade Mark Range	GENERAL CRITERIA	SPECIFIC CRITERIA	
		Assignment C **Argue – Persuade – Instruct**	**Assignment D** **Explore – Imagine – Entertain**
C **33–37**	Candidates' writing is competent and controlled. Form and style match audience and purpose. The writing engages and sustains the reader's interest. Syntax and paragraphing are used appropriately. Spelling and punctuation are accurate.	• present ideas and information clearly expressing explicit and implicit meaning • support argument with a range of relevant evidence • use adequately structure and language to achieve purpose	• present ideas and reflections clearly expressing explicit and implicit meaning • create writing which entertains and interests the reader • use structure and language to achieve figurative effects
B **38–42**	Candidates' writing is coherent, controlled and interesting. Form and style appropriately match audience and purpose. Engagement is sustained and deliberately maintained. Syntax, paragraphing and punctuation are used to clarify meaning. Spelling is accurate.	• present clearly some complex ideas and information • support logical arguments by an apt range of relevant evidence • make skilful use of structure and language to achieve desired effects	• show insight and understanding • create imaginative and plausible writing • make skilful use of structure and language to achieve figurative and emotive effects
A **43–47**	Candidates' writing is confident and very competent. Form and style demonstrates an assured match between audience and purpose. Positive engagement of the reader is maintained by a variety of strategies. Syntax and punctuation are accurate and used to effect. Spelling is accurate.	• present clearly a range of complex ideas and information • offer a coherent, logical and persuasive approach to the task • enhance meaning and effect by the successful use of structural and stylistic devices	• express and clarify complex meaning • create convincing imaginative writing • enhance meaning and effect by the successful use of structural and stylistic devices
A* **48–50**	Candidates' writing is confident and original. Style and structure show flair in achieving sophisticated effects and produces a striking engagement of the reader's attention. They follow the conventions of syntax and use the full range of punctuation to enhance meaning and effect.	• express and convey lucidly and cogently complex ideas, arguments and subtleties of meaning • offer a mature and cogently argued approach to the task • make deliberate and sophisticated use of structure and linguistic devices to achieve desired effects	• express perceptive observations and subtle insights • craft imaginative writing which is convincing and original • make deliberate and sophisticated use of structure and linguistic devices to achieve desired effects

ENGLISH LITERATURE

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and the subject criteria for English Literature.

1.2 It seeks to consolidate and extend the knowledge and skills developed in the earlier key stages and will facilitate further study at a more advanced level.

1.3 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.4 The syllabus has been designed to be as free as possible from ethnic, gender, religious, political or other forms of bias.

2 RATIONALE

2.1 The syllabus will support good practice in teaching and learning through effective assessment procedures which will allow students to demonstrate what they know, understand and can do.

2.2 The final subject grade will be awarded following the review of performance of candidates in both coursework and the terminal examination. The overall subject grade will be reported on a scale of A* – G.

2.3 The syllabus has been designed to be as compatible as possible with the GCSE English syllabus. Work submitted for the *Reading* component in English, where appropriate and suitable, may also be submitted for assessment in English Literature. In all cases coursework must be assessed against the appropriate assessment criteria.

3 AIMS

3.1 The aims set out below describe the educational purposes of following a course in English Literature. Some of the aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

3.2 The aims of the syllabus are to develop:

3.2.1 the ability to read, understand and respond to a range of types of literary text, to appreciate the ways in which authors achieve their effects and to develop the skills necessary for literary study;

3.2.2 awareness of social, historical and cultural contexts and influences in the study of literature;

3.2.3 the ability to construct and convey meaning in speech and writing, matching style to audience and purpose.

4 ASSESSMENT OBJECTIVES

4.1 The assessment objectives indicate the abilities and processes which will be assessed.

Candidates will be assessed on their ability to:

4.1.1 respond to texts critically, sensitively and in detail, selecting appropriate ways to convey their response, using textual evidence as appropriate;

4.1.2 explore how language, structure and forms contribute to the meanings of texts, considering different approaches to texts and alternative interpretations;

4.1.3 explore the social, historical and cultural contexts of texts;

4.1.4 explore relationships and comparisons between texts, selecting and evaluating relevant material.

4.2 The assessment objectives will be assessed in each component as set out below.

Terminal Examination	4.1.1 4.1.2 4.1.3
Coursework	4.1.1 4.1.2 4.1.3 4.1.4

5 INTERDEPENDENCE OF ASSESSMENT OBJECTIVES

The assessment objectives listed above are clearly interdependent and interrelated. Whilst all must be assessed it is not envisaged that each objective will be tested in isolation.

6 SCHEME OF ASSESSMENT

The scheme of assessment is designed to enable students to demonstrate the attainment they have achieved in relation to each component by combining evidence from coursework with that produced by the terminal examination. The terminal examination will consist of one written paper. The weightings for each component and their distribution between coursework and terminal examination are set out in the table below.

Paper 1	Coursework	Overall Weighting
70%	30%	**100%**

7 DIFFERENTIATION

Differentiation will be achieved by task and by outcome in the coursework and by the use of tiered papers in the terminal examination. The tiers of entry within the examination will reflect the requirements set out in the grade descriptions.

8 SYLLABUS CONTENT

8.1 The *Subject Criteria for GCSE English Literature* require that candidates study a minimum of six texts:

- two drama texts: one written before 1900 and one after;
- two poetry texts: one written before 1900 and one after;
- two prose texts: one written before 1900 and one after.

Selecting Texts

8.2 While a syllabus provides a framework for assessment, the actual course will be determined by both teacher and student through their selection of texts and by how they engage with these texts. It is, therefore, essential when making choices that will form the basis of study for both terminal examination and coursework, that teachers and students ensure the texts chosen represent a coherent body of literature that supports the aims and assessment objectives of the course. It is important that texts be studied in their literary, social and historical contexts.

8.3 Students must study the following texts

Paper 1: Section A – Shakespeare

Students must study one of the following:

Shakespeare	*The Merchant of Venice*
	Macbeth

Paper 1: Section B – Drama Written After 1900

Students must study one of the following:

O'Casey	*Juno and the Paycock*
Shaw	*Pygmalion*
Priestley	*An Inspector Calls*
Miller	*All My Sons*
Friel	*Philadelphia Here I Come!*

Paper 1: Section C – Prose Written After 1900

Students must study one of the following:

Johnson	*The Old Jest*
Orwell	*Animal Farm*
Steinbeck	*Of Mice and Men*
Lee	*To Kill A Mockingbird*
Shute	*A Town Like Alice*

8.4 **Coursework**

The coursework component will require students to study:

- prose written before 1900;
- poetry written before 1900;
- poetry written after 1900.

8.5 While the coursework folder presented for moderation may present only limited evidence of engagement with poetry, students should be exposed to a range of poems and/or poets.

8.6 **Teachers will be free to select texts which they think are appropriate for the students they are teaching. However texts selected for coursework should be of sufficient literary merit to warrant study at this level.**

9 TERMINAL EXAMINATION

9.1 Two tiers targeted at distinct but overlapping grades will be offered.

Foundation Tier:	Grades C–G
Higher Tier:	Grades A*–D (E)

9.2 Grade E may be awarded exceptionally to candidates entered for the higher tier who do not achieve Grade D but who demonstrate performance associated with Grade E.

9.3 Centres must indicate at the time of entry which of the two tiers candidates will sit. Teachers are advised to consider carefully which tier is more appropriate. The higher tier is targeted at pupils who are expected to attain a Grade C or above.

9.4 The examination will be an **open book examination** in which candidates will be required to bring in their annotated copies of the prescribed texts. **The texts should be annotated by the student alone and must not contain loose sheets, or other additional material or prepared answers. Inclusion of such material will contravene the Council's regulations and constitute malpractice.**

9.5 The terminal examination will consist of a single paper comprising three sections. A choice of two questions, reflecting different approaches to the text, will be set on each text in Sections A and B and C.

9.6 **Paper 1 (70%) 2 hours 30 minutes**

Candidates will be expected to answer one question from each section.

Section A: Shakespeare

Section B: Drama Written After 1900

Section C: Prose Written After 1900

10 COURSEWORK COMPONENT

By the end of the course all candidates will be expected to produce written evidence of attainment in English Literature. The final assessment will be based on the **three best assignments** which address prose written

before 1900 and poetry which has been written before and after 1900. Detailed requirements for this component are set out in the *Coursework Memorandum.*

11 MODERATION

The work of candidates should be internally standardised and will be moderated according to the procedures set down by the Council and outlined in the *Coursework Memorandum.*

12 GRADE DESCRIPTIONS

12.1 Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

12.2 **Grade F**

In giving personal responses to texts, candidates show understanding of key features, including themes, characters and language. They make straightforward connections between texts, and show some understanding of influences on texts and readers. They refer to aspects of texts when explaining their views. They convey their responses in appropriate ways.

12.3 **Grade C**

In responding to a range of texts, candidates show understanding of how meanings and ideas are conveyed through language, structure and form. They explore connections and comparisons between texts, referring to details to support their views. They show awareness of some of the cultural and social contexts of texts. They convey their ideas appropriately in a range of forms.

12.4 **Grade A**

Candidates respond critically and sensitively to a range of texts, taking into account alternative approaches and interpretations. They explore and evaluate the ways meaning, ideas and feelings are conveyed through language, structure and form, making connections and comparisons between texts. They identify and comment on social, historical and cultural contexts of texts, and show awareness of literary tradition. They select forms appropriately and convey their ideas coherently.

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The term coursework refers to the range of activities and processes arising from the study of English Literature which are undertaken by the student and assessed by the teacher. The syllabus, through coursework, seeks to support good practice and to encourage creative approaches to the delivery and assessment of English Literature.

1.2 The assessment of coursework will be carried out by the teacher. For the purposes of standardisation, however, the Council requires certain procedures to be followed in the submission of coursework and in the assessment of assignments and activities undertaken.

2 TASK SETTING

2.1 The purpose of coursework is to provide students with the opportunity to:

- engage in the reading of texts other than those prescribed for the course
- negotiate tasks, set goals and develop independence in their studies
- produce their own writing
- participate actively in the assessment process
- show evidence of original research which reflects their own particular choices and interests in literature
- present considered and developed personal responses to texts which they have read
- develop skills and competencies in processes which will contribute to their preparation for the terminal examination.

2.2 Coursework enables teachers to match tasks to the abilities and aptitudes of individual students. The syllabus provides opportunities for assessment by the setting of tasks which will challenge the student and from which he or she can derive the satisfaction and enjoyment of achievement.

2.3 It is therefore essential that texts chosen for coursework must be of sufficient substance and literary quality to merit serious study and enable all four assessment objectives to be fulfilled.

2.4 Tasks should be accessible to students and have sufficient structure to enable positive achievement and differentiation. It is therefore essential that students have:

- a clear understanding of the nature of the task;
- the criteria by which it will be assessed;
- the opportunity to evaluate their own work;
- the opportunity to discuss the ongoing work with the teacher;
- the opportunity to engage in a collaborative learning process.

2.5 The Council would suggest that an upper word limit of 2500 words should provide sufficient scope for students to demonstrate attainment in coursework.

3 FORMAT OF COURSEWORK

3.1 The coursework component will require students to study:

- prose written before 1900;
- poetry written before 1900;
- poetry written after 1900.

Students will be required, across the three assignments submitted, to address the following assessment objectives:

4.1.1 respond to texts critically, sensitively and in detail, selecting appropriate ways to convey their response, using textual evidence as appropriate;

4.1.2 explore how language, structure and forms contribute to the meanings of texts, considering different approaches to texts and alternative interpretations;

4.1.3 explore the social, historical and cultural contexts of texts;

4.1.4 explore relationships and comparisons between texts, selecting and evaluating relevant material.

3.2 In an assignment targeted at prose written before 1900, students could respond to a text or texts (eg short stories) by presenting a personal and critical response. Alternatively they could demonstrate engagement by writing a creative response to the text. In the latter case the link between the text and the response must be self evident eg writing the narrative of a reported encounter in the chosen novel or short story.

3.3 The two assignments on poetry should each be based on at least two poems drawn from the specified period. The comparisons made between and across texts should involve students in making a personal response to the texts studied, showing awareness of language, structure and form and where appropriate knowledge of the social, historical and cultural context. For example comparing some of the poetry of Wilfrid Owen and Rupert Brooke would provide ample opportunity for such engagement.

4 TEACHER ASSESSMENT

4.1 Each formally assessed task should be awarded a mark out of 50 based on an impression of how the student has fulfilled the criteria set out in *Appendix A*, realising that the individual appropriateness of each criterion will vary from task to task. The mark should reflect the teacher's overall judgement of the students' achievement and should allow for compensation between strengths and weaknesses in the performance of the task.

4.2 Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria will be issued annually. Candidates should therefore ensure that the quality of language used is appropriate to the task. The mark awarded for this element will be recorded separately on the *Candidate Record Sheet.*

4.3 Drafting will be a crucial process within coursework. Students should be encouraged to draft their work and present it to the teacher and fellow students for comment and review. Teacher comments and discussion of work should:

- ensure that the original focus of the work is being addressed;
- reflect the strengths and weaknesses of the work;
- pose questions about what has been attempted and how successful the student has been;
- explore the reasons why the work has been successful or otherwise;
- indicate how the work could be developed and improved.

4.4 **At no time should the teacher correct the work in detail and return it to the student to write up a fair copy.** The responsibility for developing a piece of work is entirely the student's. Once a student has handed in an assignment and it has been awarded a mark, that mark is final and no further work should be carried out by the student.

4.5 Where reference has been made to other texts or critical works, students should acknowledge such references in a bibliography at the end of each assignment or the extended study. Lack of reference to sources may be regarded as plagiarism and should not be credited.

4.6 An assignment may be submitted in both English and English Literature if it fulfils the assessment objectives and rubric for those subjects. Assignments should be assessed using the appropriate assessment criteria for each subject.

5 AUTHENTICATION AND ANNOTATION

5.1 Each assignment recorded or included in the coursework folder must be the student's own work. This should be authenticated by both teacher and students. The students will authenticate their own work on the *Candidate Record Sheets* and the teacher will authenticate the work of the teaching group as a whole on the *Teacher's Coursework Record* which will be included along with the *Candidate Record Sheets* and samples selected from each teaching group for external moderation.

5.2 Written coursework will include the teacher's comments, corrections, annotations and a mark for each assignment assessed. Annotation must consist of key comments or use of symbols such as ticks etc. throughout the text and an appropriate but suitably succinct summative comment.

5.3 While the primary purpose of annotation is to assist students in seeing the strengths and weaknesses of their work, in moderation annotation is the most effective method of enabling a moderator to understand how a teacher has awarded a particular mark.

6 EVIDENCE FOR SUMMATIVE ASSESSMENT

6.1 The summative mark for English Literature should be based on the candidate's **three best assignments.** The summative mark will be derived by totalling the marks awarded for each assignment submitted and dividing by three. The individual marks should be recorded on the *Candidate Record Sheet* opposite the task identified. A mark for spelling, punctuation and grammar should also be recorded on the *Candidate Record Sheet.*

6.2 Teachers should ensure that the rubric for coursework has been met. (See paragraphs 3.1–3.3). The tasks set should be clearly recorded in sufficient detail on each *Candidate Record Sheet* in order to make the process of moderation effective and fair.

6.3 An upper word limit of approximately **2500** words covering all three assignments has been set and should not normally be exceeded.

6.4 **All coursework assignments should be clearly annotated with reference to the assessment criteria so that the awarding of marks can be evaluated by the coursework moderators.**

6.5 Work submitted for external moderation should be enclosed in a manila envelope or other appropriate and secure flat binding. Ring binders, because of their bulk and insecurity, are not acceptable binding for the submission of coursework.

7 MODERATION

7.1 To assist standardisation of assessments, the Council will supply supplementary training materials, conduct agreement trials, and provide instructions on carrying out internal standardisation within centres and by sampling of the work by moderators appointed by the Council.

7.2 Agreement trials are conducted annually when teachers will be briefed on the application of the assessment criteria and engage in trial marking.

7.3 Supplementary training materials in the form of advice on assessment and illustrative materials will be issued to all centres.

7.4 **Support Service and Advice**

At any stage during the course, teachers may contact the Council if they require advice, assistance or support regarding any aspect of the coursework assessment. The Council has made provision for an assistant coursework moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising out of the Coursework Component with the teachers concerned by means of a visit if necessary.

7.5 **Internal Standardisation**

Where there is more than one teaching group in the subject, centres must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as is possible, that each teacher in a department has applied each of the criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marking of individual teachers to bring their assessments into line with those of other teachers and to match the standards set at the agreement trial. Where such adjustment is necessary the revised summative mark is recorded on the *Candidate's Record Sheet.*

7.6 **External Moderation of Written Evidence**

Assistant coursework moderators, working under the direction of the coursework moderator, will scrutinise samples of coursework drawn from each centre. The samples will be drawn in accordance with instructions issued by the Council and will represent a range of attainment. Teachers will be informed of the outcomes of the moderation process.

APPENDIX A: ASSESSMENT CRITERIA

Teachers should use their professional judgement to select and apply the criteria appropriately and fairly to the work of candidates. Each successive grade description assumes the continued demonstration of the qualities described in the lower grades.

Candidates should be awarded the appropriate mark within any range on a "best fit" basis, making allowance for balancing strengths and weaknesses within each response. When assessing coursework assignments, teachers should follow the procedure set out below.

- Teachers should make a broad judgement **using the general criteria,** eg Grade C: 33–37 marks.
- This initial judgement should then be further refined using the specific criteria. If the criteria have only just been fulfilled in minimum fashion, then the work is likely to be worth 33–34 marks.(Bottom of mark band.)
- If the assignment demonstrates fulfilment of most of the criteria in a reasonably competent manner then the work is likely to be worth 35–36 marks. (Middle of mark band.)
- Where the criteria are very competently fulfilled and some evidence of achievement of the higher grade/mark band may be apparent then the work may be judged to be worth 36–37 marks. (Top of mark band.)

The GCSE grade to mark equivalents are given for general guidance only.

ASSESSMENT CRITERIA: ENGLISH LITERATURE

Grade Mark Range	GENERAL CRITERIA	SPECIFIC CRITERIA	
		Response to Poetry	Response to Prose
U 0–10	Candidates make some attempt to respond to texts		
G 11–16	Candidates respond to texts they have read, describing obvious features and selecting some relevant details. They show some awareness of themes, character and language.	**Candidates show response to** • the poem as a whole • specific words and phrases • the main ideas	**Candidates show response to** • the text's explicit meanings and ideas • particular episodes • the main characters
F 17–21	Candidates engage with a text or texts displaying limited personal response and preferences. They show understanding of key features of texts such as theme, character and language and some awareness of influences on texts and readers. They make straight forward connections between texts and refer to aspects of texts when explaining their views.	**Candidates show awareness when describing** • the poem's explicit meanings and ideas • significant features of the subject matter • the poet's language	**Candidates show awareness when describing** • the text's explicit meanings and ideas • main features of character and plot • how the story is told
E 22–26	Candidates engage with a text or texts displaying personal response and preferences. They attempt to reflect on the text identifying key features such as theme, character and language and show awareness of influences on texts and readers. Using evidence from the text, they explore some explicit meanings and attitudes and make straight forward connections within and between texts.	**Candidates show familiarity when describing** • the nature of the poems' meaning and ideas • the range and variety of language • the impact on the reader	**Candidates show familiarity when describing** • the nature of the text's subject matter • the variety of character, situation, narration • the impact on the reader
D 27–32	Candidates explain their own views on, and preferences for, texts. They explore explicit and some implicit meanings and attitudes, justifying their points of view by appropriate reference to the text. They show some understanding of how meaning and ideas are conveyed through language, structure, and form. They make some obvious connections and comparisons between and within texts.	**Candidates show understanding when discussing** • the nature and implications of the poem • structure and verse form • the poets' language	**Candidate show understanding when discussing** • the nature and implications of the texts • the narrative sequence and structure • the writer's language
C 33–37	Candidates explain their own views on, and preferences for, texts. They explore a range of implicit meanings and attitudes, justifying their points of view by appropriate reference to the text. They show understanding of how meaning and ideas are conveyed through language, structure, and form. They make and explore connections and comparisons between and within texts and show awareness of some of the cultural and social contexts of texts.	**Candidates show insight when discussing** • the nature of poetry, its implications and relevance • verse style and structure and tone • the poet's characteristic use of language	**Candidates show insight when discussing** • the nature of the text, its implications and relevance • style, structure and characters • the writer's characteristic use of language

Grade Mark Range	GENERAL CRITERIA	SPECIFIC CRITERIA	
		Response to Poetry	Response to Prose
B 38–42	Candidates engage closely and perceptively with a text or texts, taking some account of alternative approaches and interpretations and supporting their opinions appropriately. They explain how meaning and ideas are conveyed through language, structure and form making connections and comparisons between texts. They show insight into a range of themes, implicit meanings and attitudes and demonstrate an awareness of the cultural, historical and social contexts of texts.	**Candidates show analytical skill when exploring** • the poem's implications, contemporary relevance and historical context • verse style, structure and tone • the poet's use of linguistic devices	**Candidates show analytical skill when exploring** • the text's implications, contemporary relevance and historical context • style, structure and characterisation • the writer's use of language
A 43–47	Candidates respond critically and sensitively to a text or texts, taking into account alternative approaches and interpretations. They explore and evaluate the ways meaning, ideas and feelings are conveyed through language, structure and form, making connections and comparisons between texts. They identify and comment on social, historical and cultural contexts of texts and show awareness of literary tradition.	**Candidates show analytical and interpretative skill when evaluating** • moral and philosophical context of poems • significant achievements within the poetic genre • the poet's exploitation of language for emotive, aural and figurative effect	**Candidates show analytical and interpretative skill when evaluating** • moral and philosophical context of text • significant achievements within the prose genre • the writer's exploitation of language for emotive and figurative effect
A* 48–50	Candidates articulate concisely their response to a text or texts demonstrating flair, originality and a high level of sustained insight. They explore and critically evaluate the ways meaning, ideas and feelings are conveyed through language, structure and form, recognising and making implicit connections and meaningful comparisons between texts. They identify and comment perceptively on social, historical and cultural contexts of texts and show awareness of literary tradition.	**Candidates show originality of analysis and interpretation when evaluating** • moral, philosophical or social significance of poems • poet's verse craft and appeal to audience • the patterns and details of words and images	**Candidates show originality of analysis and interpretation when evaluating** • moral, philosophical or social significance of text • writer's narrative craft and appeal to reader • the patterns and details of words and images

FRENCH

1 INTRODUCTION

1.1 The format of this syllabus is common to each of the subjects of French, German, Irish, Italian and Spanish.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Modern Languages. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.3 A course based on this syllabus will help to facilitate the further study of Modern Languages at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 RATIONALE

The syllabus and scheme of assessment requires candidates to demonstrate their ability to understand and use the target language and to explore the five Contexts for Learning as set out in the Programme of Study for Key Stage 4 in the Northern Ireland Curriculum Order for Modern Languages. Some answers may be required in English. Subject criteria state that a maximum of 10% of the total marks for the subject may be awarded for such answers but no more than half of this maximum allocation may be assigned to any particular assessment objective. The Programme of Study sets out the range of opportunities and activities which should be made available to pupils and for ease of reference these have been included as an Appendix to this syllabus.

3 AIMS

3.1 The aims set out below describe the educational purposes of following a course in GCSE Modern Languages. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

3.2 The aims of the syllabus are to:

3.2.1 develop the ability to use the target language for the purpose of practical communication;

3.2.2 develop an awareness of the nature of language and language learning in general;

3.2.3 offer insights into the culture and civilisation of the country or community in which the target language is spoken;

3.2.4 foster sympathetic and positive attitudes to other cultures and civilisations;

3.2.5 promote in pupils a better understanding of themselves and their own culture through comparison of the customs of the country or community of the target language with their own;

3.2.6 promote learning skills of a more general nature, such as analysis, memorising and drawing conclusions;

3.2.7 provide a firm base for the acquisition of the language skills and attitudes required for further study, work and leisure;

3.2.8 develop knowledge, understanding and skills related to the statutory cross-curricular themes.

4 ASSESSMENT OBJECTIVES

4.1 The assessment objectives set out below indicate the skills and abilities which will be assessed. Candidates will be required to demonstrate their ability to:

4.1.1 understand and respond to spoken language (Listening);

4.1.2 communicate in speech (Speaking);

4.1.3 understand and respond to written language (Reading);

4.1.4 communicate in writing (Writing).

5 RELATIONSHIP OF ASSESSMENT OBJECTIVES TO THE EXAMINATION COMPONENTS

This table below sets out the relationship of assessment objectives to the examination components and the points associated with each component.

Table 5.1

Component	Assessment Objectives	Foundation Weighting	Higher Weighting
Paper 1	4.1.1	25% 4 points	25% 4 points
Paper 2	4.1.2	25% 4 points	25% 4 points
Paper 3	4.1.3	25% 4 points	25% 4 points
Paper 4	4.1.4	25% 4 points	25% 4 points
Overall Weighting	–	100%	100%

Information on the system of converting points to grades, agreed by all Examining Boards will be circulated in due course.

6 DIFFERENTIATION

Differentiation will be achieved by the use of tiered papers.

7 SCHEME OF ASSESSMENT

7.1 The course will be assessed through the four skill areas of:

- Listening
- Speaking
- Reading
- Writing.

7.2 Each skill area is offered in two tiers, Foundation and Higher. Entry at the Foundation Tier will be appropriate for candidates considered capable of achieving Grades C to G overall and entry at the Higher Tier for those considered capable of achieving Grades A* to D(E) overall.

	A*		
	A		
Higher	B		
Tier	C	C	Foundation
	D	D	Tier
	(E)	E	"
		F	
		G	

7.3 Candidates must indicate at time of entry which tier they wish to take in each skill area. Where candidates do not attain the lowest of the targeted grades available in a tier (ie G at Foundation and D at Higher) their performance will be recorded as unclassified. However candidates who narrowly miss achieving grade D in the Higher Tier may be classified as E. Given the flexible pattern of entry final grades will be awarded on the basis of accumulation of points scored in each skill.

8 TECHNIQUES OF ASSESSMENT

8.1 Set out below for each component of the examination are details of the assessment techniques which will be used. In view of the overlapping grade structure each skill area will be assessed using question(s) common to both tiers as specified below.

8.2 **Listening (4.1.1) (25%)**

Foundation: 30 minutes

Higher: 30 minutes

This paper will comprise a variety of items of stimulus material in the target language. Items may take the form of short announcements, messages and dialogues. Each item will be followed by one or more tasks which will require candidates to demonstrate a range of responses through such assessment strategies as gap filling, matching exercises, ticking boxes, completing grids and sequencing. Short answer questions requiring a response in the target language will also be set. Where the nature of the task demands, eg in an interpreting activity, questions may be set which require an answer in English. A number of questions will be common to both tiers.

Candidates are not permitted the use of a dictionary for the Listening component.

8.3 **Speaking (4.1.2) (25%)**

Foundation: 10 minutes

Higher: 10 minutes

(Preparation Time: 10 minutes)

The Speaking Test will be conducted by the candidates' own teachers and recorded on cassette. Two options for the assessment of the Speaking Test are available.

In Option A the teacher will be responsible for making an assessment of each candidate's performance and for submitting the recording to the Council for the purposes of moderation.

In Option B the recordings will be submitted to the Council for external assessment. If Option B is intended then this should be indicated at the time of provisional entry to the examination.

The Speaking Test will involve candidates in such activities as asking and answering questions, giving information and instructions through taking part in rôle plays and in general conversations. The rôle play tasks, certain of which will be common to both tiers, will be provided by the Council.

Candidates will be permitted the use of a bilingual dictionary during the 10 minutes preparation time. Further guidance on the conduct and assessment of the Speaking Test will be published separately.

8.4 **Reading (4.1.3) (25%)**

Foundation: 40 minutes

Higher: 40 minutes

This paper will comprise a variety of items of stimulus material in the target language which may be in any of the following styles: short items such as notices and announcements, extracts from letters, magazine or newspaper articles and other forms of imaginative writing. Each item will be followed by one or more tasks which will require candidates to demonstrate a range of responses through such assessment strategies as gap filling, matching visuals to text, ticking boxes, completing grids and sequencing. Short answer questions requiring a response in the target language will also be set. Where the nature of the task demands, eg in an interpreting activity, questions may be set, which require an answer in English. A number of questions will be common to both tiers.

Candidates will be permitted the use of a bilingual dictionary for the Reading component.

8.5 **Writing (4.1.4) (25%)**

Foundation: 45 minutes

Higher: 45 minutes

The candidates will be required to respond in writing to a number of tasks which take as their starting point stimulus material of a visual or written nature. In the

Foundation Tier candidates may be asked to produce lists; complete forms or write notes and cards. The task common to both tiers will require them to produce more extended writing such as formal or informal letters. Approximately 120 words in total will be expected. In addition to the common task Higher Tier candidates will be expected to produce a more substantive letter, report or account. Assistance in the form of structured guidance contained within the question, may be given to the candidate for example, a series of sub-questions or key phrases in the target language. Candidates may be required to respond to or obtain information from a text in the target language, such as a letter, newspaper article or report.

Candidates will be permitted the use of a bilingual dictionary for the Writing component.

9 MODERATION OF TEACHER-ASSESSED SPEAKING TESTS

9.1 Where the speaking components of the examination are assessed by the candidates' own teacher under Option A (See 8.3) the assessment will be subject to moderation according to the procedures approved by the Council, and published separately.

9.2 In cases where there is more than one teaching group in the centre, that centre must ensure that the assessment of the Speaking Tests is internally standardised. It is recognised that logistical problems would be likely given the short space of time between the end of the Speaking test period and the submission of marks to the Council. In this case the process of internal standardisation would be best promoted through the organisation of a within-school agreement trial prior to the conduct and assessment of the Speaking Test.

9.3 Arrangements will be made on an individual basis for the assessment of private candidates.

10 PROHIBITED COMBINATIONS

Candidates are not permitted to enter for both tiers in the same skill area.

11 SYLLABUS CONTEXTS AND TOPICS

Materials selected for use in examination papers will reflect the statutory Contexts for Learning and associated topics set out in the Northern Ireland Curriculum Order for Modern Languages. These are set out below:

Context 1: Everyday Activities

Topics

(a) Home and school life

(b) Food and drink

(c) Shopping

(d) Eating out.

Context 2: Personal Life and Social Relationships

Topics

(a) Self, family and friends

(b) Health

(c) Holidays and leisure

(d) Celebrations and special occasions.

Context 3: The World Around Us

Topics

(a) House and home

(b) Town and countryside

(c) Getting around

(d) Weather.

Context 4: The World of Work

Topics

(a) Services to the public

(b) Occupations and places of work

(c) Future plans and careers.

Context 5: The International World

Topics

(a) Travel and tourism

(b) Life in countries or communities in which the target language is spoken

(c) Caring for the environment.

12 FOCUS OF LANGUAGE CONTENT

Set out below for each topic is a brief description focusing on the language areas in which candidates may be expected to perform. The language areas identified for Foundation Tier also apply to Higher for which additional areas have been specified.

Focus of Language Content	
Foundation	**Higher**
1 **Everyday Activities**	1 **Everyday Activities**
(a) ***Home and School Life***	(a) ***Home and School Life***
Home routine	Jobs to be done around garden
Helping at home	School building
Jobs to be done around home	School facilities
Type of school	School year
Location of school	Examinations
School day	Pocket money
Travel to school	
Timetable	
Subjects studied	
Number of teachers/pupils	
(b) ***Food and Drink***	(b) ***Food and Drink***
Common types of food and drink	Further types of food and drink
Dislikes, likes, preferences	Recipes
(c) ***Shopping***	(c) ***Shopping***
Types of shops/shopping facilities	Commenting on the cost
Location of shopping facilities /department/item	Asking for change (money)
Types of items	Exchanging an item
Availability of items	Requesting delivery of an item
Number/quality/quantity/colour/size	Refund
Cost	Special offers
Shopping announcements	Trying something on
Payment	
(d) ***Eating Out***	(d) ***Eating Out***
Location of cafés/restaurants	Problems and complaints
Making a reservation	Contents of a dish/items on menu
Requesting a menu/wine list	Quality of meal/dish/drink
Ordering food/drinks	
Settling the bill	

Focus of Language Content	
Foundation	**Higher**
2 Personal Life and Social Relationships	**2 Personal Life and Social Relationships**
(a) ***Self, family and friends***	(a) ***Self, family and friends***
Name	Personal characteristics
Address	Marital status
Telephone number	
Date and place of birth	
Age	
Sex	
Composition of family	
Other relatives	
Nationality	
Physical features	
Details of friends	
Pets	
(b) ***Health***	(b) ***Health***
Parts of the body	Injuries
Physical condition, eg well, ill, tired	Personal safety
Needs – thirst, hunger	Warning of danger
Position of pain	
Doctor/dentist/chemist	
Common illnesses	
Medicines and treatment	
Instructions for taking medicines	
(c) ***Leisure activities***	(c) ***Leisure activities***
Hobbies/interests/pastimes	Describing what is involved in hobbies, interests, pastimes, sporting activities
Sporting activities	
Venues	Merits of performances, events
Times and dates of activities	Visits to zoo, circus
Requesting ticket/seat	
Meeting people	
Making arrangements to go out	
Making reservations	
(d) ***Celebrations and special occasions***	(d) ***Celebrations and special occasions***
Annual festivals	Making arrangements for a party/celebration
Parties	Celebrating birthdays, Christmas etc
Giving a present	
Congratulations	
Taking leave	
Days of weeks, dates	

Focus of Language Content	
Foundation	**Higher**
3 **The World Around Us**	3 **The World Around Us**
(a) ***House and Home***	(a) ***House and Home***
Location of building	Rent, price of property
Type of house/flat	Availability of services
Type of rooms	
Furniture	
Household items	
Kitchen equipment	
(b) ***Town and countryside***	(b) ***Town and countryside***
Town	Description of town and countryside
Buildings	Qualities of town and countryside
Places in the town	Comparing town and country life
District	
Region	
Countryside	
Farm animals	
Plants	
(c) ***Getting around***	(c) ***Getting around***
Directions	Losing the way
Times	
Means of transport	
Distances	
(d) ***Weather***	(d) ***Weather***
Types of weather	Weather forecasts
Seasons	

Focus of Language Content	
Foundation	**Higher**
4 **The World of Work** (a) ***Services to the Public*** Services/items required in: • post office • filling station • bank Request services of: • police • fire • ambulance Recognise signs/notices relating to public services (b) ***Occupations and places of work*** Types of occupations Places of work Hours of work Being out of work Opinions about jobs (c) ***Future plans and careers*** Type of job they would like to do Where they would like to work Plans for immediate future/on leaving present school	4 **The World of Work** (a) ***Services to the Public*** Reporting/describing lost property Services/items required in: Garage Police station Hospital Fire station (b) ***Occupations and places of work*** Full time and part time jobs Future plans and careers What particular jobs involve Conditions of work Being on strike (c) ***Future plans and careers*** Reasons for choice of occupation Opportunities for work at home Opportunities for work in target country Qualifications/preparations for a particular occupation

Focus of Language Content	
Foundation	**Higher**
5 The International World	**5 The International World**
(a) ***Travel and Tourism***	(a) ***Travel and Tourism***
Planning to go/going/being on holiday	What you did/will do on holiday
Hostel, campsite, hotel etc	Enquiries about travel arrangements
Travel literature	Availability of facilities in airports/ports/stations
Notices and announcements relating to travel (including timetables)	Special terms (including supplements and reductions)
Prices and types of tickets	Travel problems (eg delays, alterations)
Travel documents/luggage	Customs
Tourist sights	
(b) ***Life in countries or communities in which the target language is spoken***	(b) ***Life in countries or communities in which the target language is spoken***
Names of other countries	Social customs
Nationalities	Characteristic traits
Main cities/towns	Drawing comparisons with life in their own community/ country
Currency	Regions
Money, weights and measures	
National dishes	
(c) ***Caring for the environment***	(c) ***Caring for the environment***
Location of litter bins	Pollution matters
Disposal of rubbish	Aspects of conservation
Smoking/non-smoking	
Simple conservation measures, eg saving water, switching off lights	

13 GRAMMAR AND STRUCTURES LIST

In this section the Grammar and Structures are defined for each tier of entry. The definition indicates whether knowledge is required for receptive use ie Listening and Reading, or for productive use ie Speaking and Writing. It is important to note that not all structures are equally important and that some structures are required for receptive use only. *Where the masculine form is stated, the feminine and plural forms are understood.*

	Structures	Foundation		Higher	
		Receptive	Productive	Receptive	Productive
NOUNS	Genders and Plurals	/	/	/	/
ARTICLES	Definite	/	/	/	/
	Indefinite	/	/	/	/
	Partitive	/	/	/	/
ADJECTIVES	Agreement	/		/	/
	Position	/		/	/
	Comparative and Superlative	/	/	/	/
	Demonstrative	/	/	/	/
	Interrogative	/	/	/	/
VERBS	Present Tense	/	/	/	/
	Imperfect	/	/	/	/
	Perfect	/	/	/	/
	Pluperfect	/		/	/
	Aller and infinitive	/	/	/	/
	Future tense	/		/	/
	Je voudrais	/	/	/	/
	Conditional tense			/	
	Conditional perfect			/	
	Subjunctive (present)			/	
	Past Historic (not 2nd person)			/	
	Passive			/	
	Imperative	/	/	/	/
	Present participle (including use with en)	/		/	/
	Past participle agreement:				
	verbs with être	/		/	/
	verbs with avoir	/		/	/
	Pronominal/reflexive	/	/	/	/
VERBAL CONSTRUCTIONS	Common Infinitive Constructions (verbs/adjectives, eg with à de)	/	/	/	/
	Common constructions with avoir and faire	/	/	/	/
	Venir de (present)	/		/	/
	Venir de (imperfect)			/	/
	Après avoir + past participle	/		/	/
	Depuis + present	/		/	/
	Depuis + imperfect			/	/
	Negatives				
	ne … pas	/	/	/	/
	ne … rien	/		/	/
	ne … jamais	/		/	/
	ne … personne	/		/	/
	ne … plus	/		/	/
	ne … que	/		/	/
	ne … aucun	/		/	/
	ne … ni … ni.			/	

	Structures	Foundation		Higher	
		Receptive	Productive	Receptive	Productive
PRONOUNS	Subject (incl. 'on)	/	/	/	/
	Direct and indirect object/ reflexive y (meaning there) en (inc. use with imperative) used singly	/	/	/	/
	Order of pronouns (more than one) (inc. use with imperative)	/		/	/
	Disjunctive/Emphatic				
	Disjunctive pronoun (+ même/s) Soi, soi-même	/	/	/	/
	Relative (qui, que, où as relative	/	/	/	/
	dont as relative	/		/	
	ce qui, ce que	/		/	
	ce dont, quoi			/	
	lequel	/		/	
	Demonstrative				
	ce; cela, ça	/	/	/	/
	celui (-ci, -là)	/		/	/
	Possessive (eg le mien)			/	
	Possession indicated by à + noun/pronoun	/	/	/	/
	Interrogative	/	/	/	/
	Qui, que, qu'est -ce que	/	/	/	/
	lequel	/		/	
	Indefinite pronouns/ adjectives				
	Quelque part, chacun, chaque	/		/	/
	quelque chose, quelqu'un	/	/	/	/
ADVERBS AND ADVERBIAL EXPRESSIONS	*Manner*				
	Common adverbs	/	/	/	/
	Expressions with à/de (eg à voix basse, d'un ton sévère)	/		/	/
	Methods of transport with à/en/par (eg à cheval, en auto)	/	/	/	/
	Comparative and superlative of adverbs	/		/	/
	Quantifers				
	Expressions with tout	/		/	/
	Adverbial use of tout	/		/	
	Intensification and limitation (eg très, peu, assez)	/	/	/	/

Structures		Foundation		Higher	
		Receptive	Productive	Receptive	Productive
TIME	Dates (days and months)	/	/	/	/
	(year)	/		/	/
	Time (including 24 hour clock)	/	/	/	/
	Common expressions of time (eg la semaine prochaine, ce matin)	/	/	/	/
	pour/pendant	/		/	/
NUMBER AND QUANTITY	Cardinal	/	/	/	/
	Ordinal – 1st to 6th	/	/	/	/
	Expressions of quantity	/	/	/	/
CONJUNCTIONS	Common conjunctions (eg et, quand, parce que)	/	/	/	/
PREPOSITIONS	Common prepositions	/	/	/	/

14 TARGET LANGUAGE RUBRICS

In this section is listed the key words and phrases which candidates are likely to encounter in question paper rubrics.

Cochez la bonne case

Cochez les cases

Complétez ce tableau

Complétez/Finissez les phrases

Développez ces petites notes

Ecrivez en … mots environ

Ecrivez la bonne réponse

Ecrivez les renseignements demandés

Ecrivez une lettre/une liste

En voici un exemple

Faites correspondre

Identifiez

Joignez d'un trait

Lisez

Mettez dans le bon ordre

N'oubliez pas de donner …

Remplissez les cases

Répondez aux questions

Voici une affiche publicitaire …

Vous écoutez. …

Vous lisez cet article …

15 MINIMUM CORE VOCABULARY LIST (FOUNDATION TIER)

15.1 This minimum core Vocabulary List for Foundation Tier is primarily intended as a guide for teachers to assist in the planning of work in relation to the programme of study.

The assessment tasks at Foundation Tier will be based on the minimum core Vocabulary List but candidates should expect to encounter unfamiliar vocabulary.

15.2 **Alphabetical Vocabulary List**

à (au, à l', à la, aux)
d'abord
abricot
absent
absolument
accident
accompagner
d'accord
accès aux quais
acheter
addition
adorer
adresse
adresser à
adulte
aéroport
affaires
affectueusement
affiche
affreux
âge
agence (de voyages)
agent (de police)
agiter
agneau
agréable
agriculteur
aider
aimable
aimer (mieux, bien)
aîné
air
alcool
alimentation
Allemagne
allemand
aller
allô
allumer
allumette
alors
Alpes
ambulance
américain
ami
amitiés
amour
s'amuser
an/année
ananas
anglais
Angleterre
animal
anniversaire
annonces (petites)
apéritif
à peu près
appareil (-photo)
appartment
s'appeler
appétit
apporter
apprendre
s'approcher (de)
après
après-midi
arbre
argent
armoire
arrêt (d'autobus)
s'arrêter
arriver
acenseur
aspirateur
aspirine
s'asseoir
assez
assiette
assister à
athlétisme
attaquer
attendre
attention!
attraper
au feu!
au revoir
au secours!
auberge (de jeunesse)
aucun
aujourd'hui
aussi
autant
auto (bus, car, stop)
autoroute
autour de
autre
avance
avant
avec
avenir
aventure
avenue
avion
avoir

baccalauréat (bac)
bagages
baguette
se baigner
bain
balcon
balle
ballon
banane
banc
bande (dessinée)
banlieue
banque
bar
barrière
(en) bas
bâtiment
bâtir
(se) battre
beau
beaucoup
bébé
belge
Belgique
besoin
bête
beurre
bibliothèque
bidet
bien (sûr, entendu)
bientôt
bienvenue
bière
bifteck
billet
biologie
biscuit
bise
blanc
(se) blesser
bleu
bloc sanitaire
blond
blouson
bœuf
boire
bois
boisson
boîte (aux lettres)
bol
bon
bonbon
bonheur
bonhomme (de neige)
bonjour
bonsoir
bord
Bordeaux
botte
bouche
boucher
boucherie
boulanger
boulangerie

boule
boulevard
Boulogne
boum
bout
bouteille
boutique
branche
bras
Bretagne
bricolage
briller
britannique
brochure
(se) bronzer
brosse (à dents)
se brosser
brouillard
bruit
(se) brûler
brun
Bruxelles
bûche de Noël
buffet
bulletin
bureau

ça (alors, dépend, fait, va)
cabine (d'essayage, téléphonique)
cabinet
(se) cacher
cadeau
cadet
café (-crème)
cafetière
cahier
caisse
Calais
calme
camarade
camion
campagne
camping
canard
canne (à pêche)
cantine
capitale
car
carafe
carnet
carte (de crédit, d'identité, postale)
(se casser)
catholique
cave
célèbre
centime
centimètre
centre (commercial, -ville)
cerise
certain
certificat
CES
cesser
c'est-à-dire

chaise
chambre (de famille)
champ
champignon
chance
changer
chanson
chanter
chanteur
chapeau
chaque
charcuterie
chariot
charmant
chat
château
chaud
chauffage (central)
chauffeur
chaussée (des Géants)
chaussette
chaussure
chef
chemin (de fer)
cheminée
chemise
chèque (de voyage)
cher
Cherbourg
chercher
cheval
cheveu
chez
chien
chimie
chips
chocolat
choisir
choix
chose
chou
chou-fleur
chouette!
cidre
ciel
cinéma
circulation
citron (pressé)
clair
classe
clé (clef)
client
climat
club
cochon (d'Inde)
code (de la route, postal)
cœur
coiffeur/coiffeuse
coin
collant
collectionner
collège
coller
collier
collision

combien
comédie
commander
comme
commencement
commencer
comment
commerçant
commerce
commissariat
commissions
commun
communication
compartiment
complet
compliment(s)
composter
comprendre
comprimé
compris (y,non-)
comptoir
concierge
conducteur
(se) conduire
confiserie
confiture
confort
confortable
congé
congélateur
connaître
consigne (automatique)
consommation
content
continuer
(au) contraire
contre
copain
coq (au vin)
corde
corps
correct
correspondance
correspondant(e)
costume
côte (d'Azur)
côté (à côté de)
côtelette
coton
cou
se coucher
couchette
coude
couleur
coup
(se) couper
cour
(au) courant
courir
cours
course(s)
court
cousin
couteau
coûter

couvert
couverture
couvrir
cravate
crayon
crédit (Agricole)
crème
crémerie
crêpe
crêperie
crier
croire
croissant
croque-monsieur
crudités
cuiller
cuir
cuire (bien cuit)
cuisine
cuisinière
cultiver
curieux
cyclisme
cycliste

dactylo
dame
dancer
dancing
Danemark
danger
dangereux
danois
dans
date
de (du, de la, de l', des)
débarrasser
debout
début
(se) décider
déclarer (rien à)
décrire
déçu
dedans
défendre
dehors
déjà
déjeuner
délicieux
demain
(se) demander
déménager
demeurer
demi
dent
dentiste
départ
département
dépenser
dépliant
déposer
depuis (quand)
dernier
derrière
(se) déshabiller
désagréable
descendre
désirer
désolé
dessin (animé)
détester
devant
déviation
devoir
Dieppe
Dieu
différent
difficile
diminuer
dîner
(se) dire
direct
directeur
disco (thèque)
disque
distraction
docteur
documentation
doigt
domicile
dommage
donc
donner (sur)
Dordogne
dormir
dortoir
dos
douane
doucement
douche
douleur
(sans) doute
Douvres
doux
douzaine
drap
drapeau
(se) dresser
droit
à droite
drôle
dur
durer

eau (minérale, potable)
éclair
éclaircie
école (maternelle)
économiser
écossais
Écosse
écouter
écrire
éducation (physique)
également
église
électrique
électrophone
élégant
élève
s'embarquer
embrasser
empêcher
emplacement
emploi (du temps)
employer
EMT (éducation manuelle et technique)
enchanté
encore
endroit
enfant
enfin
enlever
énorme
enrhumé
enseigner
ensemble
ensuite
(s') entendre
entourer
entre
entrée
entrer
enveloppe
environ
envoyer
épais
épaule
épicerie
épicier
épouser
équipe
équitation
escalier
espace
Espagne
espagnol
espérer
essayer
essence
est
estomac
étage
état
États-Unis
étoile
étranger
être
étudiant
étudier
Europe
européen
évident
exact
exagérer
examen
excellent
excursion
s'excuser
exemple
expliquer
extérieur
extraordinaire
extrême

(en) face (de)
fac(ulté)
fâché
facile
facteur
faible
faim
(se) faire
falloir
famille
farine
fatiguer
faute
fauteuil
faux
favori
féliciter
femme
fenêtre
férié
fermer
fermier
fêter
feu(x) (d'artifice, rouge)
feuille
fiancé
fiche
fier
fièvre
figure
fille
film
fils
fin
finalement
finir
fleur
foire
fois
foncé
fond
formidable
forêt
fort
foule
fourchette
frais
fraise
framboise
franc
français
France
frapper
frein
frère
frigo
frites
froid
fromage
fruit
fumer
furieux

(à) gauche
en général
gagner
gallois
gant
garage
garçon (de café)
garder (le lit)
gare (routière, maritime)
Garonne
gâteau
gaz
gendarme
gêner
génial
genou
gens
gentil
géographie
gîte
glace
glisser
gomme
gorge
goûter
gramme
grand
Grande Bretagne
gras
gratuit
grave
grec
Grèce
grimper
grippe
gris
gros
groupe
guichet
guide
gymnastique

s'habiller
habiter
d'habitude
s'habituer à
haie
haricot
hâte
haut
herbe
hésiter
heure
heureux
hier
histoire
Hollande
hollandais
homme
hôpital
horaire
horloge
hors d'œuvre
hôtel (de ville)
hôtesse de l'air
huile
humide
hypermarché
Le Havre

ici
identité
île
image
impatient
immeuble
imper (méable)
important
impossible
impression
impressionnant
incendie
indiquer
industrie
infirmier
informations
insecte
instant
instituteur
intelligent
interdit
intéressant
invitation
inviter
irlandais
Irlande (du Nord)
Italie
italien

jamais
jambe
jambon
jardin (public, potager, d'agrément)
jaune
jeter
jeu (électronique)
jeune
jeunesse
joie
joli
jouer
jouet
jour (de l'an, férié)
journal
journée
joyeux (Noël)
juif
jumeau
jupe
jus
jusque
juste

K7 (= cassette)
képi
kilo
kilomètre
kiosque (à journaux)

là
labo (ratoire)

lac
laid
laine
laisser
lait
laitue
lampe
lancer
langue
lapin
large
lavabo
(se) laver
leçon
lecture
léger
légume
lent
lettre (par avion, recommandée)
(se) lever
lèvre
liberté
librairie
libre (-service)
lieu (au ... de)
ligne
lire
liste
lit
litre
littérature
livre (masc and fem)
location
logement
loger
loin (de)
Loire
Londres
long
longtemps
lorsque
louer
loup
lourd
lumière
lune
lunettes
luxe
Luxembourg
luxembourgeois
lycée
Lyon

machine
madame
mademoiselle
magasin
magazine
magnétoscope
magnifique
maillot (jaune, de bain)
main
maintenant
mairie
mais
maison
maître
mal
malade
malheureux
maman
manche (La Manche)
manger
manquer
manteau
marchand
marché (bon marché)
marcher
marée (basse, haute)
mari
mariage
marin
marque
marron
Marseille
Massif Central
match (nul)
matériel de camping
matière
mathématiques
matin
matinée
mauvais
mayonnaise
méchant
médecin
médicaments
médicine
melon
membre
même
ménage
menton
menu
menu (touristique)
mer (d'Irlande, Méditerranée)
merci
mère
merveilleux
message
messe
mesurer
météo (rologie)
mètre
métro
mettre
meuble
mi-temps
midi (le Midi)
miel
mieux
milieu
mince
minuit
minute
miroir
mixte
mobylette
moderne
moins
mois
moitié
moment
monde (tout le monde)
monnaie
monsieur
montagne
monter
montre
montrer
monument
morceau
mort
mot(s)croisé(s)
moteur
moto (cyclette, cycliste)
mouchoir
moustique
moutarde
mouton
moyen
municipal
mur
musée
musicien
musique

nager
naissance
naître
natation
nature
national
naturel
nautique (ski-)
nécessaire
négliger
neiger
nerveux
nettoyer
nettoyage à sec
neuf
neveu
nez
nid
nièce
Noël
noir
nom
nombre
nord
normal
Normandie
note
nourriture
nouveau (de-, rien de-)
nouvelle(s)
nuage
nuageux
nuit
numéro
nylon

objet (objets trouvés, de valeur)
obliger
obtenir
occupé
oeil (yeux)
oeuf
office (de tourisme)
offrir
oiseau
omelette
oncle
opéra
opinion
opticien
optimiste
or (noun)
orage
orageux
orange
orangina
orchestre
ordinaire
ordinateur
ordonnance
order
oreille
os
ou
où
oublier
ouest
oui
ours
ouvert
ouverture
ouvrir

page
pain
pair (au ...)
paire
palais
pâle
pamplemousse
panier
panne (en panne)
pantalon
pantoufles
papa
papier (à lettres)
Pâques
paquet
par
paraître
parapluie
parasol
parc
parce que
parcmètre
pardessus
pardon
pardonner
parent
parfait
parfum
parfumerie
Paris
parking
parler
particulier
partie
(à) partir (de)
partout
pas
passage (à niveau, clouté, protégé)
passager
passant
passeport
(se) passer
passe-temps
pâté
pâté (dentifrice)
patin (à roulettes)
patiner
patinoire
pâtisserie
patron
pauvre
payer
pays
Pays de Galles
paysage
paysan
péage
pêche
pêcher
pédalo
peinture
pelouse
pendule
penser
pension (demi-, complète)
Pentecôte
(se) perdre
père
périphérique
permanent
permettre
permis (de conduire)
perroquet
personne
perte
petit (déjeuner, -fils, petite-fille)
peu
peur
peut-être
phare
pharmacie
pharmacien
photo (graphie)
photographe
physique
piano
pièce
pied (à ...)
pierre
piéton
pilote
pilule
pique-nique
piquer
piqûre
piscine
piste
pittoresque
place
plafond
plage
plaire
plaisir
plan
planche à voile
plancher
plastique
plat (du jour)
plateau
plein
pleurer
pleuvoir
plonger
pluie
plume
plupart
plus
plusieurs
plutôt
pneu
poche
poids (lourd)
point (à ...)
pointure
poire
pois
poisson (rouge)
poissonnerie
poivre
poli
policier
politesse
pomme (de terre)
pompier (sapeur -)
pont
porc
port
porte
porte-monnaie
portefeuille
porter
porteur
portière
poser
possible
poste (restante)
poster
pot
potage
poterie
poubelle
poudre
poule
poulet

poupée
pour
pourboire
pourquoi
pourtant
pousser
poussière
pouvoir
pré
précieux
précipiter (se)
préférer
préfet
premier
prendre
prénom
préparer
près (de)
présent
(se) présenter
presque
presser
prêt
prêter
prier
principal
prix
problème
prochain
prof (esseur)
profond
programme
progrès
promenade
se promener
prononcer
proposer
propre
propriétaire
protéger
protestant
en provenance de
provision
prune
pub(licité)
public
PT
puis
pull
pyjama
Pyrénées

quai
quand
quantité
quart
quartier
Québec
quelqu'un
quelque chose
quelque(s)
quelquefois
question
queue
quiche
quinzaine
quinze jours
quitter

raconter
radiateur
radio
raisin
ramasser
ranger
se rappeler
rapide
rapporter
ravi
rayon
récent
récepteur
réception
recevoir
récompense
récréation
reçu
réduction
réduit
refuser
regarder
région
règle
regretter
religion
remarquer
rembourser
remède
remercier
remplir
renard
(se) rencontrer
rendez-vous
rendre (service à)
renseignements
(se) renseigner
rentrée
rentrer
réparer
repas
répéter
répondre
réponse
(se) reposer
représentant
réserver
respirer
responsable
restaurant
rester
résultat
(en) retard
retourner
retrouver
réunion
réussir
rêver
(au) revoir
revue
rez-de-chaussée
rhume
riche
rideau
ridicule
rien
rire
risque
rivière
riz
robinet
rôle
roman
rond
rose
rosé
rôti
roue (de secours)
rouge
rouler
route
routier
roux
ruban
rue
rugby

sable
sac (à dos, à main, de couchage)
sage
saison
salade
sale
salle (à manger, d'attente, de bains, de classe, de séjour)
salon
salut!
sandale
sang
sans
santé
satisfait
sauce
saucisse
saucisson
sauf
saumon
sauter
(se) sauver
savoir
savon
science
scolaire
séance
sec
sécher
secondaire
secrétaire
section
Seine
séjour
sel
semaine
sembler
sens (interdit, unique)
(se) sentir

séparer
sérieux
serpent
serveur
service
serviette
(se) servir
seul
seulement
sévère
shampooing
short
si
siffler
signature
signer
silence
simple
sirop
situation
(se) situer
ski
slip
SNCF
social
sœur
soie
soif
soigner
soin
soir
soirée
sol
soldat
soldes
soleil
sombre
somme
sommet
sommeil
son
sonner
sorte
sortie (de secours)
sortier
soudain
souffrant
souffrir
souhaiter
soulier
soupe
souper
sourire
souris
sous (-sol)
(se) souvenir (de)
souvent
sparadrap
spécialité
sport (d'hiver)
sportif
stade
station (-service, de métro)
stationnement
stationner
steak
stop (faire du)
Strasbourg
stylo
succès
sucre
sud
suffir
Suisse
suivant
super
supérieur
supermarché
supplément
supplémentaire
supporter
supposer
sur
sûr
surprenant
surprendre
surprise
surtout
(en) sus
sympa(thique)
syndicat d'initiative (SI)

tabac
table
tableau (noir)
tâche
taille
tant (mieux, pis)
tante
tapis
tard
tarif
tarte
tas
tasse
taxi
technicien
technique
tel
télécarte
télégramme
téléphoner
télévision
tellement
température
tempête
temps
tenir
tennis
tente
terminer
en terminale
terrain
terrasse
terre (à … par …)
terrible
tête
TGV
thé
théâtre
thon
ticket
tigre
timbre
timide
tirer
tiroir
toilettes
toilette (faire la)
toit
tomate
tomber
tonnerre
torchon
tortue
tôt
toujours
tour
Tour de France
Tour Eiffel
tourisme
touriste
tourne-disques
tourner
La Toussaint
tout (à coup, à fait, à l'heure, de suite, le monde, près, seul)
train (en ..... de)
tranche
tranquille
transistor
travail
travailler
travaux manuels, pratiques
traversée
traverser
trembler
tremblement (de terre)
très
tricot
triste
trop
trottoir
trou
(se) trouver
truite
tube
tuer
TVA
type
typique

uni
uniforme
unique
unité
université
urgence
user
usine
utile
utiliser

vacances
vache
vaisselle
valise
vallée
vacances
vache
vanille
variable
varié
vase
véhicule
vélo
vélomoteur
vendeur
vendre
vente
venir (de)
vent
ventre
vérifier
vérité
verre
vers
verser
vert
veste
vestibule
vêtements
viande
vide
vie
vieux
village
ville (jumelée~)
vin
vinaigre
violon
visage
visibilité
visite
visiteur
vite
vitesse
vitrine
vivre
vœux (meilleurs ...)
voici
voilà
voile
voir
voisin
voiture
voix
vol
voler
volet
volley-ball
vomir
vouloir
voyage
voyager
voyageur
vrai
VTT (vélo tout terrain)
vue

wagon (-lit, -restaurant)
WC
weekend
western

y
yaourt
yeux
yoga

zéro
zoo (jardin zoologique)
zut alors!

16 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates identify and note main points and extract some details from simple language spoken clearly at near normal speed.

Candidates take part in simple transactions and conversations showing some ability to substitute words and phrases. Their pronunciation is intelligible, and although there are grammatical inaccuracies, the main points of the message are communicated.

Candidates identify main points and extract some information from short, simple texts, both printed and hand written. They use a bilingual dictionary or glossary to find out the meaning of unfamiliar words.

Candidates write short sentences, and respond to written texts by substituting words and set phrases. Although there will be mistakes in spelling and grammar, the main points of the message are communicated.

Grade C

Candidates identify and note main points and extract details and points of view from language spoken at normal speed. The spoken texts include narratives and future events. They are drawn from a variety of topics which include familiar language in unfamiliar contexts.

Candidates undertake transactions and develop conversations which include past, present and future events. They express personal opinions and show an ability to deal with some unpredictable elements. Although there are some errors, they convey a clear message, and their pronunciation and intonation are generally accurate.

Candidates identify and extract details and points of view from printed and hand written texts, authentic and simulated, drawn from a variety of topics and which include past, present and future events. They use bilingual dictionaries or glossaries to understand unfamiliar language.

Candidates express personal opinions and write about a variety of topics, including past, present and future events. They write simple formal letters or personal letters. The style is basic but despite errors the writing conveys a clear message.

Grade A

Candidates understand gist and identify main points and detail in a variety of types of authentic spoken language. They recognise points of view, attitudes and emotions and are able to draw conclusions.

Candidates initiate and carry through transactions, take part in conversations and narrate events. They express and justify ideas and points of view, and produce longer sequences of speech using a variety of vocabulary, structures and time references. They speak confidently, with good pronunciation and intonation. The message is clear although there may still be some errors, especially when candidates use more complex structures.

Candidates understand gist and identify main points and detail in a variety of types of authentic texts. They recognise points of view, attitudes and emotions and are able to draw conclusions. They select and make appropriate use of reference materials.

Candidates give factual information, narrate events and express and justify ideas and points of view. They produce longer sequences using a range of vocabulary, structure and time references. Their spelling and grammar are generally accurate, and the style is appropriate to the purpose.

APPENDIX
EXTRACT FROM NORTHERN IRELAND PROGRAMME OF STUDY

General Skills and Cultural Awareness

Developing Personal and Social Skills

Pupils should have opportunities, through the communicative process, to enhance their self-esteem by enjoying success and to develop positive attitudes to others. Such attitudes should include tolerance, empathy and appreciation of the talents and contributions of other people. Concentration and perseverance should be encouraged among pupils. These attitudes and qualities may be promoted by:

a working independently and collaborating in pairs and small groups;

b working on whole class activities;

c undertaking tasks in co-operation with the teacher or with another adult such as a language assistant or visitor;

d conducting or taking part in interviews, surveys or investigations;

e developing the skills of self-expression and presentation;

f taking part in decision-making;

g acknowledging their own contribution and that of peers.

Developing Language Learning Skills

Pupils should have opportunities to acquire, develop, and apply through the language learning processes, skills which include:

a memorising sounds, words and structures;

b note-taking;

c dealing with information;

d drawing conclusions and making inferences;

e predicting meaning from context;

f using resources independently;

g developing an awareness of sounds and language patterns;

h reading for a purpose;

i managing their own learning;

j solving problems;

k listening attentively;

l redrafting writing to improve accuracy and presentation.

Developing Cultural Awareness

Pupils should have opportunities to develop an awareness, understanding and appreciation of the culture of the country or community of the target language. They should have opportunities to develop a sense of European identity and to appreciate the diversity of European cultures and societies. By identifying similarities and acknowledging differences between cultures, they may learn to view their own culture more objectively. Pupils should have opportunities to:

- use authentic materials, for example, *magazines and videos*;
- meet native speakers of the target language, for example, *language assistants or visitors*;
- participate in correspondence and, where appropriate, visits to and exchange schemes with the country or community of the target language;
- experience or learn about the customs and traditions of the country or community of the target language through song, dance and the celebration of festivals.

Language Skills and Contexts for Learning

Language Skills

Throughout the programmes of study, pupils should be exposed to the target language and have frequent opportunities to use it. As a consequence, when responding to questions in a spoken or written form, pupils should use the target language except where a response in their first language is a necessary part of the task, for example, *in an interpreting exercise.*

Pupils should take part in activities which:

- combine two or more of the four language skills (listening, speaking, reading, writing) where appropriate;
- enable them to use the target language for real purposes;
- help them to acquire and use the target language to communicate with each other, their teacher and other speakers of the language;
- cultivate informed attitudes towards other people's lifestyles, social conventions, beliefs, opinions and ideas.

Pupils should have opportunities to develop language learning skills and awareness of language through the following activities:

- practising pronunciation and intonation;
- recognising how sounds are represented in writing;
- practising and internalising structures and vocabulary;
- developing awareness of different conventions and styles of language.

In order to develop and reinforce linguistic skills and to manipulate the target language, pupils should be taught to:

a listen for comprehension of general meaning and detail;

b listen for pleasure;

c seek and give information;

d ask about meanings and seek clarification or repetition;

e express preferences and reactions;

f take part in short exchanges and conversations;

g participate in imaginative and creative activities, for example, *drama, poetry and song;*

h follow instructions, for example, *when making and drawing;*

i read printed or handwritten texts for comprehension of general meaning and detail;

j read for information and for pleasure;

k use a range of reference materials and resources to aid comprehension and communication;

l select and copy;

m produce short pieces of continuous writing;

n write for pleasure;

o write formal and informal letters;

p interpret the meaning of language with the help of visual and other non-verbal clues;

q respond to different types of aural, visual and textual sources.

As they progress through the levels of attainment, teaching should enable pupils to engage in activities involving the higher order skills of:

r initiating and sustaining conversations;

s responding to unprepared situations;

t expressing feelings, opinions and ideas;

u discussing issues and making comparisons;

v adjusting language to suit context, audience and purpose;

w taking notes and reporting orally or in writing.

GEOGRAPHY

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 Geography has a distinctive contribution to make to the development of an understanding of the world and its peoples. It encourages an appreciation of the relationships between the physical and human processes operating in different environments. The study of geography provides opportunities for students to develop an understanding of and respect for the cultures and ways of life of other peoples.

1.2 The syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Geography. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.3 This syllabus and the methods of assessment are intended for the whole GCSE ability range. A course based on this syllabus will facilitate the needs of a wide variety of students, including those leaving school at 16, those going on to further education and/or training, those intended to specialise in Geography at GCE Advanced Level and mature students returning to education on a part-time or full-time basis.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from ethnic, gender, political, religious or other forms of bias.

2 AIMS

The aims set out below describe the educational purposes of following this course in Geography. They are pursued through the study of topics covering a wide range of geographical scales. This approach will enable candidates to construct a framework of knowledge and understanding about their home area and the world beyond into which they can place local, national and international events. Some of the aims are reflected in the assessment objectives; others are not because they cannot readily be assessed for examination purposes.

2.1 Knowledge and Understanding

2.1.1 To develop an understanding of relative location at a variety of scales (local/small, regional/national and international/global);

2.1.2 to acquire knowledge and understanding of a range of places, landscapes, environments and themes and in so doing develop a sense of place;

2.1.3 to develop an understanding of how places and activities are linked by movements of people, materials and information and by complex economic, social, political and physical relationships;

2.1.4 to promote an understanding of the processes, both physical and human, which affect the development of places, environments and landscapes and how these processes may change over time;

2.1.5 to help recognise some of the important geographical patterns revealed in different types of landscape and human activity and to appreciate that such patterns change over time;

2.1.6 to develop an awareness of the complexity and variety of phenomena at the earth's surface and hence the tentative and developing nature of any explanations of their geography;

2.1.7 to develop an appreciation of the environment and an informed concern about its future, leading to a sense of responsibility for the care of the Earth, its people and resources;

2.1.8 to develop a sensitive awareness of the role of people's beliefs, values and attitudes in those relationships and issues which have a geographical dimension;

2.1.9 to encourage an understanding of the interrelationships and interdependence of different communities and cultures within society, both in Northern Ireland and in the rest of the world, together with an awareness of the opportunities and constraints people face in different environments.

2.2 Skills and Applications

2.2.1 To acquire and develop the skills, techniques and procedures for the conduct of geographical enquiries especially through mapwork, fieldwork and the appropriate use of information technology;

2.2.2 to extend the range of communication, intellectual, practical, presentational and social skills through detailed investigations into a wide range of topics and issues.

3 ASSESSMENT OBJECTIVES

The assessment objectives describe achievements and/or abilities which can be measured and recorded.

The terminal examination and coursework will assess the extent to which candidates are able to:

in relation to knowledge and understanding:

3.1 recall specific facts and demonstrate locational knowledge about the places, environments, landscapes and themes specified in the syllabus;

3.2 demonstrate their knowledge and understanding of the ideas specified in the syllabus, and their ability to apply them in a variety of contexts and at a range of scales;

Assessment Component	Content	Relevant Assessment Objectives	Knowledge	Understanding	Skills and Applications	Assessment Component Weighting
Terminal Examination Paper 1	Themes A, B and C	3:1 to 3:10	15–20%	15–20%	5–10%	40%
Terminal Examination Paper 2	Themes D, E and F	3:1 to 3:10	15–20%	15–20%	5–10%	40%
Coursework*	May be on a topic from any one of the themes	3:9, 3:10, 3:11	NIL	NIL	20%	20%
		Total Weightings	30–40%	30–40%	30–40%	100%

* In the coursework candidates will not be assessed directly on the Assessment Objectives which have been specified as knowledge and understanding in Table 4.2. However, in demonstrating their intellectual, practical and social skills it is expected that candidates will draw upon their knowledge and understanding of relevant syllabus content, studied previously.

3.3 understand the processes, both physical and human, which contribute to the characteristics of places, environments and landscapes and how these processes change over time;

3.4 recognise and understand the patterns and relationships within and between places, environments and landscapes and how such patterns and relationships change over time;

3.5 understand the complexity and variety of phenomena at the earth's surface and hence the need to be tentative when developing explanations of their geography;

3.6 understand the consequences and variety of the use of natural resources and environments and of approaches to their protection, conservation and management;

3.7 demonstrate an understanding that people's beliefs, values and attitudes have a bearing on human decision making;

3.8 demonstrate an understanding of the various ways in which societies with different technologies, economic and political systems and cultural values have responded to particular environments.

in relation to skills and applications:

3.9 select and use in appropriate contexts:

- instruments, including information technology software, for collecting, sorting, recording and presenting geographical information;
- a range of fieldwork and other practical techniques and procedures;
- secondary sources including maps at a variety of scales, atlases, synoptic weather charts, photographs, remotely-sensed images, data files and census material.

3.10 apply suitable methods and ideas to investigate and explain geographical phenomena;

3.11 undertake, supported by fieldwork, an enquiry relevant to their course of study: contribute to the planning of the investigation, obtain appropriate information, process and present their findings and discuss their results in a form that relates to the original topic. Information technology may be used, where appropriate, to process and/or present information.

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment is designed to enable candidates to demonstrate their attainment across the assessment objectives and the content.

4.2 The table above indicates the relationships between the assessment components, the content and the assessment objectives. The weighting given to each assessment objective may vary slightly from year to year but the weighting for each group of assessment objectives will be within the stated range.

4.3 **Differentiation**

Differentiation will be achieved through the use of tiered papers in the Terminal Examination – each tier targeted at a particular range of grades. Differentiation in coursework will be achieved by outcome and by the setting of tasks appropriate to the individual levels of ability of the candidates.

4.4 **Entry**

There will be two tiers of entry for the examination:

Foundation Tier	Grades C–G
Higher Tier	Grades A*–D(E)

Candidates must be entered for one tier only at the time of entry. Centres are recommended to enter for the Higher Tier only those candidates considered capable of achieving one of the upper grades. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

4.5 **The Terminal Examinations**

4.5.1 Each tier will consist of two papers. Each paper will be 1½ hours in duration and will assess Assessment Objectives 3.1 to 3.10.

4.5.2 Each paper will contain three compulsory multi-part questions.

4.5.3 Each question will focus on a separate geographical theme but may, where appropriate, include associated material from another theme. The resource material used in each question, may take a

variety of forms, eg written, graphical, statistical, pictorial. Some questions or parts of questions may require candidates to demonstrate the skills associated with an issues-based approach (see paragraph 6.3). Some parts of each question will provide candidates with the opportunity to write in extended prose (ie a minimum of two sentences). Atlases may be used in the examination.

4.5.4 The themes addressed in Paper 1 will be:

A The Atmosphere

B The Earth's Structure and Landscape Development

C Ecosystems

4.5.5 The themes addressed in Paper 2 will be:

D Population

E Economic Activity and Development

F Settlement

4.6 Coursework

4.6.1 The coursework will take the form of an investigative study. The investigation should be based on either a decision-making task, a problem-solving task or an hypothesis-testing task. It is acceptable for the investigation to be undertaken as a group exercise but each individual candidate must complete a separate report.

4.6.2 It should be possible to complete the report in less than **2500 words**.

4.6.3 This coursework will assess Assessment Objectives 3.9, 3.10 and 3.11.

4.6.4 The stages listed below should be followed for each investigation:

Stage 1	Planning
Stage 2	Data Collection
Stage 3	Report – Development
Stage 4	Report – Evaluation and Conclusions.

4.6.5 The work of candidates will be assessed by the candidates' teacher and moderated externally by the Council. A memorandum containing full details and guidance for teachers on the marking of coursework is included at the end of this document. It is essential that teachers study carefully the memorandum before engaging in the coursework.

5 SYLLABUS CONTENT

5.1 Structure of the Content

The syllabus content is presented in a thematic format and specified under the headings of key ideas, generalisations and illustrative material. To allow teachers flexibility in developing their teaching programmes and to permit the maximum use of available resources the illustrative material has, as far as possible, been expressed in broad terms. However, **illustrative material must be studied at the scales indicated and in the specified locations**. Where the illustrative material is stated in more specific terms this is to ensure that the syllabus meets the statutory programme of study for Key Stage 4 Geography in Northern Ireland.

5.2 Methods of Geographical Enquiry

The following skills and techniques should be integrated with the study of the Issues and Themes. Candidates should have the opportunity to:

- read plans and maps in order to recognise the plan view of objects, use letter/number co-ordinates, four and six figure references, latitude and longitude and the eight points of the compass;
- identify features on a plan or map, by using symbols and a key, and draw simple maps which are not to scale;
- explore the ways in which relief is represented on Ordnance Survey (OS) maps (1:50,000), identify major relief features on maps, relate cross-section drawings to relief features;
- understand scale by drawing plans of objects, measuring straight and curved line distance, using a variety of scale representations and examining features on maps of different scales;
- identify and describe patterns on maps, synoptic charts and remotely sensed images;
- use a variety of methods of presenting geographical information including block graphs, bar graphs, pictographs, line graphs, frequency diagrams, pie charts, scattergraphs, composite maps, annotated field sketches and sketch maps;
- analyse and interpret a wide range of secondary sources including simple geology maps, topographical maps, aerial photographs, remotely sensed images and census data;
- construct and interpret maps and diagrams to show distributions, densities and flows;
- analyse the inter-relationship between physical and human features on maps;
- establish associations between observed patterns on thematic maps;
- prepare and present findings incorporating tables, graphs, diagrams, maps and text, using IT where appropriate;
- investigate patterns and relationships between variables, using IT where appropriate.

5.3 Range of Scales

The scales have been indicated in three groupings. The definition for each is given below:

Local/Small	to include local studies and case studies taken from within Northern Ireland or from more distant places.
Regional/National	to include a country or part thereof.
International/Global	to include groups of countries or global coverage.

Candidates will be expected to demonstrate locational knowledge of their case studies.

The terminology used to describe the level of economic development of a country is as follows:

LEDC – Less Economically Developed Country (Developing)

MEDC – More Economically Developed Country (Developed).

5.4 The Study of Issues

The syllabus supports the view that an investigative approach, where appropriate, should be adopted for work undertaken both in the classroom and in the field. Such an approach provides valuable and imaginative learning experiences for candidates. In each theme a number of generalisations have been identified. Certain of these generalisations have been stated in such a manner that they can be studied using an investigative issues-based approach. A possible framework for this approach is set out below:

- Identify and clarify the issue.

  What evidence is there that an issue exists? What events have occurred? When? Where? Is it an isolated problem or part of a complex issue?

- Seek relevant information.

  Analyse data related to the issue, identify the people or groups involved. Consider data/information for accuracy and completeness.

- Analyse values.

  Identify different points of view, infer values from actions. Identify value differences and value conflicts. Assess the validity of the reasons for adopting particular standpoints.

- Make a decision.

  In decision making, recognise that some individuals/groups are more powerful than others. Identify people or groups who could act, identify alternative actions they could take, predict likely consequences of each action, order the actions from most to least feasible and desirable.

5.5 Themes

5.5.1 *Theme A: The Atmosphere*

Introduction:

This theme concentrates on selected aspects of meteorology which illustrate a range of processes and the inter-relationships between people and the natural environment. Both hazardous and favourable effects of atmospheric processes should be considered.

Key Ideas:

Atmosphere, climate, weather, elements of weather, air mass, depression, front, anticyclone, weather recording, weather instruments, weather forecast, synoptic charts, climatic factors (altitude, latitude, continentalility, prevailing winds), acid rain, smog.

Generalisations	Illustrative Material		
	Local/Small Scale	Regional/National Scale	International/Global Scale
1 An understanding of weather patterns and sequences enables forecasts to be made.	A weather study	Weather of the British Isles associated with: (i) A depression (ii) A summer anticyclone (iii) A winter anticyclone	
2 Variations in climate result from the interaction of a number of factors.			The continent of Europe
3 Human activities can have an impact on the atmosphere.		Atmospheric pollution on a regional scale	Global warming
4 Climate can have an effect on human responses to the environment.	Farming in two contrasting climatic areas	Tourism in two areas with contrasting climate in the European Union	

5.5.2 ***Theme B: Earth Structure and Landscape Development***

Introduction:

This theme concentrates on the structure of the earth, processes which produce varying landscapes and on human responses to them. Landscapes can be viewed as systems of which people are an integral part. They are a product of the movement of sediment across the earth's surface, weathering and erosion processes, both past and present, and human activities.

Key Ideas:

Plate, earthquake, volcano, fold mountain (anticline, syncline), fault, rock types (igneous, sedimentary and metamorphic), weathering (mechanical, chemical and biological), hydrological cycle, drainage basin, discharge, fluvial processes (erosion, deposition and transportation), flooding, irrigation.

Generalisations	Illustrative Material		
	Local/Small Scale	**Regional/National Scale**	**International/Global Scale**
1 The distribution of earthquakes, volcanoes and fold mountains is related to plate boundaries.			The World
2 Extreme natural events can have a major impact upon physical and human environments.	A volcanic eruption	An earthquake	
3 Landforms in an area are a consequence of the structure of rocks and their varying resistance to weathering processes.		A limestone area	
4 A drainage basin is a dynamic system.	A drainage basin in a temperate landscape		
5 Interaction between natural processes and human activities often gives rise to complex management issues. These often arise from conflicting social, economic and environmental values, demands and consequences.	Urbanisation in a drainage basin	(a) A river management scheme (b) A limestone area	Deforestation in a large drainage basin

5.5.3 ***Theme C: Ecosystems***

Introduction:

This theme concentrates on the characteristics of ecosystems and the links between the elements of them. Ecosystems are complex and often fragile. Both positive and negative effects of people on ecosystems are examined.

Key Ideas:

Ecosystems, soil, soil profile, biomass, leaching, erosion, conservation, desertification.

Generalisations	Illustrative Material		
	Local/Small Scale	**Regional/National Scale**	**International/Global Scale**
1 Climate, soils, vegetation, and fauna interact in an ecosystem.	Two ecosystems in Northern Ireland: a peatland and a contrasting ecosystem	Tropical Grassland in an LEDC (developing country)	Taiga
2 People adapt to or change ecosystems.			
3 Soils are a product of the interaction of a number of factors.	A soil in Northern Ireland		
4 Mismanagement can lead to soil erosion – good management ensures conservation.		Management and mismanagement of soil in an MEDC or LEDC (a developed or developing country)	Desertification

5.5.4 ***Theme D: Population***

Introduction:

This theme concentrates on the salient features of population distribution, structure and growth. The growth of population, combined with developments in technology has put increased pressure on natural resources. This creates complex problems which cannot be readily solved.

Key Ideas:

Distribution, density, composition (structure), change, demographic transition model, migration, pressure on resources, resource depletion, overpopulation, underpopulation, depopulation.

Generalisations	Illustrative Material		
	Local/Small Scale	**Regional/National Scale**	**International/Global Scale**
1 Distribution and density of population tend to be uneven. This is due to physical, social, economic and political factors.		An MEDC (developed country)	The World
2 Population structure and change are a consequence of Birth rate/Death rate and migration.	One study from within the European Union	One study from an LEDC (a developing country)	
3 Migration has economic and social consequences for both source and recipient areas.		Two studies from the MEDCs (developed countries): (a) one region of out-migration; (b) one region of in-migration	
4 Growth of population and increased economic prosperity create pressure on resources which may lead to depletion or exhaustion.			World energy resources
5 Overpopulation, which is related to the natural and human resources available in the area, causes major problems to which solutions cannot easily be found.		Two studies: (a) one from LEDCs (developing countries) and (b) one from the European Union	

5.5.5 *Theme E: Economic Activity and Development*

Introduction:

This theme deals with economic activity in both developed and developing areas of the world. It examines the nature of industry, industrial location and change and some of the reasons put forward to account for uneven economic development. It provides an opportunity to examine both environmental and development issues.

Key Ideas:

Primary, secondary tertiary industry, system, resource location (footloose, market orientated and raw material orientated), change, development, core, periphery, technology, infrastructure, aid, trade, investment, global interdependence.

Generalisations	Illustrative Material		
	Local/Small Scale	**Regional/National Scale**	**International/Global Scale**
1 Many factors affect the location of economic activities.		A study of three industries in the British Isles, one from each: (a) the primary sector (b) the secondary sector (c) the tertiary sector	
2 Industrial change may have important social, economic and environmental consequences.	A comparison of an old inner city location and a new industrial estate	An industrial region in the European Union	Relocation of a manufacturing industry from MEDCs to LEDCs (developed to developing countries)
3 Environmental, monetary, social and political factors contribute to uneven levels of economic development within and between countries.		Comparisons within and between one MEDC (developed) and one LEDC (developing country)	
4 Governments may develop different strategies to promote economic development with varying degrees of success within their own countries.		One MEDC (developed) and one LEDC (developing country)	
5 Aid, trade and investment can both help and hinder economic development.		(a) A region in the European Union (b) One LEDC (developing country)	Trade between countries

5.5.6 ***Theme F: Settlement***

Introduction:

This theme concentrates on the situation and location of settlements, their distribution within a landscape and their internal structure. Settlements are dynamic features of the environment which grow and decay through processes such as urbanisation and counterurbanisation. Planning has a major impact on settlements.

Key Ideas:

Site, location, distribution, hierarchy, sphere of influence, range, threshold, bid rent, functional zones, socio-economic areas, ethnic areas, urbanisation, counterurbanisation, planning.

Generalisations	Illustrative Material		
	Local/Small Scale	Regional/National Scale	International/Global Scale
1 Location and growth of settlements are related to physical and human factors.	A settlement in Northern Ireland		
2 Settlements have spheres of influence and can be arranged in hierarchies.	The sphere of influence of a settlement	A study of a hierarchy in an MEDC (developed country)	
3 Settlements have functional land use zones, socio-economic and ethnic areas which change through time.	(a) One settlement from Northern Ireland and (b) One settlement from the LEDCs (developing world)		
4 Urbanisation has differing consequences for rural and urban areas.		A study from an LEDC (developing country)	Million cities
5 Counterurbanisation has different consequences for different settlements.		A study from an MEDC (developed country)	
6 Urban and rural planning is an attempt to manage the environment.	An example of a planning initiative within a city	An example of regional/ national settlement planning	

6 GRADE DESCRIPTIONS

6.1 Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates recall basic information about places and themes, at more than one scale, as required by the syllabus, and show an elementary level of knowledge of location and geographical terminology.

Candidates understand some simple geographical ideas as specified in the syllabus in a particular context. They understand some simple physical and human processes and recognise that these contribute to the development of geographical patterns and the geographical characteristics of places. They understand some simple interrelationships between people and the environment. They show some awareness of the attitudes and values of people involved in geographical issues and in decision making about the use and management of environments.

Candidates undertake geographical enquiry, collecting and recording geographical evidence from primary and secondary sources, drawing simple maps and diagrams, communicating information and outcomes by brief statements and recognising some of the limitations of the evidence.

Grade C

Candidates recall accurately information about places and themes, at a range of scales, as required by the syllabus, and show a broad knowledge of location and geographical terminology.

Candidates understand geographical ideas as specified in the syllabus in a variety of physical and human contexts. They understand a range of physical and human processes and their contribution to the development of geographical patterns, the geographical characteristics of particular places and the interdependence between places. They understand interrelationships between people and the environment. They understand the effects of attitudes and values of those involved in geographical issues and in decision making about the use and management of environments.

Candidates undertake geographical enquiry, identifying questions or issues, suggesting an appropriate sequence of enquiry, collecting appropriate evidence from a variety of primary and secondary sources, using a range of appropriate techniques reaching a plausible conclusion, communicating the outcomes, and appreciating some of the limitations of the evidence and conclusions.

Grade A

Candidates recall accurately detailed information about places and themes, across all scales, as required by the syllabus, and show detailed knowledge of location and geographical terminology.

Candidates understand thoroughly geographical ideas as specified in the syllabus, and apply their understanding to analyses of unfamiliar contexts. They understand thoroughly the way in which a wide range of physical and human processes interact to influence the development of geographical patterns, the geographical characteristics of particular places and the interdependence between places. They understand complex interrelationships between people and the environment. They evaluate the significance and effects of attitudes and values of those involved in geographical issues and in decision-making about the use and management of environments.

Candidates undertake geographical enquiry, identifying relevant geographical questions, implementing an effective sequence of enquiry, collecting a range of appropriate evidence from a variety of primary and secondary sources, using effectively appropriate techniques, drawing selectively on geographical ideas to interpret the evidence, reaching substantiated conclusions, communicating clearly and effectively the outcomes and evaluating the validity and limitations of the evidence and conclusions.

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 Coursework provides candidates with the opportunity to undertake an investigation into a topic or issue which should extend their range of communication, intellectual, practical and social skills. During the course candidates should identify suitable points of focus for geographical investigations.

Candidates should have opportunities to:

- clarify the objectives of investigation;
- identify the type of information and evidence that is required;
- agree the methods to be used;
- carry out practical preparations;
- make and record appropriate observations in the field and, where necessary, use appropriate instruments to obtain accurate measurements;
- research relevant information from a range of secondary sources, including maps, photographs, pictures, books, diagrams and statistical data;
- refine data, evaluate evidence from a variety of sources and discriminate between relevant and irrelevant data;
- record and present findings of investigations by appropriate methods;
- interpret results and analyse geographical patterns and relationships;
- offer explanations and conclusions that are supported by evidence and sound reasoning;
- evaluate methods used and conclusions reached;
- review findings, consider what knowledge, understanding and skills have been gained and whether the investigations have led to the questioning of assumptions, values and attitudes;
- compare the findings from investigations with stated theories.

1.2 The Scheme of Assessment in Geography carries a 20% weighting for coursework and requires each candidate to complete a personal report. It should be possible to complete this report in less than 2500 words.

1.3 The investigation should be based on either a decision making task, a problem-solving task or an hypothesis-testing task. The investigation may be carried out in a group situation but a personal report must be completed by each candidate.

1.4 There must be clear evidence of first-hand enquiry having been carried out by the candidate in the field.

2 ASSESSMENT CRITERIA

2.1 Summarised below are the stages in the enquiry which should be followed for each investigation. The figures in brackets refer to the **maximum** number of marks which can be awarded at each stage.

Stage 1 Planning (10)
Stage 2 Data Collection (20)
Stage 3 Report Development (50)
Stage 4 Report – Evaluation and Conclusions (20)
Total Marks (100)

2.2 The assessment criteria for each stage of the enquiry are detailed as follows.

Stage 1 – Planning Evidence of this work should be included as a short appendix to the report.	**Maximum marks per task**
Candidates should be assessed on their ability to plan some aspects of work to be carried out in the field This will involve them in: • clarifying the objectives of the investigation; • identifying types of information and evidence required; • proposing suitable methods and instruments, where appropriate, suitable sampling sites and /or sample size for the study; • carrying out practical preparations, eg preparing questionnaires and record sheets, a database comprising multiple fields of information.	10
Maximum Marks for Stage 1	10

Stage 2 – Data Collection Evidence of data collected in the field should be included as a short appendix to the report.	**Maximum marks per task**
Candidates should be assessed on their ability to: (a) **use simple instruments and techniques to collect data in the field.** Where appropriate this will involve them in: • using simple instruments to make measurements; • making observations in the field; • applying techniques, eg questionnaires and surveys.	10
(b) **use a systematic approach in the recording of field data.** This will involve them in: • recording data in an organised and coherent manner, eg entering information collected in the field into a prepared datafile using prepared recording sheets accurately.	10
Maximum Marks for Stage 2	20

Stage 3 – Report Development	Maximum marks per task
Candidates should be assessed on their ability to:	
(a) **write an introduction to their report in which they:**	5
• state clearly and concisely the aims and objectives of the investigation;	
• describe the methodology used;	
• set the investigation in a spatial context, eg by drawing a simple location map.	
(b) **present observations and various types of data collected in the field in appropriate forms.**	15
This will involve them in:	
• retrieving/sorting information, eg by interrogating a completed database using one or more criteria;	
• discriminating between relevant and irrelevant information;	
• preparing and presenting various types of information in text or graphical form, using for example, annotated maps, photograph overlays, tables, graphs.	
(c) **analyse results from the geographical investigation.**	15
This will involve them in:	
• extracting and describing in a concise manner patterns and relationships inherent in the presented data.	
(d) **interpret results relevant to the topic/issue under investigation.**	15
This will involve them in:	
• offering concise and valid explanations of information collected in the field.	
Maximum Marks for Stage 3	50

Stage 4 – Report: Evaluation and Conclusions	Maximum marks per task
Candidates should be assessed on their ability to:	
(a) **draw valid conclusions arising out of the investigation.**	15
This will involve them in:	
• drawing conclusions ranging from the simple to the complex which are supported by evidence and sound reasoning and theory as appropriate.	
(b) **evaluate the validity of the results of the investigation and suggest improvements.**	5
This will involve them in:	
• evaluating critically and concisely the methods used and conclusions reached in carrying out the investigation;	
• suggesting improvements, eg in relation to the strategy adopted and the instruments, techniques and methods used.	
Maximum Marks for Stage 4	20

OVERALL TOTAL **100 MARKS**

3 THE ROLE OF THE TEACHER

Assessment

3.1 The assessment of coursework will be carried out by the teacher.

3.2 Teachers should ensure that:

- it has an appropriate title, a clear aim and method of approach;
- some aspects of the assignment are undertaken by candidates in the classroom under their direct supervision;
- it is a reasonable task for the candidate to undertake and can be completed effectively within the time available;
- it can be marked appropriately using the assessment criteria set by the Council;
- the candidates are aware that they will be awarded marks for the quality of their investigation rather than the length of the report produced.

3.3 It is recognised that some aspects of work both in the field and in the classroom may be carried out as a group activity. When making assessments during group activities, the teacher must clearly identify the contribution made by each individual candidate.

3.4 The following description summarises the levels of performance expected for each range of marks for each stage of the coursework.

Stage 1: Planning

Band 1 (1–3 marks)

The candidate will be able to identify some suitable methods/techniques for the collection of the required data. Some basic practical preparations will have been completed.

Band 2 (4–6 marks)

The candidate will outline some objectives for investigation and will identify relevant data to be collected. The methods/techniques of collection will be selected satisfactorily. The necessary practical preparations will be completed in an appropriate manner.

Band 3 (7–10 marks)

The candidate will demonstrate competence in defining clear objectives for the investigation and in identifying the relevant related data to be collected. Initiative and appropriateness of selection will be demonstrated in the methods/techniques and other related details suggested for data collection. The preparatory procedures will be completed with competence.

Stage 2: Data Collection

(a) Use of instrument/techniques

Band 1 (1–3 marks)

With guidance, the candidate is able to use the instruments/techniques to collect acceptably reliable data.

Band 2 (4–6 marks)

The candidate is able to use the instruments/techniques with a reasonable degree of accuracy.

Band 3 (7–10 marks)

The candidate demonstrates competence in the use of instruments/techniques to collect accurate data.

(b) Recording data

Band 1 (1–3 marks)

The candidate demonstrates some awareness of the need for coherence in the recording of the data being collected.

Band 2 (4–6 marks)

The candidate is generally organised in the recording of data being collected.

Band 3 (7–10 marks)

The candidate demonstrates a high level of organisation in recording data accurately.

Stage 3: Report Development

(a) Introduction

Band 1 (1–2 marks)

The candidate lists some of the objectives of the investigation and provides a brief general description of the work in the field.

Band 2 (3–4 marks)

The candidate outlines the objectives of the investigation and provides a spatial context for the study. The methods used in the field are described with a fair degree of accuracy.

Band 3 (5 marks)

The candidate states the objectives clearly and concisely. The spatial context of the investigation is clearly provided. The description of the methodology used is precise and indicates clear understanding.

(b) Presentation of data

Band 1 (1–5 marks)

Some effort is made to present the collected data using simple graphical and mapping techniques.

Band 2 (6–10 marks)

The candidate demonstrates some ability to sort the data collected and identify it for inclusion in each presentation technique. The techniques of presentation are generally appropriate.

Band 3 (11–15 marks)

The candidate demonstrates the ability to sort the collected data and to use presentation techniques to illustrate relevant sets of data. A high level of competence is demonstrated in the construction of the appropriate presentation techniques.

(c) Analysis of the results

Band 1 (1–5 marks)

The candidate is able to describe some of the simple patterns inherent in the presented data.

Band 2 (6–10 marks)

The candidate describes some of the patterns and relationships which can be identified in the presented data.

Band 3 (11–15 marks)

The candidate demonstrates the ability to describe clearly and concisely the patterns and relationships apparent in the presented data.

(d) Interpretation of the results

Band 1 (1–5 marks)

The candidate can offer some basic explanations for some of the patterns identified.

Band 2 (6–10 marks)

The candidate demonstrates some understanding of the reasons for the patterns and relationships identified.

Band 3 (11–15 marks)

The candidate demonstrates clear understanding through the provision of concise and valid explanations for the results presented.

Stage 4: Evaluation and Conclusions

(a) Draw conclusions

Band 1 (1–5 marks)

The candidate provides some limited conclusions which are supported by some of the evidence collected.

Band 2 (6–10 marks)

The conclusions provided are generally logical and relate to the evidence collected.

Band 3 (11–15 marks)

The candidate demonstrates the ability to state clearly logical conclusions which are supported by the evidence collected and where appropriate are linked to stated theory.

(c) Evaluation and suggestions for improvement

Band 1 (1–2 marks)

The candidate is able to identify a few of the strengths which influenced the investigation.

Band 2 (3–4 marks)

The candidate offers some evaluation of the methods and conclusions and suggests some improvements.

Band 3 (5 marks)

The candidate offers a thorough evaluation of the methods and conclusions and suggests improvements to the methodology and objectives of the investigation.

3.5 Annotation

Each candidate's assessed coursework should show how the marks have been awarded in relation to the marking criteria. The annotation should be provided in the form of meaningful comments on the Candidate Record Sheet and on the work directly. Annotation helps in achieving internal standardisation and most importantly provides the Moderators with essential information about the marking. This annotation should be clear and unambiguous, provide information on how the task was presented to the candidates, indicate the extent to which each assessment criterion has been met and provide details of any assistance given to the candidate. Annotation may also be used to highlight those parts of the coursework which clearly meet the assessment criteria and provide feedback to the candidate.

3.6 Authentication

Teachers must ensure that sufficient of the activities are carried out under direct supervision to allow them to authenticate each candidate's work with confidence.

Teachers are responsible for warning candidates that they are forbidden to indulge in unfair practices during the preparation of their investigative study. Where teachers know or suspect candidates of using unfair means, they must not sign the certification for the work and must report the matter to the Council.

The use of secondary material may form part of the investigative report. A distinction must be drawn between the slavish copying of such material and the manipulation of it. The latter may lead to work of a good quality being produced by the candidate. The teacher must ensure, however, that there is not an over-reliance on such material and that clear evidence is provided of first hand enquiry having been carried out by the candidate in the field. Dictated notes or work from unacknowledged sources cannot be awarded marks. Teachers should encourage the practice of acknowledging the sources of material.

4 MODERATION PROCEDURES

4.1 Agreement Trials

Agreement Trials will be conducted annually, usually in the Spring Term prior to the date of the examination where teachers are briefed on the application of the assessment criteria and engage in trial marking.

4.2 Supplementary Guidance Materials

Supplementary Guidance Materials in the form of advice on assessment and exemplar material will be issued to all centres.

4.3 Support Service and Advice

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for Assistant Coursework Moderators to support groups of centres and arrangement can be made for the Support Moderator to discuss issues arising from the coursework with the teachers concerned by means of a visit if necessary.

4.4 Internal Centre Standardisation

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marking of individual teachers to bring their assessments into line with those of the other teachers in the department and to match the standards promulgated at the Agreement Trial. Where such an adjustment is necessary the total/final mark recorded on the Candidates' Record Sheets for that tier of entry should be amended.

4.5 External Moderation

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, will scrutinise samples of coursework drawn from each centre in accordance with instructions issued by the Council. Full instructions about the details of the moderation procedures and the nature of sampling required will be issued by the Council at the appropriate time. Following the issue of results centres will receive a statement of any adjustments made and a report outlining the reasons for the adjustments.

GERMAN

1 INTRODUCTION

1.1 The format of this syllabus is common to each of the subjects of French, German, Irish, Italian and Spanish.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Modern Languages. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.3 A course based on this syllabus will help to facilitate the further study of Modern Languages at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 RATIONALE

The syllabus and scheme of assessment requires candidates to demonstrate their ability to understand and use the target language and to explore the five Contexts for Learning as set out in the Programme of Study for Key Stage 4 in the Northern Ireland Curriculum Order for Modern Languages. Some answers may be required in English. Subject criteria state that a maximum of 10% of the total marks for the subject may be awarded for such answers but no more than half of this maximum allocation may be assigned to any particular assessment objective. The Programme of Study sets out the range of opportunities and activities which should be made available to pupils and for ease of reference these have been included as an Appendix to this syllabus.

3 AIMS

3.1 The aims set out below describe the educational purposes of following a course in GCSE Modern Languages. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

3.2 The aims of the syllabus are to:

3.2.1 develop the ability to use the target language for the purpose of practical communication;

3.2.2 develop an awareness of the nature of language and language learning in general;

3.2.3 offer insights into the culture and civilisation of the country or community in which the target language is spoken;

3.2.4 foster sympathetic and positive attitudes to other cultures and civilisations;

3.2.5 promote in pupils a better understanding of themselves and their own culture through comparison of the customs of the country or community of the target language with their own;

3.2.6 promote learning skills of a more general nature, such as analysis, memorising and drawing conclusions;

3.2.7 provide a firm base for the acquisition of the language skills and attitudes required for further study, work and leisure;

3.2.8 develop knowledge, understanding and skills related to the statutory cross-curricular themes.

4 ASSESSMENT OBJECTIVES

4.1 The assessment objectives set out below indicate the skills and abilities which will be assessed. Candidates will be required to demonstrate their ability to:

4.1.1 understand and respond to spoken language (Listening);

4.1.2 communicate in speech (Speaking);

4.1.3 understand and respond to written language (Reading);

4.1.4 communicate in writing (Writing).

5 RELATIONSHIP OF ASSESSMENT OBJECTIVES TO THE EXAMINATION COMPONENTS

This table below sets out the relationship of assessment objectives to the examination components and the points associated with each component.

Table 5.1

Component	Assessment Objectives	Foundation Weighting	Higher Weighting
Paper 1	4.1.1	25% 4 points	25% 4 points
Paper 2	4.1.2	25% 4 points	25% 4 points
Paper 3	4.1.3	25% 4 points	25% 4 points
Paper 4	4.1.4	25% 4 points	25% 4 points
Overall Weighting	–	100%	100%

Information on the system of converting points to grades, agreed by all Examining Boards will be circulated in due course.

6 DIFFERENTIATION

Differentiation will be achieved by the use of tiered papers.

7 SCHEME OF ASSESSMENT

7.1 The course will be assessed through the four skill areas of:

- Listening
- Speaking
- Reading
- Writing.

7.2 Each skill area is offered in two tiers, Foundation and Higher. Entry at the Foundation Tier will be appropriate for candidates considered capable of achieving Grades C to G overall and entry at the Higher Tier for those considered capable of achieving Grades A* to D(E) overall.

	A*		
	A		
Higher	B		
Tier	C	C	Foundation
	D	D	Tier
	(E)	E	
		F	
		G	

7.3 Candidates must indicate at time of entry which tier they wish to take in each skill area. Where candidates do not attain the lowest of the targeted grades available in a tier (ie G at Foundation and D at Higher) their performance will be recorded as unclassified. However candidates who narrowly miss achieving grade D in the Higher Tier may be classified as E. Given the flexible pattern of entry final grades will be awarded on the basis of accumulation of points scored in each skill.

8 TECHNIQUES OF ASSESSMENT

8.1 Set out below for each component of the examination are details of the assessment techniques which will be used. In view of the overlapping grade structure each skill area will be assessed using question(s) common to both tiers as specified below.

8.2 **Listening (4.1.1) (25%)**

Foundation: 30 minutes

Higher: 30 minutes

This paper will comprise a variety of items of stimulus material in the target language. Items may take the form of short announcements, messages and dialogues. Each item will be followed by one or more tasks which will require candidates to demonstrate a range of responses through such assessment strategies as gap filling, matching exercises, ticking boxes, completing grids and sequencing. Short answer questions requiring a response in the target language will also be set. Where the nature of the task demands, eg in an interpreting activity, questions may be set which require an answer in English. A number of questions will be common to both tiers.

Candidates are not permitted the use of a dictionary for the Listening component.

8.3 **Speaking (4.1.2) (25%)**

Foundation: 10 minutes

Higher: 10 minutes

(Preparation Time: 10 minutes)

The Speaking Test will be conducted by the candidates' own teachers and recorded on cassette. Two options for the assessment of the Speaking Test are available.

In Option A the teacher will be responsible for making an assessment of each candidate's performance and for submitting the recording to the Council for the purposes of moderation.

In Option B the recordings will be submitted to the Council for external assessment. If Option B is intended then this should be indicated at the time of provisional entry to the examination.

The Speaking Test will involve candidates in such activities as asking and answering questions, giving information and instructions through taking part in rôle plays and in general conversations. The rôle play tasks, certain of which will be common to both tiers, will be provided by the Council.

Candidates will be permitted the use of a bilingual dictionary during the 10 minutes preparation time. Further guidance on the conduct and assessment of the Speaking Test will be published separately.

8.4 **Reading (4.1.3) (25%)**

Foundation: 40 minutes

Higher: 40 minutes

This paper will comprise a variety of items of stimulus material in the target language which may be in any of the following styles: short items such as notices and announcements, extracts from letters, magazine or newspaper articles and other forms of imaginative writing. Each item will be followed by one or more tasks which will require candidates to demonstrate a range of responses through such assessment strategies as gap filling, matching visuals to text, ticking boxes, completing grids and sequencing. Short answer questions requiring a response in the target language will also be set. Where the nature of the task demands, eg in an interpreting activity, questions may be set, which require an answer in English. A number of questions will be common to both tiers.

Candidates will be permitted the use of a bilingual dictionary for the Reading component.

8.5 **Writing (4.1.4) (25%)**

Foundation: 45 minutes

Higher: 45 minutes

The candidates will be required to respond in writing to a number of tasks which take as their starting point stimulus material of a visual or written nature. In the

Foundation Tier candidates may be asked to produce lists; complete forms or write notes and cards. The task common to both tiers will require them to produce more extended writing such as formal or informal letters. Approximately 120 words in total will be expected. In addition to the common task Higher Tier candidates will be expected to produce a more substantive letter, report or account. Assistance in the form of structured guidance contained within the question, may be given to the candidate for example, a series of sub-questions or key phrases in the target language. Candidates may be required to respond to or obtain information from a text in the target language, such as a letter, newspaper article or report.

Candidates will be permitted the use of a bilingual dictionary for the Writing component.

9 MODERATION OF TEACHER-ASSESSED SPEAKING TESTS

9.1 Where the speaking components of the examination are assessed by the candidates' own teacher under Option A (See 8.3) the assessment will be subject to moderation according to the procedures approved by the Council, and published separately.

9.2 In cases where there is more than one teaching group in the centre, that centre must ensure that the assessment of the Speaking Tests is internally standardised. It is recognised that logistical problems would be likely given the short space of time between the end of the Speaking test period and the submission of marks to the Council. In this case the process of internal standardisation would be best promoted through the organisation of a within-school agreement trial prior to the conduct and assessment of the Speaking Test.

9.3 Arrangements will be made on an individual basis for the assessment of private candidates.

10 PROHIBITED COMBINATIONS

Candidates are not permitted to enter for both tiers in the same skill area.

11 SYLLABUS CONTEXTS AND TOPICS

Materials selected for use in examination papers will reflect the statutory Contexts for Learning and associated topics set out in the Northern Ireland Curriculum Order for Modern Languages. These are set out below:

Context 1: Everyday Activities

Topics

(a) Home and school life

(b) Food and drink

(c) Shopping

(d) Eating out.

Context 2: Personal Life and Social Relationships

Topics

(a) Self, family and friends

(b) Health

(c) Holidays and leisure

(d) Celebrations and special occasions.

Context 3: The World Around Us

Topics

(a) House and home

(b) Town and countryside

(c) Getting around

(d) Weather.

Context 4: The World of Work

Topics

(a) Services to the public

(b) Occupations and places of work

(c) Future plans and careers.

Context 5: The International World

Topics

(a) Travel and tourism

(b) Life in countries or communities in which the target language is spoken

(c) Caring for the environment.

12 FOCUS OF LANGUAGE CONTENT

Set out below for each topic is a brief description focusing on the language areas in which candidates may be expected to perform. The language areas identified for Foundation Tier also apply to Higher for which additional areas have been specified.

Focus of Language Content	
Foundation	**Higher**
1 **Everyday Activities**	1 **Everyday Activities**
(a) ***Home and School Life***	(a) ***Home and School Life***
Home routine	Jobs to be done around garden
Helping at home	School building
Jobs to be done around home	School facilities
Type of school	School year
Location of school	Examinations
School day	Pocket money
Travel to school	
Timetable	
Subjects studied	
Number of teachers/pupils	
(b) ***Food and Drink***	(b) ***Food and Drink***
Common types of food and drink	Further types of food and drink
Dislikes, likes, preferences	Recipes
(c) ***Shopping***	(c) ***Shopping***
Types of shops/shopping facilities	Commenting on the cost
Location of shopping facilities /department/item	Asking for change (money)
Types of items	Exchanging an item
Availability of items	Requesting delivery of an item
Number/quality/quantity/colour/size	Refund
Cost	Special offers
Shopping announcements	Trying something on
Payment	
(d) ***Eating Out***	(d) ***Eating Out***
Location of cafés/restaurants	Problems and complaints
Making a reservation	Contents of a dish/items on menu
Requesting a menu/wine list	Quality of meal/dish/drink
Ordering food/drinks	
Settling the bill	

Focus of Language Content	
Foundation	**Higher**
2 Personal Life and Social Relationships	**2 Personal Life and Social Relationships**
(a) ***Self, family and friends***	(a) ***Self, family and friends***
Name	Personal characteristics
Address	Marital status
Telephone number	
Date and place of birth	
Age	
Sex	
Composition of family	
Other relatives	
Nationality	
Physical features	
Details of friends	
Pets	
(b) ***Health***	(b) ***Health***
Parts of the body	Injuries
Physical condition, eg well, ill, tired	Personal safety
Needs – thirst, hunger	Warning of danger
Position of pain	
Doctor/dentist/chemist	
Common illnesses	
Medicines and treatment	
Instructions for taking medicines	
(c) ***Leisure activities***	(c) ***Leisure activities***
Hobbies/interests/pastimes	Describing what is involved in hobbies, interests, pastimes, sporting activities
Sporting activities	
Venues	Merits of performances, events
Times and dates of activities	Visits to zoo, circus
Requesting ticket/seat	
Meeting people	
Making arrangements to go out	
Making reservations	
(d) ***Celebrations and special occasions***	(d) ***Celebrations and special occasions***
Annual festivals	Making arrangements for a party/celebration
Parties	Celebrating birthdays, Christmas etc
Giving a present	
Congratulations	
Taking leave	
Days of weeks, dates	

Focus of Language Content	
Foundation	**Higher**
3 **The World Around Us**	3 **The World Around Us**
(a) ***House and Home***	(a) ***House and Home***
Location of building	Rent, price of property
Type of house/flat	Availability of services
Type of rooms	
Furniture	
Household items	
Kitchen equipment	
(b) ***Town and countryside***	(b) ***Town and countryside***
Town	Description of town and countryside
Buildings	Qualities of town and countryside
Places in the town	Comparing town and country life
District	
Region	
Countryside	
Farm animals	
Plants	
(c) ***Getting around***	(c) ***Getting around***
Directions	Losing the way
Times	
Means of transport	
Distances	
(d) ***Weather***	(d) ***Weather***
Types of weather	Weather forecasts
Seasons	

Focus of Language Content	
Foundation	**Higher**
4 **The World of Work**	4 **The World of Work**
(a) ***Services to the Public***	(a) ***Services to the Public***
Services/items required in: • post office • filling station • bank	Reporting/describing lost property Services/items required in: • garage • police station • hospital • fire station
Request services of: • police • fire • ambulance	
Recognise signs/notices relating to public services	
(b) ***Occupations and places of work***	(b) ***Occupations and places of work***
Types of occupations	Full time and part time jobs
Places of work	Future plans and careers
Hours of work	What particular jobs involve
Being out of work	Conditions of work
Opinions about jobs	Being on strike
(c) ***Future plans and careers***	(c) ***Future plans and careers***
Type of job they would like to do	Reasons for choice of occupation
Where they would like to work	Opportunities for work at home
Plans for immediate future/on leaving present school	Opportunities for work in target country
	Qualifications/preparations for a particular occupation

Focus of Language Content	
Foundation	**Higher**
5 The International World	**5 The International World**
(a) ***Travel and Tourism***	(a) ***Travel and Tourism***
Planning to go/going/being on holiday	What you did/will do on holiday
Hostel, campsite, hotel etc	Enquiries about travel arrangements
Travel literature	Availability of facilities in airports/ports/stations
Notices and announcements relating to travel (including timetables)	Special terms (including supplements and reductions)
Prices and types of tickets	Travel problems (eg delays, alterations)
Travel documents/luggage	Customs
Tourist sights	
(b) ***Life in countries or communities in which the target language is spoken***	(b) ***Life in countries or communities in which the target language is spoken***
Names of other countries	Social customs
Nationalities	Characteristic traits
Main cities/towns	Drawing comparisons with life in their own community/ country
Currency	Regions
Money, weights and measures	
National dishes	
(c) ***Caring for the environment***	(c) ***Caring for the environment***
Location of litter bins	Pollution matters
Disposal of rubbish	Aspects of conservation
Smoking/non-smoking	
Simple conservation measures, eg saving water, switching off lights	

13 GRAMMAR AND STRUCTURES LIST

In this section the Grammar and Structures are defined for each tier of entry. The definition indicates whether knowledge is required for receptive use, ie Listening and Reading, or for productive use, ie Speaking and Writing. It is important to note that not all structures are equally important and that some structures are required for receptive use only. *Where the masculine form is stated, the feminine and plural forms are understood.*

	Structures	Foundation		Higher	
		Receptive	Productive	Receptive	Productive
NOUNS	Genders and plurals	/	/	/	/
Cases	Nominative	/	/	/	/
	Accusative	/	/	/	/
	Genitive	/		/	/
	Dative	/	/	/	/
Articles	Definite	/	/	/	/
	Indefinite	/	/	/	/
	Negative	/	/	/	/
	Contractions of the definite article	/	/	/	/
	Use without article	/	/	/	/
Special types	Adjectival nouns	/		/	/
	Weak masculine nouns	/		/	/
VERBS	All persons	/	/	/	/
	Imperatives	/	/	/	/
Types of verbs:	sein/haben/werden	/	/	/	/
	modal auxiliaries	/	/	/	/
	separable prefix verbs	/	/	/	/
	inseparable prefix verbs	/	/	/	/
	reflexive verbs:				
	accusation pronoun only	/	/	/	/
	dative pronoun	/		/	/
	constructions with lassen	/		/	
	impersonal uses of verbs	/	/	/	/
Tenses:					
(i) *Active voice*	present indicative	/	/	/	/
	imperfect indicative	/	/	/	/
	use of present and imperfect indicative with "seit" and "schon"	/		/	/
	perfect indicative	/	/	/	/
	pluperfect indicative			/	/
	future indicative	/	/	/	/
	möchte (all subject pronouns)	/	/	/	/
	conditional tense			/	
	imperfect subjunctive			/	
	infinitive	/	/	/	/
	use of infinitive with zu	/	/	/	/
	use of infinitive with um … zu	/		/	/
(ii) *Passive voice* (with werden)	present indicative	/		/	/
	imperfect indicative	/		/	/
	perfect indicative			/	
	pluperfect indicative			/	
	future indicative			/	
	infinitive			/	

Structures		Foundation		Higher	
		Receptive	Productive	Receptive	Productive
ADJECTIVES	agreement of	/		/	/
	comparative and superlative	/	/	/	/
	possessive adjectives	/	/	/	/
	interrogative adjectives (Welcher?)	/	/	/	/
	demonstrative	/	/	/	/
PRONOUNS	personal	/	/	/	/
	interrogative				
	nominative	/	/	/	/
	other cases	/		/	/
	relative	/		/	/
	reflexive accusative	/	/	/	/
	reflextive dative	/		/	/
	demonstrative	/		/	/
	indefinite				
	(einer, jemand)	/		/	/
	(man, nominative only)	/	/	/	/
ADVERBS	positive	/	/	/	/
	comparative	/	/	/	/
	superlative	/		/	/
	interrogative adverbs	/	/	/	/
PREPOSITIONS	governing accusative	/	/	/	/
	governing genitive	/		/	/
	governing dative	/	/	/	/
	governing accusative or dative	/	/	/	/
CONJUNCTIONS	co-ordinating	/	/	/	/
	use of entweder … oder	/		/	/
	common subordinating	/		/	/
WORD ORDER	position of verbs, main clause	/	/	/	/
	position of verbs, subordinate clause	/		/	/
	of direct/indirect objects	/		/	/
	of words or phrases of time, manner and place	/		/	/
NUMERALS	cardinal numbers	/	/	/	/
	ordinal numbers	/	/	/	/
	simple fractions	/		/	/
NEGATION	use of nicht, nichts, kein, niemand, nirgendwo, nie(mals)	/	/	/	/
	use of weder … noch			/	/

14 TARGET LANGUAGE RUBRICS

In this section is listed the key words and phrases which candidates are likely to encounter in question paper rubrics.

Beantworten Sie den Brief/die Fragen auf Deutsch/ Englisch.

Ergänzen Sie die Sätze/den Text mit den passenden Worten.

Erzählen Sie eine Geschichte, die zu den Bildern paßt.

Finden Sie die Entsprechungen im Text.

Füllen Sie die Tabelle/Liste/Lücken/dieses Formular aus.

Haken Sie ... ab.

Kreuzen Sie die richtigen Aussagen/Richtig oder Falsch an.

Lesen Sie die Anzeige(n)/den Artikel/die Fragen/die Schilder/den Text.

Markieren Sie das Kästchen/die richtige(n) Aussage(n)/ die Bilder.

Notieren Sie die Preise/Uhrzeiten in Zahlen.

Nummerieren Sie die Bilder/Sätze in der Reihenfolge des Textes

Ordnen Sie den Dialog/Text.

Ordnen Sie ... zu.

Schreiben Sie den Buchstaben, der am besten paßt.

Schreiben Sie den Satz aus dem Dialog/Text, der folgendem entspricht

Schreiben Sie die passenden Worte neben die Buchstaben/Bilder.

Setzen Sie die passenden Worte aus dem Kasten ein.

Stellen Sie ... Fragen.

Streichen Sie die falschen Aussagen durch.

Tragen Sie die Buchstaben/Nummern/Uhrzeiten/Worte/ Zahlen ein.

Verbinden Sie ... mit einer Linie.

Vergleichen Sie den Text mit der Nacherzählung.

Vergleichen Sie den Text mit den Aussagen unten/auf der nächsten Seite.

Wählen Sie die passenden Worte aus.

Was steht im Text?

Welcher Kommentar/Satz/Text paßt zu welchem Bild?

Welches Wort paßt zu welchem Bild?

Welches Wort/Welcher Satz paßt am besten?

Welche Sätze passen zum Gespräch/Dialog/Text?

Wenn die Aussage **richtig** ist, schreiben Sie ein **R** ins Kästchen.

Wenn die Aussage **falsch** ist, schreiben Sie ein **F** ins Kästchen.

Wie kann man es auch sagen?

Wo findet dieses Gespräch/diese Szene statt?

Ziechen Sie einen Kreis um RICHTIG oder FALSCH.

In jedem Fall trifft nur eine Ausage zu.

In einer Gruppe kann mehr als eine Aussage richtig sein.

Unten steht eine Nacherzählung dieses Texts.

Sie brauchen nicht alle Buchstaben (Nummern/ Aussagen).

Kreuzen Sie nur ... Kästchen an.

Für jede Frage haben Sie ... Antworten zur Auswahl.

Schreiben Sie einen Brief an ...

Schreiben Sie einen vollständigen Brief.

Schreiben Sie einen kurzen Bericht über ...

... eine kurze Antwort/eine Liste/eine Postkarte.

Erzählen Sie, was geschehen ist.

Beschreiben Sie ...

Ihr Brief/Ihre Erzählung/Ihr Bericht soll folgende Punkte abdecken ...

Sie wollen Ihrem Brieffreund darüber erzählen.

Unten steht eine kurze Zusammenfassung der Geschichte.

Sie sollen etwa ... Worte schreiben.

Dein Lehrer wird die Rolle des ... spielen.

Die Anweisungen stehen unten.

Du beginnst.

Dein Lehrer wird beginnen.

Sie müssen aufpassen, daß Sie sich nicht so sehr auf *einen* Aspekt Ihres Berichts konzentrieren, daß die anderen vernachlässigt werden. Ihr Bericht bildet nur einen Teil Ihres Briefs. Sie können also die üblichen Formalitäten auslassen.

15 MINIMUM CORE VOCABULARY LIST (FOUNDATION TIER)

15.1 This minimum core Vocabulary List for Foundation Tier is primarily intended as a guide for teachers to assist in the planning of work in relation to the programme of study.

The assessment tasks at Foundation Tier will be based on the minimum core Vocabulary List but candidates should expect to encounter unfamiliar vocabulary.

15.2 **Alphabetical Vocabulary List**

A; be; tse ...
ab
der Abend
das Abendessen
abends
aber
abfahren
die Abfahrt
der Abfall
abgeben
abholen
der Absender
das Abteil
die Abteilung
abtrocknen
abwaschen
Achtung!
die Adresse
aktiv
das Album
der Alkohol
alkoholfrei
alles
alles Gute
als
also
alt
das Alter
das Altpapier
die Altstadt
Nord/Südamerika
die Ampel
an
anbieten
an ... vorbei
die Ananas
anders
der Anfang
anfangen
(sich) ändern
das Angeln
angenehm
angestellt
der/die Angestellte
die Angst
anhaben
anhalten
ankommen
die Ankunft
anmachen
sich anmelden
die Anmeldung
der Anruf
anrufen
der Anrufbeantworter
sich anschauen
anschließend
ansehen
die Ansichtskarte
anstatt
anstehen
die Antwort
antworten
anzeigen
(sich) anziehen
der Anzug
der Apfel
die Apotheke
der Apparat
Guten Appetit!
April
die Arbeit
arbeiten
der/die Arbeiter(in)
arbeitslos
das Arbeitszimmer
der Arm
die Art
der Artikel
der Arzt
die Ärztin
der Atem
die Athletik
atmen
auch
auf
Auf Wiederhören
Auf Wiedersehen
auffordern
die Aufgabe
der Aufruf
aufgeben
aufhaben
aufheben
auflegen
aufmachen
aufmuntern
aufpassen
der Aufsatz
aufsein
aufstehen
aufwachen
der Aufzug
das Auge
der Augenblick
August
die Aula
aus
der Ausblick
die Ausfahrt
ausfallen
der Ausflug
ausfüllen
der Ausgang
ausgeben
ausgehen
ausgezeichnet
die Auskunft
das Ausland
der/die Ausländer(in)
ausmachen
auspacken
die Ausrede
aussehen
aussein
außer
die Aussicht
aussteigen
die Ausstellung
der Austausch
austauschen
der/die Austauschpartner/in
ausverkauft
die Auswahl
der Ausweis
(sich) ausziehen
das Auto
die Autobahn
der Automat
der/die Autor(in)

BRD
das Baby
backen
der Bäcker
die Bäckerei
das Bad
der Badeanzug
die Badehose
das Badezimmer
die Bahn
der Bahnhof
der Bahnsteig
der Balkon
der Ball
die Banane
die Bank
die Bar
der Bär
der Bart
die Batterie
der Bauch
bauen
der Bauer
die Bäuerin
der Bauernhof
der Baum
die Baumwolle
beachten
der Beamte

die Beamtin
beanworten
die Bedienung
befreundet
befriedigend
begabt
begegnen
der Beginn
beginnen
begrüßen
bei
das Bein
beinahe
bekannt
der/die Bekannte
bekommen
belegt
das Benzin
bequem
der Berg
beraten
der Berater
der Beruf
beruflich
beruhigen
berühmt
sich beschäftigen
beschließen
beschreiben
besetzt
besichtigen
der Besitzer
besonders
das Besteck
bestehen
bestellen
bestimmt
besuchen
die Besuchszeit
betreten
der Betrieb
das Bett
das Bettuch
die Bettwäsche
bevor
bewölkt
bezahlen
ein bißchen
die Bibliothek
die Biene
das Bier
bieten
das Bild
billig
die Biologie
bis
bitte
bitte schön/sehr
bitten
bitter
blaß
das Blatt
blau
bleiben
bleiben Sie am Apparat!
bleifrei
der Bleistift
der Blick
der Blitz
es blitzt
bloß
der Block
blöd
blond
die Blume
der Blumenkohl
die Bluse
das Blut
bluten
der Boden
die Bohne
der Bonbon
das Boot
böse
braten
der Braten
brauchen
braun
brav
brechen
die Bremse
bremsen
brennen
der Brief
der Briefkasten
die Briefmarke
die Brieftasche
der Briefträger
der Briefumschlag
die Brille
bringen
die Broschüre
das Brot
das Brötchen
die Brücke
der Bruder
das Buch
die Buchhandlung
buchstabieren
die Bundesrepublik Deutschland
bunt
die Burg
der Bürgersteig
das Büro
die Bürste
der Bus
die Butter
das Butterbrot

das Café
der Campingplatz
der/die Chef(in)
die Chemie
der Clown
die Cola
der Computer
die Creme

der D-Zug
dh
DDR
DM
da drüben
das Dach
die Dame
damit
danach
Dänemark
danke
danke schön/sehr
dann
das Datum
dauern
die Decke
denken
das Denkmal
denn
Deutsch
der/die Deutsche
die Deutsche Demokratische Republik
Dezember
dick
dienen
Dienstag
Diesel
der Direktor
die Disco
die Diskussion
doch
der Doktor
der Dokumentarfilm
der Dom
der Donner
Donnerstag
es donnert
doof
das Doppelzimmer
das Dorf
dort
die Dose
das Drama
draußen
dreckig
drinnen
die Drogerie
drücken
dumm
dunkel
dünn
durch
die Durchfahrt
durchfallen
der Durchgang
dürfen
der Durst
die Dusche
sich duschen

EG
echt
die Ecke
(-) eckig
egal sein

das Ei
eigen
eigentlich
es eilig haben
der Eimer
die Einbahnstraße
einfach
die Einfahrt
der Eingang
einige
einkaufen (gehen)
das Einkaufszentrum
einladen
die Einladung
einmal, zweimal ...
einpacken
einsteigen
der Einstieg
der Eintritt
einwerfen
das Einzelkind
das Einzelzimmer
einziehen
das Eis
die Eisenbahn
der Elefant
elektrisch
die Elektrizität
die Eltern
der Empfang
der Empfänger
enden
endlich
die Endstation
England
der/die Engländer(in)
Englisch
entgegen
entlang
entscheiden
entschuldigen
Entschuldigung
entsetzt
entweder
entwerten
die Erbse
die Erdbeere
das Erdgeschoß
die Erdkunde
das Ereignis
erfahren
der Erfolg
erfolgreich
erhalten
sich erkälten
die Erkältung
erklären
sich erkundigen
erlauben
die Erlaubnis
die Ermäßigung
ernst
die Ernte
ernten
erreichen
erschüttern
erschüttert
erstaunen
der Erwachsene
erwarten
erwidern
erzählen
essen
das Essen
das Eßzimmer
etwas
das Examen
Europa
der Euroscheck
evangelisch

die Fabrik
das Fach
die Fähre
fahren
der Fahrer
die Fahrkarte
der Fahrplan
fahrplanmäßig
das Fahrrad
der Fahrstuhl
fallen
falsch
die Familie
der Familienname
die Farbe
fassen
fast
faul
faxen
Februar
das Federbett
fehlen
der Fehler
feiern
der Feiertag
fein
das Fenster
die Ferien
fernsehen
der Fernseher
der Fernsprecher
fertig sein
fest
das Fest
die Festspiele
fett
haben Sie Feuer?
das Fieber
der Film
finden
der Finger
die Firma
der Fisch
die Flasche
fleißig
das Fleisch
der Fleischer
die Fliege
fliegen
(ent) fliehen
der Fluß
der Flug
der Flughafen
das Flugzeug
der Flur
flüstern
folgen
die Forelle
das Formular
das Foto
der Fotoapparat
fotografieren
die Frage
fragen
der Franken
Frankreich
der Franzose
die Französin
Französisch
die Frau
das Fräulein
frech
frei
das Freibad
Freitag
die Freizeit
fremd sein
die Fremdsprache
die Freude
sich freuen auf/über
der/die Freund(in)
freundlich
der Frieden
friedlich
frieren
frisch
frisch gestrichen
der/die Friseur (in)
die Frisur
froh
fröhlich
der Frost
der Frühling
das Frühstück
frühstücken
der Fuß
zu Fuß
der Fußball
der Fußballplatz
der Fußgänger
die Fußgängerzone
fühlen
die Führung
der Füller
das Fundbüro
für
die Furcht

die Gabel
der Gang
ganz
gar nicht(s)
die Garage
die Garantie

die Garderobe
der Garten
das Gas
die Gasse
der Gast
das Gasthaus
der Gasthof
das Gebäude
geben
das Gebiet
geboren sein
der Geburtstag
geduldig
geehrt
die Gefahr
gefährlich
gefallen
das Geflügel
das Gefühl
gegen
die Gegend
gegenüber
gehen
gehören
gelb
das Geld
der Geldwechsel
die Gelegenheit
gelingen
das Gemüse
gemütlich
genau
genug
die Geographie
das Gepäck
das Gepäcknetz
der Gepäckträger
gerade
geradeaus
das Gericht
gern
gern haben
die Gesamtschule
das Geschäft
der Geschäftsmann
die Geschäftsfrau
geschehen
das Geschenk
die Geschichte
das Geschirr
das Geschrei
die Geschwister
die Gesellschaft
gesperrt
gestern
gestreift
gesund
die Gesundheit
das Getränk
getrennt
gewinnen
das Gewitter
gewöhnlich
es gibt
die Gitarre

das Glas
glatt
das Glatteis
glauben
gleich
das Gleis
die Glocke
das Glück
glücklich
golden
der Gottesdienst
der Grad
das Gramm
das Gras
gratis
gratulieren
grau
die Grenze
vom Grill
die Grippe
groß
die Größe
die Großeltern
die Großmutter
der Großvater
grün
die Grundschule
die Gruppe
Grüß Gott
mit besten Grüßen
mit freundlichen Grüßen
gültig
günstig
gut
das Gymnasium

die Haare
haben
der Hafen
das Hähnchen
halb
das Hallenbad
der Hals
halten
die Haltestelle
die Hand
der Händler
der Handschuh
das Handtuch
hängen
hart
häßlich
die Hauptschule
das Haus
zu/nach Hause
die Hausaufgabe
die Hausfrau
die Hauswirtschaft
das Heft
heiß
heißen
der Heilige Abend
heiraten
heizen
die Heizung

helfen
hell
das Hemd
der Herbst
der Herd
der Herr
das Herz
herzlichen Glückwunsch
heulen
heute
hier
die Hilfe
hilfsbereit
die Himbeere
der Himmel
(hin-) (her-) unter/ab
(hin-) (her-) auf
(hin-) (her-) aus
(hin-) (her-) ein
hin und zurück
hinfallen
hinten
hinter
die Hitze
das Hobby
hoch
hochachtungsvoll
das Hochhaus
der Hof
hoffen
hoffentlich
die Hoffnung
holen
das Holz
hören
der Hörer
die Hose
das Hotel
hübsch
der Hügel
das Huhn
der Humor
der Hund
der Hunger
der Husten
der Hut

der Imbiß
immer
in
indem
die Industrie
die Infektion
die Informatik
die Information
der Ingenieur
das Inland
das Insekt
insgesamt
das Instrument
intelligent
interessant
sich interessieren für
der Ire
die Irin

Irisch
Italien
Italienisch

ja
die Jacke
jagen
das Jahr
jährlich
Januar
Jazz
jeder
jedoch
jetzt
der Job
der Jude
die Jüdin
jüdisch
die Jugend
die Jugendherberge
der Jugendliche
Juli
jung
der Junge
Juni

KO
der Kaffee
das Kalbfleisch
kalt
die Kälte
der Kamm
das Kaninchen
das Kännchen
die Kanne
kaputt
der Karfreitag
kariert
die Karotte
die Karte
die Kartoffel
der Karton
der Käse
die Kasse
die Kassette
der Kassettenrecorder
der Kasten
der/die Katholik(in)
katholisch
die Katze
kaufen
das Kaufhaus
der Kaufmann
kegeln
kein
der Keller
der/die Kellner(in)
kennen
kennenlernen
der Kern
die Kerze
der Ketchup
das Kilo
das Kind
der Kindergarten
das Kino
der Kiosk
die Kirche
die Kirsche
die Kiste
klappen
die Klasse
erste, zweite Klasse
die Klassenarbeit
das Klassenzimmer
das Klavier
das Kleid
klein
das Kleingeld
das Klima
klingeln
die Klinik
das Klo
klopfen
der Klub
knapp
das Knie
kochen
der Koffer
der Kohl
die Kohle
der Kollege
die Kollegin
Köln
komisch
kommen
der Kommunismus
die Konditorei
können
kontrollieren
das Konzert
der Kopf
der Körper
korrigieren
kosten
kostenlos
das Kotelett
die Kraft
krank
der/die Kranke
das Krankenhaus
die Krankenschwester
der Krankenwagen
die Krankheit
die Krawatte
die Kreditkarte
die Kreide
der Krieg
kriegen
der Krimi
das Krokodil
die Küche
der Kuchen
der Kugelschreiber
die Kuh
kühl
der Kühlschrank
der Kuli
der Kunde
die Kundin
die Kunst
die Kurve
kurvenreich
kurz
küssen

der LKW
das Labor
lächeln
lachen
der Laden
die Lage
die Lampe
das Land
auf dem Land
die Landschaft
lang
langsam
langweilig
der Lärm
lassen
Latein
der Lauf
laufen
der Läufer
laut
leben
das Leben
die Lebensmittel
das Lebensmittelgeschäft
das Leder
leer
leeren
legen
der Lehnstuhl
der/die Lehrer(in)
das Lehrerzimmer
leicht
es tut mir leid
leider
leise
lernen
lesen
letzt
die Leute
das Licht
die Liebe
lieben
Liebe/r ...
lieber haben
liebevoll
Lieblings-
am liebsten
das Lied
liegen
der Lift
die Liga
die Limonade
die Linie
links
die Lippe
die Liste
der Liter
die Literatur
das Loch

der Löffel
lösen
die Luft
der Luftdruck
die Luftpost
Lust haben
lustig
machen
das Mädchen
der Magen
die Mahlzeit
Mahlzeit!
Mai
das Mal
manchmal
der Mann
männlich
die Mannschaft
der Mantel
die Mappe
die Mark
das Markstück
der Markt
die Marmelade
März
die Maschine
das Maschineschreiben
die Mathematik
die Maus
das Medikament
das Meer
mehr
mehrere
meinen
die Meinung
meistens
sich melden
eine Menge
der Mensch
die Messe
das Messer
der Metzger
die Metzgerei
mieten
die Milch
Milch
mild
das Mineralwasser
minus
die Minute
mit
das Mitgefühl
das Mitglied
mitmachen
mitnehmen
der Mittag
das Mittagessen
die Mitte
Mittwoch
die Möbel
das Möbelstück
möbliert
die Mode
modern
mögen
möglich
die Möglichkeit
der Moment
der Monat
monatlich
der Mond
Montag
montags ...
der Morgen
morgen
morgens
der Motor
das Motorrad
die Möwe
müde
München
der Mund
das Münster
die Münze
das Museum
die Musik
müssen
die Mutter
die Mütze
nach
der/die Nachbar(in)
nachdem
nachher
der Nachmittag
nachmittags
der Nachname
die Nachrichten
nächst
die Nacht
der Nachtisch
nachts
in der Nähe von
nähen
der Name
die Nase
naß
die Natur
natürlich
die Naturwissenschaften
der Nebel
neben
neblig
nehmen
nein
nervös
nett
neu
nicht
der Nichtraucher
nichts
nie
niedlich
niemand
nirgendwo
noch
im Norden
der Nordire
die Nordirin
nordirisch
Nordirland
nördlich (von)
normal
normalerweise
die Not
die Note
nötig
November
die Nudel
die Null
die Nummer
nur
ob
oben
der Ober
obgleich
das Obst
oder
der Ofen
öffentlich
öffnen
die Öffnungszeiten
oft
ohne
das Ohr
Oktober
das Öl
die Olympischen Spiele
die Oma
der Onkel
der Opa
die Oper
die Operation
operieren
die Orange
das Orchester
der Ort
im Osten
Ostermontag
Ostern
Österreich
der/die Österreicher(in)
Ostersonntag
der PKW
ein paar
das Paar
das Päckchen
packen
die Packung
das Paket
das Papier
der Park
parken
das Parkhaus
der Parkplatz
das Parkverbot
die Party
der Paß
der Passagier
passen
passieren
der/die Patient(in)

die Pause
das Pech
die Pension
die Person
der Personenzug
der Pfeffer
die Pfeife
der Pfennig
das Pferd
Pfingsten
der Pfirsich
die Pflanze
die Pflicht
das Pflichtfach
das Pfund
die Physik
das Picknick
die Pille
der Pilz
der Plan
die kalte Platte
der Plattenspieler
der Platz
plötzlich
plus
die Polizei
der Polizist
die Popmusik
das Portemonnaie
die Portion
die Post
das Postamt
praktisch
der Preis
preiswert
prima
probieren
das Problem
das Programm
der Prospekt
Prost!
der/die Protestant(in)
der Proviant
prüfen
die Prüfung
das Publikum
der Pullover
pünktlich
putzen

die Qualität
der Quatsch
quer

das Rad
das Radio
der Rasen
der Rasierapparat
sich rasieren
das Rathaus
die Ratte
der Rauch
rauchen
der Raucher
der Raum
rechnen
die Rechnung
rechts
der Regen
der Regenschirm
regnerisch
es regnet
reichen
reif
der Reifen
die Reife
rein
reinigen
die Reinigung
der Reis
die Reise
das Reisebüro
reisen
der Reisende
der Reisescheck
reiten
die Religion
der/die Rentner(in)
die Republik Irland
reservieren
das Restaurant
das Rezept
richtig
die Richtung
riechen
das Rindfleisch
der Ring
der Rock
die Rolltreppe
die Rose
rot
der Rotwein
der Rücken
die Rückfahrkarte
der Rucksack
rufen
die Ruhe
ruhig
rund
die Runde
die Rundfahrt
russisch
Rußland

die S-Bahn
die Sackgasse
der Saft
sagen
die Sahne
der Salat
das Salz
sammeln
Samstag
der Sand
die Sardine
sauber
sauer
das Sauerkraut
schade(n)
das Schaf
schaffen
der Schaffner
der Schal
die Schallplatte
der Schalter
scharf
der Schatten
das Schaufenster
der Scheck
die Scheibe
der Schein
schenken
die Schere
scheu
schicken
schießen
das Schiff
das Schild
der Schilling
der Schinken
schlafen
der Schlafsack
das Schlafzimmer
schlagen
der Schlager
die Schlagsahne
die Schlange
Schlange stehen
schlank
schlecht
schließen
schlimm
der Schlips
der Schlittschuh
das Schlittschuhlaufen
das Schloß
der Schlüssel
schmecken
die Schmerzen
schmutzig
der Schnaps
der Schnee
schneiden
es schneit
schnell machen
der Schnellzug
das Schnitzel
der Schnupfen
die Schokolade
schon
schön
schottisch
Schottland
der Schrank
schreiben
die Schreibwarenhandlung
schreien
der Schuh
das Schuhgeschäft
die Schule
der/die Schüler(in)
der Schulhof
die Schulter
die Schüssel
der Schutz

schützen
schwach
schwarz
schweigen
das Schwein
das Schweinefleisch
die Schweiz
der/die Schweizer(in)
schwer
die Schwester
schwierig
die Schwierigkeit
das Schwimmbad
schwimmen
schwül
der See
die See
segeln
sehen
sehenswert
die Sehenswürdigkeit
sehr
die Seife
sein
seit
die Seite
der/die Sekretär(in)
die Sekunde
die Selbstbedienung
selten
seltsam
die Sendung
der Senf
September
(sich) setzen
sicher
silbern
Silvester
singen
der Sinn
sitzen
der Ski
das Skifahren
der Skilift
so
die Soße
die Socke
der Sohn
der Soldat
sollen
der Sommer
das Sonderangebot
sondern
Sonnabend
die Sonne
sonnig
Sonntag
sonst
sonst noch etwas
sorgen für
der Spaß
Spanien
Spanisch
spannend
die Sparkasse
spät
spazierengehen
der Spaziergang
die Speisekarte
der Speisewagen
die Spezialität
der Spiegel
spielen
der Spielfilm
die Spirituosen
der Sport
der Sportplatz
das Sportzentrum
das Sprachlabor
sprechen (mit)
die Sprechstunde
springen
die Spritze
der Sprudel
spülen
die Spülmaschine
das Spülmittel
die Staatsangehörigkeit
das Stadion
die Stadt
städtisch
der Stadtplan
stammeln
stark
statt
stattfinden
der Stau
der Staub
der Staubsauger
stecken
stehen
die Stelle
stellen
die Stenographie
sterben
der Stern
das Steuer
der/die Steward (eß)
die Stimme
der Stock
die Stockung
der Stoff
die Straße
die Straßenbahn
der Strand
das Strandbad
das Streichholz
der Streik
streiken
streng
stricken
der Strom
der Strumpf
die Strumpfhose
die Stube
das Stück
der/die Student(in)
studieren
der Stuhl
die Stunde
der Stundenplan
der Sturm
stürmisch
suchen
im Süden
Super
der Supermarkt
die Suppe
süß
die Süßigkeiten
sympathisch

der Tabak
die Tablette
die Tafel
der Tag
die Tageskarte
täglich
talentiert
tanken
die Tankstelle
der Tannenbaum
die Tante
tanzen
die Tasche
das Taschentuch
die Tasse
das Taxi
der Taxistand
der Tee
das Telefon
das Telefonbuch
telefonieren mit
die Telefonkabine
die Telefonzelle
das Telegramm
der Teller
die Temperatur
das Tennis
der Teppich
der Termin
ein Termin ausmachen
die Terrasse
teuer
das Theater
das Ticket
das Tier
der Tierarzt
der Tiergarten
der Tiger
die Tinte
der Tisch
der Titel
die Tochter
der Tod
die Toilette
toll
die Tomate
der Topf
das Tor
die Torte
tot
der Tourist
die Tradition
tragen

trainieren
die Traube
trauen
traurig
(sich) treffen
treiben
(sich) trennen
die Treppe
trinken
das Trinkgeld
trocken
trotz
die Tulpe
tun
die Tür
der Turm
das Turnen
die Tüte

die U-Bahn
die USA
über
der Übergang
überhaupt
übermorgen
übernachten
die Übernachtung
übersetzen
um
die Umleitung
umsteigen
der Umweltschutz
umziehen
und
unerwartet
der Unfall
unfreundlich
ungefähr
unglaublich
unten
unter
die Unterführung
unternehmen
unterschreiben
die Unterschrift
die Untertasse
unterwegs
der Urlaub
usw

der Vater
veranstalten
verbessern
verbieten
verbinden
die Verbindung
verboten
der Verein
vergessen
vergleichen
verheiratet
verkaufen
der/die Verkäufer(in)
der Verkehr
das Verkehrsamt
sich verlassen
sich verlaufen
verlieren
vermieten
die Vermietung
verpassen
die Verschmutzung
das Verständnis
verstehen
versuchen
verursachen
Verzeihung
viel
vielen Dank
vielleicht
das Viertel
die Viertelstunde
das Visum
der Vogel
die Vokabel
voll
von
vor
die Vorfahrt
vorgestern
vorhaben
vorig
der Vormittag
vormittags
der Vorname
vorne
der Vorort
Vorsicht!
die Vorspeise
die Vorstellung
die Vorwahl

wach
die Wache
der Wagen
wählen
das Wahlfach
während
wahrscheinlich
der Wald
Wales
die Wand
wandern
die Wanderung
wann?
das Warenhaus
warm
warten
der Wartesaal
warum?
was für?
was macht das?
was?
das Waschbecken
die Wäsche
(sich) waschen
die Waschmaschine
das Waschpulver
das Wasser
wechseln
die Wechselstube
wecken
der Wecker
der Weg
weg
wegen
das Weh
sich wehtun
weiblich
weich
Weihnachten
der erste Weihnachtstag
der zweite Weihnachtstag
weil
der Wein
weinen
die Weinkarte
weiß
der Weißwein
welcher?
die Welt
wem
wen
wenig
wenigstens
wenn
wer
werden
der Werktag
die Wespe
wessen
im Westen
das Wetter
die Wetteraussichten
der Wetterbericht
die Wettervorhersage
wichtig
wie
Wie spät ist es?
wie weit?
wieder
wiederholen
wiederverwerten
Wien
Wieviel Uhr ist es?
Wieviel?
willkommen
der Wind
der Winter
das Wirthaus
wissen
der Witz
wo and compounds
wo?
die Woche
das Wochenende
der Wochentag
wöchentlich
woher?
wohin?
wohl
zum Wohl
sich wohlfühlen
das Wohnzimmer
wohnen

der Wohnort
die Wohnung
der Wohnwagen
die Wolke
die Wolle
wollen
das Wort
das Wunder
(sich) wünschen
die Wurst (Leber-, Bock-, Brat-)

zB
zahlen
die Zahl
der Zahn
der Zahnarzt
die Zahnbürste
die Zahnpasta
das Zeichnen
zeigen
die Zeit
die Zeitschrift
die Zeitung
der Zeitungsstand
das Zelt
zelten
die Zentralheizung
das Zentrum
das Zeugnis
ziehen
das Ziel
ziemlich
die Zigarette
das Zimmer
der Zirkus
die Zitrone
der Zoll
der Zollbeamte
der Zoo
zu
zu (zwei zu eins)
der Zucker
zuerst
zufrieden
der Zug
zuhaben
zuhören
zumachen
die Zunge
zurück
zusammen
der Zuschauer
zusein
die Zwiebel
zwischen

16 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates identify and note main points and extract some details from simple language spoken clearly at near normal speed.

Candidates take part in simple transactions and conversations showing some ability to substitute words and phrases. Their pronunciation is intelligible, and although there are grammatical inaccuracies, the main points of the message are communicated.

Candidates identify main points and extract some information from short, simple texts, both printed and hand written. They use a bi-lingual dictionary or glossary to find out the meaning of unfamiliar words.

Candidates write short sentences, and respond to written texts by substituting words and set phrases. Although there will be mistakes in spelling and grammar, the main points of the message are communicated.

Grade C

Candidates identify and note main points and extract details and points of view from language spoken at normal speed. The spoken texts include narratives and future events. They are drawn from a variety of topics which include familiar language in unfamiliar contexts.

Candidates undertake transactions and develop conversations which include past, present and future events. They express personal opinions and show an ability to deal with some unpredictable elements. Although there are some errors, they convey a clear message, and their pronunciation and intonation are generally accurate.

Candidates identify and extract details and points of view from printed and hand written texts, authentic and simulated, drawn from a variety of topics and which include past, present and future events. They use bi-lingual dictionaries or glossaries to understand unfamiliar language.

Candidates express personal opinions and write about a variety of topics, including past, present and future events. They write simple formal letters or personal letters. The style is basic but despite errors the writing conveys a clear message.

Grade A

Candidates understand gist and identify main points and detail in a variety of types of authentic spoken language. They recognise points of view, attitudes and emotions and are able to draw conclusions.

Candidates initiate and carry through transactions, take part in conversations and narrate events. They express and justify ideas and points of view, and produce longer sequences of speech using a variety of vocabulary, structures and time references. They speak confidently, with good pronunciation and intonation. The message is clear although there may still be some errors, especially when candidates use more complex structures.

Candidates understand gist and identify main points and detail in a variety of types of authentic texts. They recognise points of view, attitudes and emotions and are able to draw conclusions. They select and make appropriate use of reference materials.

Candidates give factual information, narrate events and express and justify ideas and points of view. They produce longer sequences using a range of vocabulary, structure and time references. Their spelling and grammar are generally accurate, and the style is appropriate to the purpose.

APPENDIX
EXTRACT FROM NORTHERN IRELAND PROGRAMME OF STUDY

General Skills and Cultural Awareness

Developing Personal and Social Skills

Pupils should have opportunities, through the communicative process, to enhance their self-esteem by enjoying success and to develop positive attitudes to others. Such attitudes should include tolerance, empathy and appreciation of the talents and contributions of other people. Concentration and perseverance should be encouraged among pupils. These attitudes and qualities may be promoted by:

a working independently and collaborating in pairs and small groups;

b working on whole class activities;

c undertaking tasks in co-operation with the teacher or with another adult such as a language assistant or visitor;

d conducting or taking part in interviews, surveys or investigations;

e developing the skills of self-expression and presentation;

f taking part in decision-making;

g acknowledging their own contribution and that of peers.

Developing Language Learning Skills

Pupils should have opportunities to acquire, develop, and apply through the language learning processes, skills which include:

a memorising sounds, words and structures;

b note-taking;

c dealing with information;

d drawing conclusions and making inferences;

e predicting meaning from context;

f using resources independently;

g developing an awareness of sounds and language patterns;

h reading for a purpose;

i managing their own learning;

j solving problems;

k listening attentively;

l redrafting writing to improve accuracy and presentation.

Developing Cultural Awareness

Pupils should have opportunities to develop an awareness, understanding and appreciation of the culture of the country or community of the target language. They should have opportunities to develop a sense of European identity and to appreciate the diversity of European cultures and societies. By identifying similarities and acknowledging differences between cultures, they may learn to view their own culture more objectively. Pupils should have opportunities to:

- use authentic materials, for example, *magazines and videos*;
- meet native speakers of the target language, for example, *language assistants or visitors*;
- participate in correspondence and, where appropriate, visits to and exchange schemes with the country or community of the target language;
- experience or learn about the customs and traditions of the country or community of the target language through song, dance and the celebration of festivals.

Language Skills and Contexts for Learning

Language Skills

Throughout the programmes of study, pupils should be exposed to the target language and have frequent opportunities to use it. As a consequence, when responding to questions in a spoken or written form, pupils should use the target language except where a response in their first language is a necessary part of the task, for example, *in an interpreting exercise.*

Pupils should take part in activities which:

- combine two or more of the four language skills (listening, speaking, reading, writing) where appropriate;
- enable them to use the target language for real purposes;
- help them to acquire and use the target language to communicate with each other, their teacher and other speakers of the language;
- cultivate informed attitudes towards other people's lifestyles, social conventions, beliefs, opinions and ideas.

Pupils should have opportunities to develop language learning skills and awareness of language through the following activities:

- practising pronunciation and intonation;
- recognising how sounds are represented in writing;
- practising and internalising structures and vocabulary;
- developing awareness of different conventions and styles of language.

In order to develop and reinforce linguistic skills and to manipulate the target language, pupils should be taught to:

a listen for comprehension of general meaning and detail;

b listen for pleasure;

c seek and give information;

d ask about meanings and seek clarification or repetition;

e express preferences and reactions;

f take part in short exchanges and conversations;

g participate in imaginative and creative activities, for example, *drama, poetry and song*;

h follow instructions, for example, *when making and drawing*;

i read printed or handwritten texts for comprehension of general meaning and detail;

j read for information and for pleasure;

k use a range of reference materials and resources to aid comprehension and communication;

l select and copy;

m produce short pieces of continuous writing;

n write for pleasure;

o write formal and informal letters;

p interpret the meaning of language with the help of visual and other non-verbal clues;

q respond to different types of aural, visual and textual sources.

As they progress through the levels of attainment, teaching should enable pupils to engage in activities involving the higher order skills of:

r initiating and sustaining conversations;

s responding to unprepared situations;

t expressing feelings, opinions and ideas;

u discussing issues and making comparisons;

v adjusting language to suit context, audience and purpose;

w taking notes and reporting orally or in writing.

HISTORY

Candidates in this examination will be assessed in the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 The syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for history. It also meets the requirements of the Northern Ireland outline programme of study for Key Stage 4 in history.

1.2 The syllabus is intended to provide elements of continuity with the previous CCEA GCSE History Syllabus and to build upon the foundation of knowledge , understanding and skills established by the Northern Ireland Curriculum for History. The syllabus has been designed to allow centres and candidates to study, in outline, developments which have influenced modern world history and, in detail, studies of individual countries or regions during periods of transition. Centres and candidates, in addition, will be expected to undertake a study of significant developments and issues which have affected their own society.

1.3 A course based on this syllabus will help to facilitate the further study of history at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 The syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 AIMS

The aims set out below describe the educational purposes of following a course in history. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

2.1 to acquire knowledge and understanding of the human past;

2.2 investigate historical events, people, changes and issues;

2.3 develop understanding of how the past has been represented and interpreted;

2.4 use historical sources critically in their historical context;

2.5 draw conclusions and appreciate that these and other historical conclusions are liable to reassessment in light of new or reinterpreted evidence;

2.6 to promote students' understanding of the development of the contemporary world.

3 ASSESSMENT OBJECTIVES

The assessment objectives indicate the skills and abilities which will be assessed.

Candidates will be assessed in their ability to:

3.1 recall, select, organise and deploy knowledge of the syllabus content;

3.2 describe, analyse and explain:

- events, changes and issues studied;
- key features and characteristics of the periods, societies or situations studied.

3.3 in relation to the historical context:

- to comprehend analyse and evaluate representations and interpretations of the events, people and issues studied;
- to comprehend, interpret, evaluate and use a range of sources of information of different types.

Although the assessment objectives are expressed separately, they are not wholly discreet. Assessment objective 3.1 pervades the other objectives.

4 DESCRIPTIONS OF EXAMINATION COMPONENTS

The examination will comprise two papers and coursework as set out below.

4.1 **Paper 1 Study in Depth**

Section A: A study of **one** of either:

A1 Germany c.1918–c.1939

or

A2 Russia c.1914–c.1941

or

A3 USA c.1918–c.1941

Section B: A study of **one** of either:

B1 Peace War and Neutrality: Britain, Northern Ireland and Ireland and the Second World War c.1935–c.1949

or

B2 Changing Relationships: Britain, Northern Ireland and Ireland c.1965–c.1985.

4.2 **Paper 2 An Outline Study**

- Superpower Relations c.1945–c.1985

4.3 **Coursework**

Candidates will be required to submit two pieces of coursework which must include the use of sources and which extend their understanding beyond the syllabus content to periods before or after the specified dates or to contexts not specified in association with key issues of the syllabus. Coursework can be submitted from any two elements of the syllabus which candidates will study for the examination.

5 TECHNIQUES OF ASSESSMENT

5.1 Two tiers of entry are available giving access to different grades as follows:

HIGHER TIER Grades A*–D(E)

Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade D but who demonstrate the qualities associated with grade E performance.

FOUNDATION TIER Grade C–G

5.2 **Paper 1:** 2 hours 40%

Section A

Candidates will answer **two** questions out of four on their chosen option.

Questions will be of the short answer and structured type.

Section B

Candidates will answer **two** questions out of three on their chosen option.

Questions will be of the short answer and structured type.

5.3 **Paper 2:** 1½ hours 35%

Candidates will answer three questions:

One question will be based on source material;

One question will be of the structured type;

One question will be of the extended writing type.

5.4 **Coursework:** 25%

Candidates will be required to complete two coursework assignments. The coursework assignments must be related to source-based work.

6 DIFFERENTIATION

6.1 Differentiation will be achieved through tiering in the examination papers.

6.2 The standard of the papers will be such as to give all candidates the opportunity to show what they know, understand and can do.

7 RELATIONSHIP OF ASSESSMENT OBJECTIVES TO THE SCHEME OF ASSESSMENT

7.1 The overall approximate weighting of assessment objectives in all components of the examination is detailed in Table 7.1.

Table 7.1

	Recall, select organise, deploy Obj. 3.1	Describe analyse and explain Obj.3.2	Interpretations and sources Obj. 3.3	
Paper 1	15%	25%	–	40%
Paper 2	10%	10%	15%	35%
Coursework	–	–	25%	25%
Total	25%	35%	40%	100%

8 CONTENT

8.1 The subject content of the syllabus details key issues, associated questions and content focus.

8.1.1 The syllabus allows candidates to extend their study of Key Stage 3 into the contemporary world. Content has been chosen with the intention of increasing the candidates knowledge and understanding of historical developments in their own society against a wider background of the twentieth century world.

8.2 **Paper 1: Study In Depth**

The Study in Depth is designed to enable candidates to describe analyse and explain key issues, events, personalities and developments which characterise a particular society over a relatively short period of time. Candidates should, within an accurate reconstruction of the factual framework of the period and the events in the period, become aware of the characteristic beliefs, values and attitudes of the people of the time and appreciate that individuals living in the period would have differed in their personal beliefs and attitudes.

Within each Study in Depth the Key Issues which characterise the period and the Key Questions which help inform an understanding of the period are identified. The Content Focus provides guidance on what is involved in addressing these Key Issues and Questions. Candidates will, by using relevant knowledge of the period, demonstrate understanding of the Key Issues and Questions.

In the teaching of the Study in Depth candidates should be given the opportunity to make use of a range of sources of information including representations and interpretations of issues, events, personalities and developments. Although the evaluation of source material will not be required within Paper 1, the study of source materials should assist candidates to acquire knowledge and understanding about the key issues, events, personalities and developments of the period.

Candidates will be required to undertake two Studies in Depth, **one from section A** and **one from section B** as listed in 4.1 on previous page.

Section A

Either

8.3 **A1 Germany c.1918–c.1939**

The focus of this study is on the conditions in the Weimar Republic which contributed to the rise of Hitler, the appeal of National Socialism in Germany, the impact of the development of the Nazi State and the results of this within Germany and Europe.

Key Issues	Content Focus
8.3.1 THE WEIMAR REPUBLIC	
Why did it fail to survive?	• Resentment of the Treaty of Versailles; • Strengths and weaknesses of the Weimar constitution; • Support and opposition to the Weimar Republic; • Economic problems faced by the Weimar government.
8.3.2 THE RISE OF NAZISM	
How and why did Hitler and the Nazi Party rise to power?	• Hitler as a political leader; • Aims of the Nazi Party; • Nazi electoral performance c.1924–33; • Strength of support and opposition to the Nazi Party; • Hitler's appointment as Chancellor and Fuhrer 1933.
8.3.3 NAZI GERMANY	
How was Germany controlled by the Nazi Party 1933–39?	• Suppression of opposition; • Nazi control of the economy, the churches, education and youth and media; • Anti-Semitism: Nuremberg Laws, pogroms, confiscation of property.
8.3.4 NAZI POLICY TOWARDS EUROPE	
What were Nazi aims in Europe and what methods were used to achieve them?	• Dismantling of the Versailles settlement: territorial gain, conscription and re-armament, Lebensraum; • Strategy of force, threat and negotiation: re-occupation of the Rhineland,1938 invasions of Austria and Sudetenland, 1939 Czechoslovakia, and Poland.

Or

8.4 **A2 Russia c.1914–c.1941**

The focus of this study is on the end of autocratic rule in Russia, the rise to power of the Communist party, the consolidation of Communist power and the growth of totalitarian rule under Stalin.

Key Issues	Content Focus
8.4.1 THE STATE OF TSARIST AUTHORITY 1914–16	
How did the war affect Tsarist rule in Russia?	• The autocratic control of the Tsar, as head of government and the army; • Opposition to Alexandra and Rasputin; • The impact of war upon the Russian people.
8.4.2 1917 REVOLUTIONS	
Why were there two Revolutions in Russia in 1917?	• February Revolution; • Failure of Provisional government to consolidate power: issues of food, land and peace; • The role of Lenin; • October Revolution: Bolsheviks take control.
8.4.3 RUSSIA AFTER THE REVOLUTION	
How did the Bolsheviks establish the Communist State in Russia?	• Treaty of Brest Litovsk; • Civil War: Trotsky and the Red Army, suppression of opposition; • Formation of USSR; • War Communism replaced by New Economic Policy.
8.4 4 STALINIST RUSSIA	
What were the main features of Russia under Stalin?	• Consolidation of Stalin's power: removal of opponents; • Doctrine of Socialism in One Country; • Social and economic policies: 5 Year Plans and collectivisation; • Suppression of opposition: Purges and show trials; • Nazi-Soviet Pact, 1941 Germany invades Russia.

Or

8.5 A3 United States of America c.1918–c.1941

The focus of this study is on the economic, political and social changes in the United States of America in the 1920s, the reasons for and consequences of the Wall Street Crash, how the United States of America reacted to the Depression and the response of the United States of America to the outbreak of World War 2.

Key Issues	Content Focus
8.5.1 1920s AMERICA What were the main features of life in America during the Roaring 20s?	• Retreat from Europe: refusal to join the League of Nations, immigration controls, quota system; • Post war boom-economic prosperity: mass production consumer goods and the stock exchange; • Popular entertainment: the jazz age and growth of Hollywood; • Prohibition and organised crime.
8.5.2 1929 WALL STREET CRASH AND THE DEPRESSION What were the causes and consequences of the Depression?	• Wall Street Crash: economic and social consequences for different social groups; • Impact of the depression: the hungry thirties; • The inadequacy of the Hoover government's response.
8.5.3 ROOSEVELT AND THE NEW DEAL What were the aims of the New Deal and how effective were they?	• Election of F D Roosevelt; • New Deal and associated legislation; • The impact of Roosevelt's reforms; • Opposition to Roosevelt.
8.5.4 AMERICA AND WORLD WAR 2 How did the United States of America respond to the growing threat of war?	• Attitudes and responses to war in Europe-lend/lease scheme; • American interest in Far East: response to Japanese expansion; • Consequences of Pearl Harbour: end of isolationism.

Section B

Either

8.6 **B1 Peace War and Neutrality: Britain, Northern Ireland and Ireland and the Second World War c.1935–c.1949**

The focus of this study is on the threat, affects and consequences of the outbreak of World War 2 in Britain, Northern Ireland and the Irish Free State in the period leading up to, during and after the Second World War.

Key Issues	Content Focus
8.6.2 ANGLO-IRISH RELATIONSHIPS ON THE EVE OF WORLD WAR 2	
What was the nature of relationships between Britain, Northern Ireland and Eire on the eve of World War 2?	• Relationships with Eire: end of Economic War, return of the Treaty ports; • Responses to the threat of war: appeasement, rearmament or neutrality; • Chamberlain and Hitler: Munich Crisis, guarantees to Poland; • Declaration of War: De Valera and Irish neutrality: attempts to persuade the Free State to enter the war.
8.6.3 EXPERIENCE OF AND RESPONSE TO WAR	
How did individuals and governments respond to the coming of war?	• Churchill and the war effort: preparation for invasion, defence measures, Battle of Britain; • Black out, rationing, issue of conscription, evacuation, joining up; • Different experiences of Blitz; • Strategic importance of Northern Ireland naval bases; • Neutrality of Eire: state of emergency, proscription of Blueshirts and IRA, contacts with Germany.
8.6.4 POST-WAR RELATIONSHIPS	
What issues influenced post war relationships within the British Isles?	• Advent of State intervention: introduction of Welfare State in Britain and Northern Ireland; • Widening gap between north and south; • Britain's links with South: 1949 The declaration of the Republic; • Britain's links with Northern Ireland: 1949 The Ireland Act.

Or

8.7 **B2 Changing Relationships: Britain, Northern Ireland and Ireland c.1965–c.1985.**

This study will focus on the events in Northern Ireland c.1965–c.1985 and responses of people in Britain, Northern Ireland and the Republic of Ireland to the changing situation.

Key Issues	Content Focus
8.7.1 NORTHERN IRELAND IN THE 1960S	
Why did Civil Rights become an issue in Northern Ireland in the 1960s?	• Changing political economic and social climate; • Relations with the Republic; • The Civil Rights Movement: influences, objectives and demands; • Response to the civil rights campaign: policing and O'Neill's reforms.
8.7.2 PRELUDE TO DIRECT RULE	
How and why did Direct Rule in Northern Ireland come about?	• Failure of reforms: O'Neill's resignation; • Emergence of paramilitary organisations and their aims; • The break down of law and order: arrival of British troops, Internment, continuing violence; • Attitude of the British government.
8.7.3 SEARCH FOR A SOLUTION	
How did groupings in Northern Ireland respond to British and Irish government initiatives?	• The emergence of new political groupings: Alliance, Democratic and Unionist Party (DUP), Social Democratic and Labour Party (SDLP); • Suspension of Stormont; • Attempts at and failure of power-sharing; • Emergence of Sinn Fein; • Responses of British and Irish governments; • The Anglo Irish Agreement.

8.8 Outline Study Paper 2: Superpower Relations c.1945–c.1985

The Outline Study will focus on the relations between the USA and the USSR in the period after World War Two in a variety of geographical locations and political contexts. The Outline Study is designed to contribute to the candidate's understanding of the contemporary world by examining some of the most significant events and developments in the post 1945 period. Candidates will be expected to be acquainted with the reasons for and results of superpower conflict in various arenas from the perspective of both superpowers.

Within the Outline Paper the Key Issues which characterise the period and the Key Questions which help inform an understanding of the period are identified. The Content Focus provides guidance on what is involved in addressing these key issues and questions. Candidates will, by using relevant knowledge of the period, demonstrate understanding of the Key Issues and Questions.

In the teaching of the Outline Study candidates should be given the opportunity to make use of a range of sources of information including representations and interpretations of issues, events, personalities and developments. The evaluation of source material will be required within Paper 2, and the study of source materials should assist candidates to acquire knowledge and understanding about the key issues, events, personalities and developments of the period.

Candidates should study the following topics:

Key Issues	Content Focus
8.8.1 SUPERPOWER RIVALRY IN EUROPE Why were there superpower tensions in Europe and what were the results?	• Russian control in eastern Europe: territorial gains, the Warsaw Pact; • Influence of USA in western Europe: Truman Doctrine, Marshall Aid, NATO; • Crises: 1948 Czechoslovakia, 1948 the Berlin Blockade, 1949 Partition in Germany, 1956 the Hungarian Uprising, 1961 The Berlin Wall, 1968 The Prague Spring.
8.8.2 FLASH POINTS OF THE COLD WAR Why did Korea and Vietnam become Cold War battlegrounds?	• Policy of containment: The Domino Theory; • The emergence of Communist China; • The extent of superpower involvement in the Korean War; • The extent of superpower involvement in Vietnam.
8.8.3 FROM ARMS RIVALRY TO ARMS LIMITATION Why was there an arms race in this period and why was it scaled down?	• The Nuclear Arms Race: 1945 Hiroshima and Nagasaki, 1949 USSR announce nuclear capability; • Development of Intercontinental Ballistic Missiles (ICBM); • Cuban missile crisis; • 1970s Detente: Brezhnev's reaction to improving relations between USA and China; • 1972 Strategic Arms Limitation Treaty; • 1980s: emergence of a new Cold War, eg Afghanistan, "Star Wars", Cruise missiles; • 1986 Chernobyl: Regan and Gorbachev summit in Iceland, "Glasnost" in Russia.

9 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

9.1 Grade F

Candidates recall and deploy some relevant knowledge of the syllabus content.

Candidates identify and describe some reasons, results and changes in relation to the events, personalities and developments studied. They describe a few features of an event, issue or period, including characteristic ideas, beliefs and attitudes.

Candidates identify some differences between ways in which events, people or issues have been represented and interpreted. They comprehend sources of information and taking them at their face value, begin to consider their usefulness for investigating historical issues and draw simple conclusions.

9.2 Grade C

Candidates recall, select, organise and deploy some historical knowledge of the syllabus content to support, generally with accuracy and relevance, their descriptions and explanations of the events, periods and societies studied.

Candidates produce structured descriptions and explanations of the events, people changes and issues studied. Their descriptions and explanations show understanding of relevant causes, consequences and changes. They also consider and analyse key features and characteristics of the situations, periods and societies studied including a variety of ideas, attitudes and beliefs held by people at the time.

Candidates recognise and comment on how interpretations of events, people and issues have been produced. They evaluate and use critically a range of sources of information to investigate issues and draw relevant conclusions.

9.3 Grade A

Candidates recall, select, organise and deploy historical knowledge of the syllabus content to accurately, effectively and with consistency to substantiate arguments and reach historical conclusions.

Candidates produce developed reasoned and well substantiated analyses and explanations which consider the events, changes and issues studied in their wider historical context. They also consider the diversity and inter-relationship of the features and ideas, attitudes and beliefs in the periods, societies and situations studied.

Candidates analyse how and why interpretations have been produced and consider their value in relation to their historical context. They evaluate and use critically a range of sources of information in their historical context to investigate issues and reach reasoned and substantiated conclusions.

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 Coursework will constitute 25% of the total marks.

1.2 Candidates will be required to submit two assignments.

1.3 The purpose of coursework is to allow candidates to consider syllabus topics in a broader context and to deepen their knowledge and understanding of aspects of the syllabus. The topics must be explored in association with at least two different types of source materials. The coursework should be designed to develop the skills of historical enquiry which are not adequately assessed through terminal written papers, and to recognise more fully the range of work undertaken by candidates during the course.

1.4 **Students must submit assignments which extend their study of the topics beyond the syllabus content to periods before or after the specified dates or to contexts not detailed in the syllabus**, eg The Middle East in relation to Paper 2; or the Holocaust in relation to Nazi Germany or Civil Rights in the USA in the 1960s in relation to the Northern Ireland topic Paper 1. Assignments should not be regarded as projects, as they will be more limited in scope and extent allowing candidates to undertake a range of assignments from a variety of topics which develop their knowledge and understanding of the period studied.

2 PRESCRIBED CONTEXT FOR ASSIGNMENTS

2.1 Each assignment must be derived from the separate options in the syllabus, within either Paper 1 (Study in Depth) or Paper 2 (Outline Study). Assignments must derive from the options which candidates study for the written examination.

3 GUIDANCE ON THE SETTING OF ASSIGNMENT TASKS

The following guidance is given to teachers on setting assignments consistent with 1.4 above.

3.1 Assignments must be based on a variety of sources which may include written, and non-written sources, for example, newspapers, extracts from diaries, documents, census returns, statistics, photographs, portraits, paintings, maps, diagrams, songs, radio broadcasts, oral memories from parents, grandparents etc. The sources chosen should be appropriate to the ability range of the candidates.

3.2 The following examples have been included to illustrate assignments tasks concerned with periods before or after the dates specified in the syllabus or contexts not detailed in the syllabus.

The examples are intended for the guidance only and should not be regarded as prescriptive or exclusive. Assignment tasks should be suitable for the candidates and must be capable of allowing the prescribed assessment objectives to be met. The way in which the topic titles are set out are not meant to suggest that assignments, related to sources, should be completed in essay format.

Study in Depth

A1 Germany c.1918–c.1939

- Hitler's early influences and experiences.
- Was Germany the main influence in the events leading to the outbreak of War in 1914?
- Reasons for growth of Fascist movements in Italy, Spain or Britain and consideration of the characteristics of these movements.
- The experience of the Holocaust in Europe, for example through the study of individuals such as Anne Frank or Oscar Schindler or events such as Wannsee Conference and the Final Solution.

A2 Russia c.1914–c.1941

- The power and life style of the Imperial family in Russia.
- How did events in 1905 affect Tsarist authority?
- The growth of Communism in China in the '20s and '30s.
- Russian casualties in World War 2 and their influence Russia's attitude to the West in the post war period.

A3 USA c.1918–c.1941

- How important was the role of America in World War 1?
- The growth of the Klu Klux Klan in the USA.
- How was Europe affected by the Wall Street Crash?
- What was McCarthyism and what was its impact on, eg political life, cinema in the USA?

B1 Peace, War and Neutrality: Britain, Northern Ireland and Ireland and the Second World War c.1935–c.1949

- Attitudes to Partition in Northern Ireland and the Free State during the inter-war years.
- Affects of allied bombing campaign on German cities.
- Outdoor Relief riots in Belfast 1935.
- The IRA campaign of the 1950s.

B2 Changing Relationships–Britain, Northern Ireland and Ireland c.1965–c.1985.

- Unionist-Nationalist relationships before the '60s, eg differing cultures and traditions, segregation of housing, education etc.
- Civil Rights in the USA in the 1960s.
- Ulster Says No Campaign.
- The United States of America and the conflict in Northern Ireland.

Outline Study

Paper 2: Superpower Relations c.1945–c.1985

- Russia, USA, and Britain as Allies during World War 2.
- The Anti War movement in the late '60s and early '70s.
- Superpower involvement in The Middle East (Why did the USA support Israel and Russia favour the Arab states?).
- The impact of Glasnost in Eastern Europe (The rise of nationalist movements, eg in former Yugoslavia.)

4 AUTHENTICATION

Each teacher will be required to sign a declaration that the coursework presented has been provided without external assistance, apart from any which is identified under the regulations, and is the work of the candidate.

5 ANNOTATION

5.1 Teachers must show clearly how marks have been awarded in relation to the marking criteria defined under Paragraph 6 of this coursework memorandum.

5.2 It is expected that teachers will provide meaningful comments on the assignments on both the Candidate Record Sheet and the written work.

5.3 Annotation should be clear and unambiguous and enable a moderator to check easily the application of the marking criteria to the mark awarded.

6 CRITERIA FOR THE ASSESSMENT OF ASSIGNMENTS 1 AND 2

6.1 Assignments must be marked in relation to assessment objective 3.3.

6.2 Marks within each assignment must be awarded using the following criteria. The bands of performance are provided to facilitate identification of the appropriate level of achievement. Marks within each band should be awarded in relation to the extent to which a candidate displays competence within the particular elements detailed.

6.3 Each assignment must be marked out of a total 25. The aggregate total, out of 50, for both assignments must be entered on the Candidate Record Sheet.

Assignments 1 and 2 25 marks each.

6.4 Candidates are advised that, in marking, emphasis will be on the quality and suitability of responses rather than the quantity of material produced. It should be possible to meet the requirements of **both** coursework assignments within a total word limit of 2500. Coursework responses in excess of the suggested total word limit should be examined critically for relevance to the tasks.

Assessment Objective 3.3

To comprehend, analyse and evaluate representations and interpretations of the events, people and issues studied;

To comprehend, interpret, evaluate and use a range of sources of information of different types.

Band 1 (0–6 marks)

In relation to representation and interpretation candidate shows some evidence of understanding. Analysis and evaluation will be in the form of statements and may be contained within a narrative format.

Reference will be made to at least one source. Comprehension will be displayed through extraction of content. Interpretation and evaluation may be present through inference.

Band 2 (7–13 marks)

In relation to representation and interpretation candidate shows evidence of comprehension. There is an attempt to analyse and evaluate. This will tend to be either of a very general nature or may focus on a very limited aspect of the assignment.

There will be reference to more than one source and there should be reference to at least two different types of sources.

Band 3 (14–20 marks)

Candidate shows clear evidence of comprehension by selection of appropriate content. Analysis and evaluation of representation and interpretation will be in the context of major points relating to the whole topic.

There will be detailed reference to a range of appropriate sources of different types.

Band 4 (21–25 marks)

Comprehension will be displayed through precise selection. Analysis and evaluation of representation and interpretation will be accurate and supported with precise references.

There will be precise reference to a range of sources. There will be correct use of the most appropriate types of source to meet the requirements of the particular assignment.

HOME ECONOMICS

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and the subject criteria for Home Economics. It also meets the requirements of the Northern Ireland outline programme of study for Key Stage 4.

1.2 It seeks to consolidate and extend the knowledge and skills developed at Key Stage 3 and will facilitate further study at a more advanced level.

1.3 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fufil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.4 The syllabus has been designed to be as free as possible from ethnic, gender, religious, political or other forms of bias.

2 RATIONALE

2.1 The integrated approach adopted by this syllabus provides the opportunity to deliver a course of study in Home Economics where the inter-relationships between diet, health, family, resources and home are addressed in both practical and theoretical contexts.

2.2 The course will assess candidates' ability to apply their knowledge and understanding of the three key areas of:

- *Family Life;*
- *Diet and Health;*
- *Choice and Management of Resources;*

and will involve them in a process which will require them to:

- identify issues;
- assemble and consider relevant information;
- analyse viewpoints;
- arrive at and justify a personal viewpoint;
- make decisions, plan and, if appropriate, take a course of action;
- evaluate the application of the process and outcomes.

2.3 The course should provide opportunities for candidates to develop skills associated with:

- communication;
- creativity;
- decision making;
- investigation;
- management;
- measurement;
- personal and social interaction;
- problem-solving;
- psycho-motor activity;
- reasoning and critical thinking.

2.4 The syllabus will support good practice in teaching and learning through effective assessment procedures which will allow candidates to demonstrate what they know, understand and can do. The active participation of candidates assists with the acquisition and application of knowledge and skills gained through the process and content of learning. Candidates should be encouraged to think critically, make informed choices and manage resources in the context of the home and family.

2.5 The final subject grade will be awarded following the review of performance of candidates at the end of the course. The overall subject grade will be reported on a scale of A*–G.

2.6 A coursework element carrying a weighting of 35% will enable candidates to provide evidence of achievement arising out of the range of classroom activities and processes including practical work.

3 AIMS

3.1 The aims set out below describe the educational purposes of following a course in Home Economics. Some of the aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

3.2 Candidates should:

3.2.1 enjoy the experience of learning and take a pride in their achievements;

3.2.2 develop their knowledge and understanding of the home and family as these relate to the development of the individual and society;

3.2.3 increase their knowledge and understanding of human needs, the interdependence of individuals and groups and the influence of social and economic factors;

3.2.4 increase their awareness of the implications of rapid technological changes and the use of information technology for the home and family;

3.2.5 develop their ability to respond effectively to such technology change;

3.2.6 develop a critical and analytical approach to decision making and problem solving in relation to a specified context;

3.2.7 develop the knowledge and skills required for the effective and safe organisation and management of relevant resources.

4 ASSESSMENT OBJECTIVES

4.1 The assessment objectives indicate the skills and abilities which will be assessed.

4.2 Candidates will be assessed on their ability to:

4.2.1 recall and apply the knowledge and understanding and skills associated with *Family Life, Diet and Health* and the *Choice and Management of Resources;*

4.2.2 plan, carry out activities and tasks in which they:

(i) identify issues;

(ii) gather, record, collate, examine, interpret and evaluate evidence;

(iii) select and use a range of appropriate home economics processes and skills competently;

(iv) generate hypotheses and where appropriate carry out a plan of action.

4.3 Assessment objectives 4.2.1 and 4.2.2 will be equally weighted (50%).

Distribution of Assessment Objectives

4.4 The assessment objectives will be assessed in each component as set out in the following table.

	Paper 1	Paper 2	Coursework
4.2.1	✔	✔	✔
4.2.2	✔	✔	✔

5 INTERDEPENDENCE OF ASSESSMENT OBJECTIVES

The assessment objectives listed above, under each component, are clearly interdependent and interrelated. Whilst all must be assessed it is not envisaged that individual assessment objectives will be tested in isolation.

6 SCHEME OF ASSESSMENT

The scheme of assessment is designed to enable candidates to demonstrate the attainment they have achieved in relation to each component by combining evidence from coursework with that produced by the terminal examination. The terminal examination will consist of two written papers. The weightings for each assessment objective and their distribution between coursework and terminal examination are set out in the following table.

Assessment Objective	Terminal Examination		Coursework	Weighting
	Paper 1	Paper 2		
4.2.1	17.5%	15%	17.5%	**50%**
4.2.2	17.5%	15%	17.5%	**50%**
Overall Weighting	35%	30%	35%	**100%**

7 DIFFERENTIATION

Differentiation will be achieved by outcome in the coursework and by the use of tiered papers in the terminal examination. The tiers of entry within the examination will reflect the requirements set out in the grade descriptions.

8 TERMINAL EXAMINATION

8.1 Two tiers, each comprising two papers, targeted at distinct but overlapping grades will be offered.

Foundation Tier: Grades C–G

Higher Tier: Grades A*–D(E)

8.2 Grade E may be awarded exceptionally to candidates entered for the higher tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

8.3 Centres must indicate at the time of entry which of the two tiers candidates will take. Teachers are advised to consider carefully which tier is more appropriate. The higher tier is targeted at candidates who are expected to attain a Grade C or above.

8.4 **Format of Examination Papers**

Candidates in both tiers will sit examinations similar in construction, content and process but in which the questions have been tailored to the ability range of the tier being examined. The questions set will involve candidates in applying and integrating their knowledge of all three key areas. Time allocated to papers includes reading time.

8.5 **Paper 1**

Foundation Tier 1 hr 30 mins

Higher Tier 2 hrs

Questions of the following types will be set:

- short answer questions;
- structured questions;
- data response questions;
- free response questions.

8.6 **Paper 2**

Foundation Tier 1 hr 30 mins

Higher Tier 1 hr 45 mins

This paper will include stimulus material. Structured and free response questions will be set.

9 COURSEWORK COMPONENT

By the end of the course all candidates will be expected to have completed the common coursework task set out in paragraph 2.1 of the *Coursework Memorandum.* The task will be assessed out of 50 marks using the criteria set out in *Appendix A.*

10 MODERATION

The coursework of candidates must be internally standardised and will be moderated according to the procedures set down by the Council as outlined in the *Coursework Memorandum.*

11 SYLLABUS CONTENT

11.1 This syllabus will focus on three key content areas:

- *Family Life;*
- *Diet and Health;*
- *Choice and Management of Resources.*

11.2 These key areas will be explored, where appropriate, by a process which will involve candidates in:

- identifying issues;
- assembling and considering relevant information;
- analysing viewpoints;
- arriving at and justifying a personal viewpoint;
- making decisions, planning and if appropriate taking a course of action;
- evaluating the application of the process and outcomes.

11.3 Issues will be examined in the light of their impact on the home and family life. It is expected that the subject will be taught through schemes of work which seek to integrate each of the key areas.

11.4 For the purposes of this course the key ages in the life cycle are to be taken as

baby/toddler	0–3 years
child	4–11 years
adolescent	12–17 years
young adult	18–25 years
adult	26–64 years
elderly	65+ years

11.5 **Teachers should pay careful attention to the introductory paragraphs of each of the key content areas. Paragraphs 11.6, 11.7 and 11.8 set the framework within which the subsequent content should be considered and addressed.**

11.6 Family Life

Candidates should develop knowledge and understanding of the concept of the family as a social institution and the contribution of family life to the personal and social development of its members. They should recognise the importance of developing and strengthening family relationships and the interdependence and interaction among individuals and families. Consideration should be given to the different and changing needs of family members and how their needs may be met throughout the life-cycle.

Content	Elaboration
11.6.1 Characteristics of positive family relationships	• commitment necessary for establishing and maintaining relationships • love and security • respect • mutual support • effective communication
11.6.2 Roles and responsibilities of adults and children within families	• nuclear family • extended family • lone parent family • dual earner family • family with a disabled member
11.6.3 Responsibilities of parenting (0–18 years)	• ensuring the well-being of children • creating a stimulating environment for children • encouraging sound attitudes and values • providing positive discipline for children • fostering independence • coping with adolescence
11.6.4 Social influences on and within the family	• stability of relationships • role reversal • child rearing practices • attitudes to authority • peer pressure
11.6.5 Major life events which may affect relationships within the family	• arrival of a new baby • starting school • starting work • leaving home • caring for an elderly family member
11.6.6 Possible sources of stress	• sibling rivalry • adolescence • stereotyping • unemployment • illness • family break up
11.6.7 Strategies for managing stress and conflict	• negotiation • effective communication • compromise

	Content	Elaboration
11.6.8	Meeting the changing needs of family members throughout the life cycle	• physical • social • emotional • intellectual
11.6.9	Identifying key sources of information and support provided for families	• financial • physical • emotional • social

11.7 Diet and Health

Candidates should develop the knowledge, understanding and skills necessary to provide healthy diets for family members. They should recognise that family members have different dietary needs and that food choice is affected by social, economic, environmental, technological, physiological and psychological factors.

Content		Elaboration
11.7.1	The classification, sources and functions of nutrients	• Protein • Fat • Carbohydrate – non starch polysaccharides (NSP or dietary fibre) • Vitamins – A – retinol – B1 – thiamin – B2 – riboflavin – B3 – niacin – B12 – cobalamin – C – ascorbic acid – D – cholecalciferol – E – tocopherol – folate • Minerals – calcium – iron – fluoride • Water
11.7.2	Nutritional needs of individuals	• at key stages in the life-cycle • pregnant women • vegetarians
11.7.3	Nutritional value of specific foods and diets	• access and analyse available data
11.7.4	Current dietary recommendations and their implications for health	• apply Government guidelines
11.7.5	Diet related health disorders and their dietary implications	• coronary heart disease • obesity • anorexia nervosa/bulimia nervosa • osteoporosis • anaemia • dental caries
11.7.6	Influences on eating patterns	• lifestyle • media and fashion trends • cultural/traditional influences
11.7.7	Organisation and preparation of healthy meals	• planning, making and evaluating a range of healthy meals for individuals and families, taking account of specific constraints or circumstances • selection and safe use of kitchen equipment and processes • importance of safe hygienic practices in the prevention of food poisoning

Content	Elaboration
11.7.8 Effects of technology on food	• storage – freezers – chill cabinets – additives – irradiation – packaging • preparation – convenience foods – labour saving equipment • cooking – fan assisted ovens – microwaves – new technology as available

11.8 Choice and Management of Resources

Candidates should develop knowledge, understanding and skills to enable them to become discerning consumers and effective managers of resources in relation to the home and family.

	Content	Elaboration
11.8.1	Factors which influence consumer choice:	
	• personal	• likes and dislikes
	• social	• peer pressure
	• economic	• finance available
	• psychological	• advertising strategies
	• environmental	• government and local initiatives
		• individual awareness including implications for future generations
		• energy efficient equipment and products
11.8.2	Marketing strategies used to promote sales of goods and services	• advertising
		• store promotions
		• financial incentives
		• store layout
		• electronic and mail order shopping
11.8.3	Sources of information available to consumers	• consumer organisations
		• media
		• labelling
11.8.4	Legislation as a source of information and consumer protection	• Sale and Supply of Goods Act 1994
		• Consumer Protection (Northern Ireland) Order 1987
		• Food Safety (Northern Ireland) Order 1991
		• Food Hygiene General Regulations (Northern Ireland) 1964
		• Weights and Measures (Northern Ireland) Order 1981
		• Trade Descriptions Act 1968
11.8.5	Factors which influence the choice of home:	
	• personal and social	• life style
		• stage in the life cycle
		• family and individual needs
		• environment
	• economic	• price
		• choice of ownership
		• renting
		• running costs
		• method of payment
11.8.6	Making effective use of available financial resources:	
	• budgeting	• prioritising spending
		• managing a home
		• living on a low income
	• methods of payment for goods and services	• cash
		• cheque
		• saving stamps
		• credit card
		• electronic banking and shopping
	• possible consequences of mismanagement of financial resources	• debt
		• debt advice
		• debt management
		• strategies for coping with debt

Content	Elaboration
11.8.7 Making effective use of resources:	
• time and energy	• strategies to organise effectively and manage resources in relation to tasks • exploring the implications of technological developments on family life
• space	• exploring the positive and negative effects of living conditions and home environment on family members • exploring how living space can be adapted to suit individual and family needs

12 GRADE DESCRIPTIONS

12.1 Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus: they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

12.2 **Grade F**

Candidates recall knowledge and understanding of basic Home Economics issues. They use information from secondary sources.

Candidates plan and carry out a range of activities and tasks for which some support and guidance have been provided. They make use of information from a limited range of sources to identify and explore issues and plan a course or courses of action which meet minimum requirements. Where relevant, candidates select and use a limited range of resources and express restricted views on the issues identified. They collect a range of evidence, leading to restricted conclusions.

12.3 **Grade C**

Candidates recall and apply knowledge and understanding of relevant Home Economics issues. They select appropriately and use information mainly from secondary sources.

Candidates plan and carry out a range of activities and tasks with limited assistance, involving the careful use of the information selected from a wide variety of sources. They can identify clearly a number of issues. They can express their viewpoints, make reasoned and justified decisions regarding relevant key issues and available resources, planning work carefully and building in some opportunities for critical evaluation. Where relevant, candidates show discrimination in the selection and management of a wide variety of resources. They review some of the evidence available, presenting information clearly, with some evidence of accuracy and precision, leading to appropriate conclusions.

12.4 **Grade A**

Candidates recall and apply knowledge and understanding of complex Home Economics issues. They select appropriately and use information from primary and secondary sources.

Candidates plan and carry out independently a wide range of activities and tasks involving the systematic use of complex information selected from a wide variety of sources identifying and detailing a range of issues. They can set out their own and other viewpoints, make reasoned and justified decisions regarding relevant key issues and available resources, planning work with a high degree of precision and building in critical evaluation when appropriate. Where relevant, candidates demonstrate a high level of competence in selection and management of a wide variety of resources. They systematically and logically review the evidence available, presenting information clearly, accurately and precisely, leading to carefully reasoned and appropriate conclusions.

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The coursework task will involve the candidates in considering and evaluating a situation which embraces aspects of *Family Life, Diet and Health* and *Choice and Management of Resources* and presenting their findings and decisions. Candidates should be encouraged to see coursework as an opportunity to integrate in a practical way their learning from the three key areas and the process as outlined in paragraph 11.2 of the syllabus.

1.2 The coursework task should provide opportunities for candidates to develop and consolidate skills associated with:

- communication;
- creativity;
- decision making;
- investigation;
- management;
- measurement;
- personal and social interaction;
- problem-solving;
- psycho-motor activity;
- reasoning and critical thinking.

1.3 The teacher should ensure that the enthusiasm of the candidate is creatively and productively directed. The coursework task will provide candidates with the opportunity to:

- show evidence of research including considering the viewpoints of others;
- set goals and develop independence in their studies;
- present considered and developed personal responses to issues they have identified and researched;
- develop skills and competencies in a process which will contribute to their preparation for the terminal examination;
- participate actively in the assessment process.

1.4 It is therefore essential that candidates have:

- a clear understanding of the nature of the task;
- a clear understanding of the criteria by which it will be assessed;
- the opportunity to evaluate their own work;
- the opportunity to discuss the ongoing work with the teacher at appropriate stages in its development;
- the opportunity to engage in a collaborative learning process by sharing information and approaches to research.

2 ADDRESSING THE COURSEWORK TASK

2.1 All candidates are required to undertake the following coursework task and record their engagement with the task, the application of the process and their evaluation of both outcomes and process in a written assignment.

Adapting to Major Changes in Life Can be Stressful

Three friends, John, Mark and Paul are second year students at college and want to share a house or flat They are receiving a full grant and their tuition fees have been paid in full. Identify and discuss the various factors which need to be considered when they are choosing their accommodation. Advise them on how to manage their new situation and examine strategies for dealing with any conflict which could arise.

One area you must consider is the diet and health of the three young men. Plan and make a quick healthy snack which they could prepare at lunch time and an inexpensive but substantial one course evening meal. The snack and the meal is for all three young men.

Here are some of the areas you must consider:

- *how the choice of house or flat is influenced by personal, social and economic factors;*
- *the positive and negative effects of living conditions;*
- *strategies for organising and managing shared accommodation;*
- *situations which could lead to conflict and strategies for managing these situations;*
- *factors influencing the choice of foods and eating habits;*
- *any other factors you consider relevant.*

2.2 The task will involve the candidate in:

- identifying issues;
- assembling and considering relevant information;
- analysing viewpoints;
- arriving at and justifying a personal viewpoint;
- making decisions, planning and, if appropriate, taking a course of action;
- evaluating the application of the process and outcomes.

2.3 Candidates should apply the above process to each individual issue or cluster of related issues identified. The main issues should be identified and acted upon. If action is not possible, then courses of action may be planned for a range of issues and indication given as to how these plans could be carried out.

2.4 Teachers and candidates may wish to refine some detail still further when addressing the task but the thrust of the given task should not be altered.

2.5 All candidates will be expected to prepare a meal taking into account the context set by the task. Part of the coursework assignment will involve a rationale for the choice of menu and an evaluation of the practical process.

2.6 Candidates should, at the end of their assignments, evaluate their responses to the task set. This evaluation should review how successfully they engaged in the process and how useful were the outcomes and solutions they proposed or carried out.

2.7 Coursework should not normally exceed 2000–2500 words. Candidates should be advised that the emphasis will be on the quality and suitability of their responses rather than the quantity of material produced. Coursework in excess of the suggested word limit should be examined critically for its relevance to the task set.

3 THE ROLE OF THE TEACHER

3.1 It is essential that the teacher act as a facilitator and ensure that the work undertaken by the candidate is appropriate and relates to the coursework task. Guidance may be given as follows.

3.2 **Initial Briefing**

The common task should be clearly explained to all candidates and further clarification given through group or class discussion. Teachers may be consulted by candidates as to the relevant sources of information eg textbooks, published data and may support with research activities.

3.3 **Ongoing Consultation**

The responsibility for developing a piece of work is entirely the candidates'. They may be given guidance on any problem encountered to ensure that the work is pertinent to the task. Continuing supervision of the work should be undertaken by the teacher in order to monitor progress, prevent plagiarism and repetition and advise on concise and effective methods of presentation. The teacher should ensure that the work is completed in accordance with the syllabus requirements and can be assessed using the criteria set out in *Appendix A*.

4 TEACHER ASSESSMENT

4.1 The coursework assignment should be awarded a mark out of 50 based on an impression of how the candidate has fulfilled the criteria set out in *Appendix A*. The individual appropriateness of each criterion will vary from task to task. The mark awarded should reflect the teacher's overall judgement of the candidate's achievement and should allow for strengths in one aspect of the task to compensate for weaknesses in another.

4.2 Candidates in this examination will be assessed on the accurate use of spelling punctuation and grammar. Details regarding the criteria will be issued annually. Candidates should therefore ensure that the quality of language used is appropriate to the task.

4.3 **Written coursework will include the teacher's comments, corrections, annotations and mark for the assignment assessed. Annotation must consist of key comments or use of symbols such as ticks etc throughout the text and an appropriate but suitable, short summative comment at the end of the assignment to assist in the moderation procedure.**

4.4 Once a candidate has handed in his or her coursework and it has been awarded a mark, that mark is final and no further work should be carried out by the candidate.

5 AUTHENTICATION

5.1 The candidate will authenticate his or her own work on the *Candidate Record Sheet.*

5.2 Where reference has been made to sources, candidates should acknowledge such references in a bibliography at the end of each assignment. Lack of reference to sources may be regarded as plagiarism and comments and opinons may not be credited.

6 PRESENTATION OF COURSEWORK

The coursework should be submitted in hand-written or printed form in a flat securely bound A4 folder. The text should be legible. Ring binders because of their bulk are not an acceptable form of binding.

7 MODERATION

7.1 To assist standardisation of assessments, the Council will supply supplementary training materials, conduct agreement trials, and provide instructions on carrying out internal standardisation within centres and by sampling of the work by moderators appointed by the Council.

7.2 Agreement trials are conducted annually when teachers will be briefed on the application of the assessment criteria and engage in trial marking.

7.3 Supplementary training materials in the form of advice on assessment and illustrative materials will be issued to all centres.

7.4 **Support Service and Advice**

At any stage during the course, teachers may contact the Council if they require advice, assistance or support regarding any aspect of the coursework assessment. The Council has made provision for an assistant coursework moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising out of the coursework component. Visits to schools can be arranged as necessary.

7.5 **Internal Standardisation**

Where there is more than one teaching group in the subject, centres must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as is possible, that each teacher in a department has applied each of the criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marking of individual teachers to bring their assessments into line with those of other teachers and to match the standards set at the

agreement trial. Where such adjustment is necessary the revised summative mark is recorded on the *Candidate's Record Sheet.*

7.6 **External Moderation of Written Evidence**

Assistant coursework moderators, working under the direction of the coursework moderator, will scrutinise samples of coursework drawn from each centre. The samples will be drawn in accordance with instructions issued by the Council and will represent a range of attainment. Teachers will be informed of the outcomes of the moderation process.

APPENDIX A: ASSESSMENT CRITERIA

A1 Depending on the task set, candidates will demonstrate achievement in some of the criteria listed below. Other criteria may not be appropriate or pertain to the assessment of certain tasks and teachers are asked to use their professional judgement to select and apply the criteria appropriately and fairly to the work of candidates. **Compensation between higher achievement in one aspect and lower achievement in another is permissible and encouraged.**

A2 When assessing coursework, teachers should follow a procedure similar to that set out below.

- Teachers should first make a broad judgement about an assignment.
- An assignment assessed against the criteria should be allocated to a particular mark band, eg Band 4: 31–40 marks.
- This initial judgement should then be further refined.
- If the criteria have only just been fulfilled in a minimum fashion, then the work is likely to be worth 31–33 marks.
- If the assignment demonstrates fulfilment of most of the criteria in a reasonably competent manner then the work is likely to be worth 34–37 marks.
- Where the criteria are very competently fulfilled and some evidence of achievement of the higher mark band is apparent then the work may be judged to be worth 38–40 marks.

The presence or absence of certain criteria will form the basis for the teachers' formative comments.

A3 Assessment Criteria

Band 1 0–10

Overall comment: very basic and limited

Candidate has demonstrated the ability to:

- identify in simple terms issues related to the task showing limited understanding of the situation;
- use a limited range of sources to assemble information and make a limited selection with reference to the task;
- attempt to reflect on other people's viewpoints;
- attempt to justify a personal viewpoint;
- show some evidence that decisions have been based on the situation, information assembled and viewpoints examined;
- engage in and carry out some very basic planning and decision making;
- present a limited course or courses of action which addresses some of the issues identified;
- carry out a practical activity or activities with limited competence;
- make a limited comment on their ability to apply the process to the task.

Band 2 11–20

Overall comment: basic to marginally competent

Candidate has demonstrated the ability to:

- identify the main issues related to the task showing some understanding of the situation;
- use a range of sources to assemble information and make some selection which can be applied to the task;
- present a limited discussion and analysis of other people's viewpoints;
- present some justification for personal viewpoint with reference to the situation, information assembled and other viewpoints;
- engage in and carry out basic planning and decision making which takes some account of the situation, information assembled and viewpoints examined;
- present a possible course or courses of action which address some of the main issues identified;
- carry out a practical activity or activities with some competence;
- present a limited evaluation of his/her ability to apply the process.

Band 3 21–30

Overall comment: competent

Candidate has demonstrated the ability to:

- identify clearly a range of issues related to the task showing a sound understanding of the situation;
- use an adequate range of sources to assemble information and make a relevant selection which can be applied to the task;
- analyse other people's viewpoints;
- express a personal viewpoint supported by some evidence drawn from information assembled and other viewpoints;
- engage in and carry out competent planning and decision making which takes account of the situation, information assembled and other viewpoints examined;
- present a sound course or courses of action which address the main issues identified;
- carry out a practical activity or activities with competence;
- present a fair evaluation of his/her response to the task which identifies obvious strengths and weaknesses in the management of the process and of the solutions suggested.

Band 4 31–40

Overall comment: very competent to good

Candidate has demonstrated the ability to:

- identify clearly the important issues associated with the task showing insight into and sound understanding of the situation;
- use a range of sources to assemble, select and apply effectively relevant information to identified issues;

- present a well reasoned analysis of other people's viewpoints;
- justify a personal viewpoint supported by reasoned argument and reference to the situation, information assembled and viewpoints examined;
- engage in and carry out accurate and detailed planning and decision making which takes account of the situation, information assembled and viewpoints examined;
- present a detailed course or courses of action which address the main issues identified;
- carry out a practical activity or activities in a well organised manner employing a range of skills to produce a good end product;
- present an accurate and perceptive evaluation of his/her ability to apply the process which identifies strengths and weaknesses in the management of the process and of the solutions suggested.

Band 5 41–50

Overall comment: very good to excellent

Candidate has demonstrated the ability to:

- identify and set out clearly and coherently the important issues associated with the task showing a thorough understanding of the situation;
- use a wide range of sources to assemble and select relevant information showing clear competence in its effective application to the task;
- express logically and coherently a well reasoned analysis of other people's viewpoints;
- justify logically and coherently a personal viewpoint supported by reasoned argument and referenced to the situation, information assembled and viewpoints examined;
- engage in and carry out accurate and detailed planning and effective decision making taking account of the situation and constraints involved;
- present a considered and detailed course or courses of action based on sound decision making criteria which address a range of identified issues;
- carry out a practical activity or activities in a well organised manner showing an efficient use of resources and employing a range of skills to produce a good end product;
- present a detailed and well reasoned evaluation of his/her ability to apply the process which identifies strengths and weaknesses in the management of the process and of the solutions suggested.

INFORMATION SYSTEMS

Candidates in this examination will be assessed in the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 Information systems are computer-based systems which consist of the personnel, techniques, software and hardware required to process information.

1.2 The syllabus should be read in conjunction with the Information Technology [IT] objectives included in the Curriculum (Educational [Cross-Curricular] Themes) Order Northern Ireland (1992).

1.3 The syllabus seeks to extend and develop students' IT competence gained at earlier Key Stages and is intended to facilitate further study at a more advanced level.

1.4 The syllabus meets, as far as is possible, the objectives for Information Systems as part of the criteria for Technology in England and Wales.

1.5 The syllabus has been designed to be as free as possible from ethnic, gender, religious or other forms of bias.

1.6 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

2 RATIONALE

This syllabus recognises that:

2.1 many students have an interest in computer systems and the study of information systems and that their uses can help solve problems in a variety of contexts in a realistic way;

2.2 the study of information systems can contribute to students' cognitive development and enhance their self-esteem;

2.3 society expects students to know about, and be able to use, computers and related technologies;

2.4 a knowledge and understanding of information systems can enhance career prospects;

2.5 the pace of change in the field of computing is increasing and that the content will need to be reviewed at regular intervals.

3 AIMS

It is recognised that the statement of Aims includes qualities which are not included in the Assessment Objectives. This does not diminish their importance.

The aims of the syllabus are:

3.1 to stimulate and foster an interest in and enjoyment of the use of computer-based systems;

3.2 to develop a knowledge and understanding of appropriate use of information systems and to apply them sensibly and with confidence to solve problems;

3.3 to develop information processing skills and use them to solve problems;

3.4 to promote the ability to make appropriate and effective use of information technology to develop, interpret, modify and communicate ideas and concepts;

3.5 to offer a broad and balanced perspective of the range of applications of information systems in order to provide an understanding of their capabilities and limitations;

3.6 to encourage an awareness of ethical, social and economic implications of the use of information systems for individuals, organisations and society through the study of meaningful applications.

4 ASSESSMENT OBJECTIVES

The Assessment Objectives define a range of assessable abilities qualities and skills which can be demonstrated at appropriate levels by the full range of students. The Assessment Objectives detailed below are categorised as main objectives, each with specific sub-objectives.

Students should be able to:

4.1 **Demonstrate knowledge and understanding of the range and scope of information processing applications and of the techniques and systems—including the software and hardware subsystems—needed to support them.**

Specific objectives

Students should demonstrate their ability to:

4.1.1 describe the ways in which information systems are used in a variety of contexts and applications;

4.1.2 describe the steps involved in the design, implementation, testing and documentation of a system;

4.1.3 explain the functions and evaluate the suitability of software and hardware subsystems used in particular applications;

4.1.4 describe the methods used to gather, store, process and present information.

4.2 **Identify a range of opportunities for using information systems and to analyse, design and evaluate appropriate ways of addressing these using information systems.**

Specific objectives

Students should demonstrate the ability to:

4.2.1 determine whether the use of an information system is appropriate in a particular context;

4.2.2 identify a desired outcome and derive the corresponding information requirements;

4.2.3 specify a system precisely in terms of the required output, necessary input, stored information and necessary feedback;

4.2.4 identify, design and apply suitable methods of interaction with a system;

4.2.5 evaluate the impact of information systems on themselves, other individuals, organisations and society.

4.3 **Implement an effective solution to a selected problem.**

Specific objectives

Students should demonstrate the ability to:

4.3.1 analyse the problem and break it down into a manageable set of tasks;

4.3.2 design a system for use;

4.3.3 implement the solution;

4.3.4 test and evaluate the effectiveness of the solution and refine as necessary;

4.3.5 communicate the solution in appropriate ways.

5 WEIGHTING OF ASSESSMENT OBJECTIVES

The table below gives the maximum and minimum weighting which will be applied to each of the Assessment Objectives (paragraph 4) in the total assessment.

Assessment Objective	4.1	4.2	4.3	Total
Minimum and Maximum %	30–60	10–40	30	100

6 SCHEME OF ASSESSMENT

The scheme of assessment presents a description of each component of the examination, weightings for each component and details of the assessment methods and techniques to be used. It is designed to enable students to demonstrate the levels of attainment they have achieved in relation to the assessment objectives combining evidence from the coursework component with that produced through the terminal examination.

6.1 The Terminal Examination (70%)

The scheme of assessment comprises a **terminal examination** which is structured as follows:

6.1.1 *Paper 1 (Grades C–G) (1½ hours)*

Paper 1 will be targeted at students aiming to achieve grades in the range C–G. It will consist of a number of short-answer questions and structured questions.

6.1.2 *Paper 2 (Case Study) (1½ hours)*

This paper will examine students' knowledge and understanding of information systems in a selected context.

Paper 2 will be common to all students. It will consist of a Case Study. The Case Study details will be issued to all students in mid-January in the year of the examination to enable them to prepare for the terminal examination.

Students will not be expected to have a detailed knowledge of the context of the Case Study.

6.1.3 *Paper 3 (Grades A*–E) (2 hours)*

Paper 3 will be targeted at students aiming to achieve grades in the range A*–E. It will consist of a number of short-answer questions and structured questions.

6.1.4 All terminal examination papers will be marked by the Council.

6.2 Coursework (30%)

The coursework will consist of a unit of work, of a problem-solving nature, which addresses specific criteria, eg problem analysis, design and implementation.

6.2.1 The coursework:

(i) may arise from another subject area within the curriculum; or

(ii) be in response to an opportunity which lies outside the curriculum.

It should relate to the appropriate use of information systems in the chosen context.

6.2.2 The central importance of coursework in Information Systems is stressed in the aims and assessment objectives, particularly assessment objective 4.3

The coursework will be assessed by the student's teacher. This assessment will be subject to moderation by the Council.

The following criteria will apply:

analysis;

design;

implementation (communication of solution; and testing strategy);

user documentation;

review;

presentation and coherence.

Further details of the assessment and moderation procedures are contained in the *Memorandum on the Internal Assessment of Coursework.*

6.3 The Relationship Between Assessment Objectives and Examination Components.

The approximate allocation of mark weightings to the various examination components is as follows:

Assessment Objectives	Paper 1*	Paper 2	Paper 3*	Course-work	Total Weighting
4.1	15–30%	15–30%	15–30%	–	30–60
4.2	5–20%	5–20%	5–20%	–	10–40
4.3	–	–	–	30%	30
Component Weighting	35	35	35	30	100

* These are alternative papers.

6.4 Coursework Component

The unit of coursework will be assessed by the student's teacher. This assessment will be subject to moderation by the Council. Details of assessment can be found in the *Memorandum on the Internal Assessment of Coursework* which accompanies this syllabus.

7 SYLLABUS CONTENT

The Syllabus Content is presented in a two-column format. The left-hand column indicates the topics to be studied. The right-hand column indicates what students should be able to do.

Topics to be studied:	Students should be able to:
7.1 Use and implementation of Information Systems	
7.1.1 *Computer Applications* The range of applications includes: (a) commercial data processing (eg stock control, banking systems); (b) technical, mathematical or scientific uses (eg civil engineering calculations, data logging, computer aided design, simulation and modelling); (c) communication and information systems (eg teletext, information retrieval, networks, word processing, electronic mail); (d) process control (eg industrial processes, robotics); (e) educational uses (eg content free tools, computer aided learning); (f) leisure (eg home computers, computer games); (g) multimedia.	Describe these different ways in which computers can be used. (The study of the general principles demonstrated by these applications should illustrate the application of the range of computing concepts as detailed in other sections of the syllabus. Detailed knowledge of particular equipment is not required).
7.1.2 *Control systems* (a) Analogue, digital, conversions (analogue to digital, digital to analogue), feedback. (b) Explain the use of a computer for control.	Define the terms. Distinguish between analogue and digital representations and explain the need to convert from one to the other. Describe the principle involved in feedback. Use specific examples from their own environment, eg control experiments in Science and Technology, simple robotics. Illustrate the more general everyday applications of control including examples of feedback, eg hospitals, manufacturing industry.

7.1.3 ***Systems design***	
(a) Analysis.	Describe the stages involved in analysing a system: investigation of an existing system, feasibility study and presentation of a report, fact finding, recording. Explain the analysis of the system in terms of inputs, outputs, processes, files and human elements.
(b) Design.	Outline the stages in design: outline design; management approval leading to a full systems specification. Describe the detailed design of the system in terms of input design, data capture, processing of data, storage methods and output design, using appropriate representations, eg systems diagrams.
(c) Implementation and review.	Describe the overall planning, the training programme, systems testing, file conversions, changeover methods. Demonstrate an awareness of continuous evaluation: limited life cycle of the system.
(d) Documentation.	Explain the need for clear communication between programmer, analyst and user.
(e) Sales manuals, user manuals, technical manuals, programs.	State the likely contents of each of these types of documentation and why each of these items is required.
7.1.4 ***Files***	
(a) Organisation of data files.	Describe the basic structure of a file: records, fields, keys.
(b) Methods of file organisation and access (serial, sequential, indexed sequential and random).	Explain the need for encoding information for computer processing. Distinguish between these methods in terms of relative speeds of access and their suitability in relation to particular applications.
(c) The manipulation of data files. Master files, transaction files and generation of files.	Describe the process of updating records (insertions, deletions, amendments). Distinguish between sorting, merging and interrogating files.
(d) Databases.	The advantages of databases, the distinction between databases and data files and the management of data bases.
(e) File security: backup and recovery.	Describe the methods of preventing corruption and loss of data. Explain the techniques of generations of files and dumping. Define the term physical security.
7.1.5 ***Machine representation of data***	
(a) Bits, bytes and words.	Define the terms bit, byte and word; their representation in binary and hexadecimal where appropriate
(b) Representation of integers, characters and machine code instructions in computer format.	Positive and negative integers represented by sign and magnitude and two's complement notation. Explain the use of standardised character sets and codes, eg ASCII codes. Explain the one address instruction format. (Mathematical conversion and manipulation will not be expected.)
7.1.6 ***Problem solving***	
(a) Problem specification. Choose and/or design appropriate solutions to a problem.	Describe and use simple systems analysis and structured problem solving techniques, eg top-down design.
(b) Algorithms in the form of written instructions and/or graphical representation.	English, pseudo code, flowcharts, block diagrams. Any recognised textual or graphical method of representation will be acceptable.

(c) Testing and dry running.

Explain the need for and devise suitable data to test simple algorithms.
Progress from a tentative description of a problem to a precise solution.

7.1.7 *Errors*

(a) Errors in the collection, preparation and transcription of data.

Describe common methods of detecting and correcting these errors, ie the process and techniques of verification—rekeying, control totals, hash totals and the process and techniques of validation (presence, field length, range check, character, type check, check digit, internal consistency).

(b) Programming errors.
Syntax, logical and execution errors.

Identify and correct these types of error using appropriate diagnostic aids.

(c) Numerical errors due to internal number representation.

Be aware that numbers cannot be stored precisely.

7.2 Tools and Resources

7.2.1 *Hardware and media*

(a) Input/Output.
Keyboards, mouse, optical character reader, scanner, magnetic ink character reader, mark sensing devices, magnetic stripe readers, bar code scanners, electronic point of sale (EPOS) terminals, graphics tablet, key to disc/tape input, touch sensitive screens, handwriting.
Visual display units, graphical display units, printers, monitors, plotters, computer output on microfilm/fiche (COM), voice and sound input/output.

Describe the characteristics of commonly used input and output devices and media. Evaluate the suitability of different media devices for different applications. Select devices in terms of appropriateness, cost, effectiveness and speed for a particular application.

(b) Storage.
Magnetic tape systems, magnetic disc systems, optical disc systems.

Explain the purpose of backing storage devices. Describe the characteristics of the various devices.

(c) Communications Networks.
Modems, facsimile machines, fax/modems.
Telephone, satellite, ISDN, radio and microwave systems

Distinguish between Local and Wide Area networks. Outline possible network configurations, star, bus, ring, with their associated advantages and disadvantages. Identify appropriate uses for communications devices.

(d) Central processing unit.
Main functional units (control unit, ALU, IAS), the fetch-execute cycle, using only the following registers: accumulator, sequence control register (program counter), current instruction register, memory address register and memory data register.

List the constituent parts of the CPU: control unit, ALU and IAS (main memory). Describe the function of and the relationship between the control unit, ALU and IAS. The fetch-execute cycle for simple sequential instructions only. Branching instructions and interrupts need not be considered. Show the connection between the functional units and peripheral devices.

(e) Memory.

RAM, ROM, PROM, EPROM.

7.2.2 *Software*

(a) Computer language.
High-level languages, assembly language, machine code.

Describe the evolution of programming languages from machine code through to assembly language to current high-level problem-oriented languages. Describe the characteristics of machine code, assembly language and high-level languages.

(b) Language translators.
Compilers, interpreters, assemblers.

Outline the need for the translation process. Explain the difference between compilers, interpreters and assemblers. Distinguish between source code and object code.

(c) Operating environments.
Batch, interactive, real-time, single-user, multi-user, multi-programming, graphical user interfaces (GUI).

Demonstrate the need for and purpose of an operating system. Describe the functions of an operating system. Distinguish between the different modes of operation: batch, interactive, real-time. Explain single-user, multi-user, multi-programming and GUI giving examples where appropriate.

(d) Utilities.	Explain the term and give examples of the use of utilities. Application independent functions, eg disk copying, renaming, deleting, backing-up, sorting.
(e) Packages. Word processing, spreadsheet, database, graphics, integrated packages.	Describe the main purpose and features of each package including documentation, scripting, authoring and other associated attributes. Identify the advantages and limitations of each package. Select the most appropriate package for a particular task.
7.2.3 ***Human resources*** The tasks of computer personnel.	Be aware of the following tasks: data preparation, operating, analysing, programming, managing, maintaining.
7.3 Consequences of using Information Systems	
7.3.1 ***Information retrieval systems*** Teletext (TV broadcast systems), viewdata, electronic mail, bulletin boards, conferencing systems, CDi, interactive video, on-line databases.	Outline the features of the various information retrieval systems. Identify suitable applications for such systems. Describe the ways in which these information retrieval systems affect individuals, organisations and society.
7.3.2 ***Automated electronic machines in common use*** Automatic teller machines (ATM), electronic transfer of funds (EFT), electronic point of sale terminals (EPOS), automatic ticket dispensers (air/rail/bus), robotics, computer controlled machines.	Describe the characteristics and use of the various automated electronic machines. Explain what is meant by a cashless society. Outline the potential social benefits and problems associated with the increasing use of such automated systems.
7.3.3 ***Data protection*** (a) Confidentiality. Data Protection Act (1984). Computer Misuse Act (1990).	Explain the meaning of the terms personal data, privacy, data subject and data user. Assess why electronically stored personal information is potentially easier to misuse than that kept in conventional form. Identify the amount and type of personal information held about them and their families on computer and discuss how confidentiality of information affects people. Comment on the provisions and scope of the Data Protection and Computer Misuse Acts.
(b) Data integrity.	Explain the term data integrity. Describe the effects of inaccurate data in files of personal information. Outline methods for protecting the integrity of data and preventing or reducing errors.
(c) Data security (physical, human, environmental) Copyright, Designs and Patents Act (1988). Threats to data. Security measures.	Define what is meant by the term data security. Describe the ways in which data can be corrupted or lost. Physical—hardware failure, theft, vandalism and physical access. Human—deliberate or accidental, eg software failure, unauthorised access and hacking. Environmental—fire, flood and power cuts etc. Explain the necessity for safeguards to protect data. Outline the various safeguards, their effectiveness and the circumstances in which they are appropriate. Outline the consequences of theft or alteration of data or software for fraudulent purposes.
7.3.4 ***Effects on work and leisure*** (a) Employment patterns, retraining, working conditions, working from home, social change.	Describe the ways in which employment patterns are changing. Discuss the effects of computers on people's working lives. Describe the social changes occurring as a result of developments in Information Systems. Evaluate the impact of Information Systems on the society in which we live.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF COURSEWORK

1 INTRODUCTION

Teachers will be required to make an assessment of the coursework of their students. The coursework and the assessment are likely to be carried out over an extended period of time.

2 UNDERTAKING THE COURSEWORK

2.1 Centres entering for this syllabus should be prepared to mount courses which satisfy the stated aims and assessment objectives. Every effort should be taken to ensure that each student benefits from this coursework. Coursework should be seen as being integral to the teaching of the syllabus.

2.2 The coursework undertaken should be appropriate to the ability of the student. It should be carried out over an extended period of time under suitably controlled conditions in which the student can devote the necessary time to a detailed consideration of a problem and to the development of an appropriate solution. Teachers will be asked to certify that the assessments given are based on the skills and abilities displayed by individual students during this work.

2.3 Coursework should take the form of a written report which should:

— include a table of contents which makes reference to numbered pages;

— be presented under the headings detailed in paragraph 5 below;

— not exceed 20 A4 pages, excluding print outs;

— be wordprocessed where possible. Reports presented in legible handwriting will be equally acceptable. (Disks and other media should not be submitted.)

3 SCHEME OF ASSESSMENT

The areas of assessment for the coursework component relate to the sub-objectives from objective 4.3 which are the ability to:

— analyse the problem and break it down into a manageable set of tasks;

— design a system for use;

— implement the solution;

— test and evaluate the effectiveness of the solution and refine as necessary;

— communicate the solution in appropriate ways.

4 ASSESSMENT CRITERIA

Coursework will be assessed under the following assessment criteria:

	Maximum Mark
Analysis	10
Design	15
Implementation	20
(a) Communication of Solution (10)	
(b) Testing Strategy (10)	
User documentation	7
Review	4
Presentation and coherence including spelling, punctuation and grammar	4
	Total 60

A total mark of 60 will be available for the coursework component

5 ASSESSMENT CRITERIA AND MARK BAND INDICATORS

5.1 **Analysis** (10 marks)

Analysis should contain:

— introduction and background information;

— problem identification;

— identification of potential users and their needs;

— output that can be expected;

— input required to produce this output;

— objectives of the system.

Indicators	Mark Range
Detailed analysis of a demanding problem, the exact objectives of the project have been stated, full investigation and consideration of user needs, clear statement of input/output.	9–10
Good analysis of a demanding problem, a reasonable investigation, consideration of user needs and statement of objectives *or* detailed analysis of a less demanding complex problem.	6–8
A simple problem well identified, good analysis, the exact objectives have been stated, clear statement of input/output or limited analysis of a difficult problem.	3–5
A simple problem with little evidence of any analysis, objectives not clearly identified, poor investigation and consideration of user needs, little mention of input/output.	0–2

5.2 **Design** (15 marks)

Design should contain:

— proposed solution to the problem;
— data requirements (any files used plus their record structure);
— details of validation and verification techniques used;
— method of data capture;
— outline design—brief description of each module.

Indicators	Mark Range
A clear, coherent design to a demanding problem, detailed consideration of data organisation, data checking and overall modular design.	12–15
Appropriate and justified choice of data organisation together with checking techniques for a demanding problem *or* as category (a) with a less demanding complex problem.	8–11
Clear, coherent design to a simple problem, detailed consideration of data organisation, data checking, unclear design of a demanding problem.	4–7
Limited consideration given to the design of a simple problem.	0–3

5.3 **Implementation** (20 marks)

5.3.1 *Communication of solution* (10 marks)

Implementation should contain:

— selection of appropriate hardware and software (with justification);
— algorithm descriptions communicated by a choice of appropriate technique (flow charts, diagrams, pseudocode etc);
— evidence of the extent to which the problem has been solved.

Indicators	Mark Range
Well structured solution to a demanding task, contains specific and detailed algorithm descriptions, clear justification of hardware and software selection.	9–10
Reasonable solution to a demanding task, contains some algorithm descriptions, justification of hardware and software included *or* as category (a) for a less demanding task.	6–8
Comprehensive solution to a simple task, contains specific algorithm descriptions and has clear justification of hardware and software selection.	3–5
Inadequate solution to a simple task, only simple or general algorithms included, little mention of hardware and software selection.	0–2

5.3.2 *Testing Strategy* (10 marks)

— set of test data chosen with reasons for choice;
— description of method of testing;
— output from sample runs.

Indicators	Mark Range
Evidence and testing that all the objectives have been satisfied, full analysis of the test data to demonstrate that it performs a complete check on all eventualities, annotated printouts referenced to good test plan.	9–10
A reasonable test plan, good analysis of the test data to ensure a complete check for all eventualities, some aspects not fully tested, annotated printouts.	6–8
For a simple problem, evidence that all objectives have been satisfied, good analysis of test data, printouts referenced to good test plan *or* for a more complex task limited testing of the system, no specific test plan.	3–5
Little evidence of a good test plan, some aspects not fully tested, few annotated printouts.	0–2

5.4 **User Documentation** (7 marks)

User documentation should contain:

— instructions on how to use the system which has been designed and to take account of changing circumstances;
— system maintenance;
— brief operating instructions on inputting and changing data.

(This section should not exceed 2–3 A4 pages—it is not necessary to produce copies from manuals.)

Indicators	Mark Range
A comprehensive user guide, well constructed and presented, appropriate for a demanding task.	6–7
Reasonable, thorough and well designed user guide, well organised and presented.	4–5
A comprehensive user guide, well constructed and presented, appropriate for a simple task *or* user guide too brief for a more substantial project.	2–3
Limited user guide	0–1

5.5 **Review** (4 marks)

Review should contain:

— the student's comment on the final success of the project, ie, the effectiveness of the results;
— brief indication of possible additional features or future developments which would improve the solution;
— statement of any limitations or inadequacies.

Indicators	Mark Range
A substantial project with implementation complete, reviewed in relation to stated objectives, realistic suggestions for improvement.	4
A substantial project with most modules well implemented, most objectives met, some good suggestions for improvements.	3
A simple project with implementation complete, reviewed in relation to stated objectives, good suggestions for improvements.	2
Brief review with no suggestions on how to improve the system.	0–1

5.6 **Presentation and Coherence including Spelling, Punctuation and Grammar (SPG)** (4 marks)

Presentation and coherence including SPG should contain:

— teacher appraisal of the project taking into account the amount of help given, the presentation of the project (title page, contents page, page numbering, word processed report) and spelling, punctuation and grammar.

Indicators	Mark Range
Students spell, punctuate and use the rules of grammar with almost faultless accuracy, deploying a range of grammatical constructions, they use a wide range of specialist terms adeptly and with precision.	4
Students spell, punctuate and use the rules of grammar with considerable accuracy, they use a good range of specialist terms with facility.	3
Students spell, punctuate and use the rules of grammar with reasonable accuracy, they use a limited range of specialist terms appropriately.	2
Students spell, punctuate and use the rules of grammar with little accuracy, they rarely use specialist terms appropriately.	0–1

6 MODERATION OF THE ASSESSMENT

The procedures will be in accordance with the Council's general policy on coursework monitoring and moderation.

5.2 **Design** (15 marks)

Design should contain:

— proposed solution to the problem;
— data requirements (any files used plus their record structure);
— details of validation and verification techniques used;
— method of data capture;
— outline design—brief description of each module.

Indicators	Mark Range
A clear, coherent design to a demanding problem, detailed consideration of data organisation, data checking and overall modular design.	12–15
Appropriate and justified choice of data organisation together with checking techniques for a demanding problem *or* as category (a) with a less demanding complex problem.	8–11
Clear, coherent design to a simple problem, detailed consideration of data organisation, data checking, unclear design of a demanding problem.	4–7
Limited consideration given to the design of a simple problem.	0–3

5.3 **Implementation** (20 marks)

5.3.1 *Communication of solution* (10 marks)

Implementation should contain:

— selection of appropriate hardware and software (with justification);
— algorithm descriptions communicated by a choice of appropriate technique (flow charts, diagrams, pseudocode etc);
— evidence of the extent to which the problem has been solved.

Indicators	Mark Range
Well structured solution to a demanding task, contains specific and detailed algorithm descriptions, clear justification of hardware and software selection.	9–10
Reasonable solution to a demanding task, contains some algorithm descriptions, justification of hardware and software included or as category (a) for a less demanding task.	6–8
Comprehensive solution to a simple task, contains specific algorithm descriptions and has clear justification of hardware and software selection.	3–5
Inadequate solution to a simple task, only simple or general algorithm descriptions, little mention of hardware and software selection.	0–2

IRISH

1 INTRODUCTION

1.1 The format of this syllabus is common to each of the subjects of French, German, Irish, Italian and Spanish.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Modern Languages. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.3 A course based on this syllabus will help to facilitate the further study of Modern Languages at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 RATIONALE

2.1 The syllabus and scheme of assessment requires candidates to demonstrate their ability to understand and use the target language and to explore the five Contexts for Learning as set out in the Programme of Study for Key Stage 4 in the Northern Ireland Curriculum Order for Modern Languages. Some answers may be required in English. Subject criteria state that a maximum of 10% of the total marks for the subject may be awarded for such answers but no more than half of this maximum allocation may be assigned to any particular assessment objective. The Programme of Study sets out the range of opportunities and activities which should be made available to pupils and for ease of reference these have been included as an Appendix to this syllabus.

3 AIMS

3.1 The aims set out below describe the educational purposes of following a course in GCSE Modern Languages. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

3.2 The aims of the syllabus are to:

3.2.1 develop the ability to use the target language for the purpose of practical communication;

3.2.2 develop an awareness of the nature of language and language learning in general;

3.2.3 offer insights into the culture and civilisation of the country or community in which the target language is spoken;

3.2.4 foster sympathetic and positive attitudes to other cultures and civilisations;

3.2.5 promote in pupils a better understanding of themselves and their own culture through comparison of the customs of the country or community of the target language with their own;

3.2.6 promote learning skills of a more general nature, such as analysis, memorising and drawing conclusions;

3.2.7 provide a firm base for the acquisition of the language skills and attitudes required for further study, work and leisure;

3.2.8 develop knowledge, understanding and skills related to the statutory cross-curricular themes.

4 ASSESSMENT OBJECTIVES

4.1 The assessment objectives set out below indicate the skills and abilities which will be assessed. Candidates will be required to demonstrate their ability to:

4.1.1 understand and respond to spoken language (Listening);

4.1.2 communicate in speech (Speaking);

4.1.3 understand and respond to written language (Reading);

4.1.4 communicate in writing (Writing).

5 RELATIONSHIP OF ASSESSMENT OBJECTIVES TO THE EXAMINATION COMPONENTS

This table below sets out the relationship of assessment objectives to the examination components and the points associated with each component.

Table 5.1

Component	Assessment Objectives	Foundation Weighting	Higher Weighting
Paper 1	4.1.1	25% 4 points	25% 4 points
Paper 2	4.1.2	25% 4 points	25% 4 points
Paper 3	4.1.3	25% 4 points	25% 4 points
Paper 4	4.1.4	25% 4 points	25% 4 points
Overall Weighting	–	100%	100%

Information on the system of converting points to grades, agreed by all Examining Boards will be circulated in due course.

6 DIFFERENTIATION

Differentiation will be achieved by the use of tiered papers.

7 SCHEME OF ASSESSMENT

7.1 The course will be assessed through the four skill areas of:

- Listening
- Speaking
- Reading
- Writing.

7.2 Each skill area is offered in two tiers, Foundation and Higher. Entry at the Foundation Tier will be appropriate for candidates considered capable of achieving Grades C to G overall and entry at the Higher Tier for those considered capable of achieving Grades A* to D(E) overall.

	A*	
	A	
Higher	B	
Tier	C	C Foundation
	D	D Tier
	(E)	E
		F
		G

7.3 Candidates must indicate at time of entry which tier they wish to take in each skill area. Where candidates do not attain the lowest of the targeted grades available in a tier (ie G at Foundation and D at Higher) their performance will be recorded as unclassified. However candidates who narrowly miss achieving grade D in the Higher Tier may be classified as E. Given the flexible pattern of entry final grades will be awarded on the basis of accumulation of points scored in each skill.

8 TECHNIQUES OF ASSESSMENT

8.1 Set out below for each component of the examination are details of the assessment techniques which will be used. In view of the overlapping grade structure each skill area will be assessed using question(s) common to both tiers as specified below.

8.2 **Listening (4.1.1) (25%)**

Foundation: 30 minutes

Higher: 30 minutes

This paper will comprise a variety of items of stimulus material in the target language. Items may take the form of short announcements, messages and dialogues. Each item will be followed by one or more tasks which will require candidates to demonstrate a range of responses through such assessment strategies as gap filling, matching exercises, ticking boxes, completing grids and sequencing. Short answer questions requiring a response in the target language will also be set. Where the nature of the task demands, eg in an interpreting activity, questions may be set which require an answer in English. A number of questions will be common to both tiers.

Candidates are not permitted the use of a dictionary for the Listening component.

8.3 **Speaking (4.1.2) (25%)**

Foundation: 10 minutes

Higher: 10 minutes

(Preparation Time: 10 minutes)

The Speaking Test will be conducted by the candidates' own teachers and recorded on cassette. Two options for the assessment of the Speaking Test are available.

In Option A the teacher will be responsible for making an assessment of each candidate's performance and for submitting the recording to the Council for the purposes of moderation.

In Option B the recordings will be submitted to the Council for external assessment. If Option B is intended then this should be indicated at the time of provisional entry to the examination.

The Speaking Test will involve candidates in such activities as asking and answering questions, giving information and instructions through taking part in rôle plays and in general conversations. The rôle play tasks, certain of which will be common to both tiers, will be provided by the Council.

Candidates will be permitted the use of a bilingual dictionary during the 10 minutes preparation time. Further guidance on the conduct and assessment of the Speaking Test will be published separately.

8.4 **Reading (4.1.3) (25%)**

Foundation: 40 minutes

Higher: 40 minutes

This paper will comprise a variety of items of stimulus material in the target language which may be in any of the following styles: short items such as notices and announcements, extracts from letters, magazine or newspaper articles and other forms of imaginative writing. Each item will be followed by one or more tasks which will require candidates to demonstrate a range of responses through such assessment strategies as gap filling, matching visuals to text, ticking boxes, completing grids and sequencing. Short answer questions requiring a response in the target language will also be set. Where the nature of the task demands, eg in an interpreting activity, questions may be set, which require an answer in English. A number of questions will be common to both tiers.

Candidates will be permitted the use of a bilingual dictionary for the Reading component.

8.5 **Writing (4.1.4) (25%)**

Foundation: 45 minutes

Higher: 45 minutes

The candidates will be required to respond in writing to a number of tasks which take as their starting point stimulus material of a visual or written nature. In the

Foundation Tier candidates may be asked to produce lists; complete forms or write notes and cards. The task common to both tiers will require them to produce more extended writing such as formal or informal letters. Approximately 120 words in total will be expected. In addition to the common task Higher Tier candidates will be expected to produce a more substantive letter, report or account. Assistance in the form of structured guidance contained within the question, may be given to the candidate for example, a series of sub-questions or key phrases in the target language. Candidates may be required to respond to or obtain information from a text in the target language, such as a letter, newspaper article or report.

Candidates will be permitted the use of a bilingual dictionary for the Writing component.

9 MODERATION OF TEACHER-ASSESSED SPEAKING TESTS

9.1 Where the speaking components of the examination are assessed by the candidates' own teacher under Option A (See 8.3) the assessment will be subject to moderation according to the procedures approved by the Council, and published separately.

9.2 In cases where there is more than one teaching group in the centre, that centre must ensure that the assessment of the Speaking Tests is internally standardised. It is recognised that logistical problems would be likely given the short space of time between the end of the Speaking test period and the submission of marks to the Council. In this case the process of internal standardisation would be best promoted through the organisation of a within-school agreement trial prior to the conduct and assessment of the Speaking Test.

9.3 Arrangements will be made on an individual basis for the assessment of private candidates.

10 PROHIBITED COMBINATIONS

Candidates are not permitted to enter for GCSE Irish (Gaeilge) in the same series of examinations nor to enter for both tiers in the same skill area.

11 SYLLABUS CONTEXTS AND TOPICS

Materials selected for use in examination papers will reflect the statutory Contexts for Learning and associated topics set out in the Northern Ireland Curriculum Order for Modern Languages. These are set out below:

Context 1: Everyday Activities

Topics

(a) Home and school life

(b) Food and drink

(c) Shopping

(d) Eating out.

Context 2: Personal Life and Social Relationships

Topics

(a) Self, family and friends

(b) Health

(c) Holidays and leisure

(d) Celebrations and special occasions.

Context 3: The World Around Us

Topics

(a) House and home

(b) Town and countryside

(c) Getting around

(d) Weather.

Context 4: The World of Work

Topics

(a) Services to the public

(b) Occupations and places of work

(c) Future plans and careers.

Context 5: The International World

Topics

(a) Travel and tourism

(b) Life in countries or communities in which the target language is spoken

(c) Caring for the environment.

12 FOCUS OF LANGUAGE CONTENT

Set out below for each topic is a brief description focusing on the language areas in which candidates may be expected to perform. The language areas identified for Foundation Tier also apply to Higher for which additional areas have been specified.

Focus of Language Content	
Foundation	**Higher**
1 Everyday Activities	**1 Everyday Activities**
(a) ***Home and School Life***	(a) ***Home and School Life***
Home routine	Jobs to be done around garden
Helping at home	School building
Jobs to be done around home	School facilities
Type of school	School year
Location of school	Examinations
School day	Pocket money
Travel to school	
Timetable	
Subjects studied	
Number of teachers/pupils	
(b) ***Food and Drink***	(b) ***Food and Drink***
Common types of food and drink	Further types of food and drink
Dislikes, likes, preferences	Recipes
(c) ***Shopping***	(c) ***Shopping***
Types of shops/shopping facilities	Commenting on the cost
Location of shopping facilities /department/item	Asking for change (money)
Types of items	Exchanging an item
Availability of items	Requesting delivery of an item
Number/quality/quantity/colour/size	Refund
Cost	Special offers
Shopping announcements	Trying something on
Payment	
(d) ***Eating Out***	(d) ***Eating Out***
Location of cafés/restaurants	Problems and complaints
Making a reservation	Contents of a dish/items on menu
Requesting a menu/wine list	Quality of meal/dish/drink
Ordering food/drinks	
Settling the bill	

Focus of Language Content	
Foundation	**Higher**
2 **Personal Life and Social Relationships**	2 **Personal Life and Social Relationships**
(a) ***Self, family and friends***	(a) ***Self, family and friends***
Name	Personal characteristics
Address	Marital status
Telephone number	
Date and place of birth	
Age	
Sex	
Composition of family	
Other relatives	
Nationality	
Physical features	
Details of friends	
Pets	
(b) ***Health***	(b) ***Health***
Parts of the body	Injuries
Physical condition eg well, ill, tired	Personal safety
Needs – thirst, hunger	Warning of danger
Position of pain	
Doctor/dentist/chemist	
Common illnesses	
Medicines and treatment	
Instructions for taking medicines	
(c) ***Leisure activities***	(c) ***Leisure activities***
Hobbies/interests/pastimes	Describing what is involved in hobbies, interests, pastimes, sporting activities
Sporting activities	
Venues	Merits of performances, events
Times and dates of activities	Visits to zoo, circus
Requesting ticket/seat	
Meeting people	
Making arrangements to go out	
Making reservations	
(d) ***Celebrations and special occasions***	(d) ***Celebrations and special occasions***
Annual festivals	Making arrangements for a party/celebration
Parties	Celebrating birthdays, Christmas etc
Giving a present	
Congratulations	
Taking leave	
Days of weeks, dates	

Focus of Language Content	
Foundation	**Higher**
3 The World Around Us	**3 The World Around Us**
(a) ***House and Home***	(a) ***House and Home***
Location of building	Rent, price of property
Type of house/flat	Availability of services
Type of rooms	
Furniture	
Household items	
Kitchen equipment	
(b) ***Town and countryside***	(b) ***Town and countryside***
Town	Description of town and countryside
Buildings	Qualities of town and countryside
Places in the town	Comparing town and country life
District	
Region	
Countryside	
Farm animals	
Plants	
(c) ***Getting around***	(c) ***Getting around***
Directions	Losing the way
Times	
Means of transport	
Distances	
(d) ***Weather***	(d) ***Weather***
Types of weather	Weather forecasts
Seasons	

Focus of Language Content	
Foundation	**Higher**
4 **The World of Work**	4 **The World of Work**
(a) ***Services to the Public***	(a) ***Services to the Public***
Services/items required in:	Reporting/describing lost property
• post office	Services/items required in:
• filling station	Garage
• bank	Police station
Request services of:	Hospital
• police	Fire station
• fire	
• ambulance	
Recognise signs/notices relating to public services	
(b) ***Occupations and places of work***	(b) ***Occupations and places of work***
Types of occupations	Full time and part time jobs
Places of work	Future plans and careers
Hours of work	What particular jobs involve
Being out of work	Conditions of work
Opinions about jobs	Being on strike
(c) ***Future plans and careers***	(c) ***Future plans and careers***
Type of job they would like to do	Reasons for choice of occupation
Where they would like to work	Opportunities for work at home
Plans for immediate future/on leaving present school	Opportunities for work in target country
	Qualifications/preparations for a particular occupation

Focus of Language Content	
Foundation	**Higher**
5 **The International World**	5 **The International World**
(a) ***Travel and Tourism***	(a) ***Travel and Tourism***
Planning to go/going/being on holiday	What you did/will do on holiday
Hostel, campsite, hotel etc	Enquiries about travel arrangements
Travel literature	Availability of facilities in airports/ports/stations
Notices and announcements relating to travel (including timetables)	Special terms (including supplements and reductions)
Prices and types of tickets	Travel problems (eg delays, alterations)
Travel documents/luggage	Customs
Tourist sights	
(b) ***Life in countries or communities in which the target language is spoken***	(b) ***Life in countries or communities in which the target language is spoken***
Names of other countries	Social customs
Nationalities	Characteristic traits
Main cities/towns	Drawing comparisons with life in their own community/ country
Currency	Regions
Money, weights and measures	
National dishes	
(c) ***Caring for the environment***	(c) ***Caring for the environment***
Location of litter bins	Pollution matters
Disposal of rubbish	Aspects of conservation
Smoking/non-smoking	
Simple conservation measures, eg saving water, switching off lights	

13 GRAMMAR AND STRUCTURES LIST

In this section the Grammar and Structures are defined for each tier of entry. The definition indicates whether knowledge is required for receptive use ie Listening and Reading, or for productive use ie Speaking and Writing. It is important to note that not all structures are equally important and that some structures are required for receptive use only. *Where the masculine form is stated, the feminine and plural forms are understood.*

Structures		Foundation		Higher	
		Receptive	**Productive**	**Receptive**	**Productive**
THE COPULA	With masculine nouns	/	/	/	/
	With feminine nouns	/	/	/	/
	With pronouns mé, tú, é, í, sinn, sibh, iad	/	/	/	/
	Present, past tense/conditional	/	/	/	/
	With prepositional pronoun "le"	/	/	/	/
	With definite article	/	/	/	/
	Indirect speech			/	/
THE VERB "Bí"	Past tense	/	/	/	/
	Present tense	/	/	/	/
	Future tense	/	/	/	/
	Conditional			/	/
	Imperfect			/	/
	Use with the verbal adjective			/	/
	Use as the verb "to have"	/	/	/	/
THE ADJECTIVE	Its position	/	/	/	/
	Agreement	/	/	/	/
	Verbal adjective	/	/	/	/
	Comparative and superlative	/	/	/	/
	Demonstrative adjective	/	/	/	/
	Possessive adjectives	/	/	/	/
THE DEFINITE ARTICLE	Effect on masculine nouns	/	/	/	/
	Effect on feminine nouns	/	/	/	/
	Plural form and effects	/	/	/	/
PREPOSITIONS	Simple preposition plus noun	/	/	/	/
	Simple preposition plus definite article	/	/	/	/
	Conjugated prepositions				
	Ag/ar/le/do/de/as/ó/chuig/ faoi	/	/	/	/
	Common compound prepositions	/	/	/	/
VERBAL NOUNS	Verbal noun with "Bí"	/	/	/	/
	Verbal noun with direct object	/	/	/	/
	Verbs of state (eg i mo sheasamh/standing)	/	/	/	/
	Infinitive	/	/	/	/

	Structures	Foundation		Higher	
		Receptive	**Productive**	**Receptive**	**Productive**
VERBS – REGULAR AND IRREGULAR	Imperative	/	/	/	/
	Present tense	/	/	/	/
	Past tense	/	/	/	/
	Future tense	/	/	/	/
	Imperfect			/	/
	Conditional			/	/
	Indirect speech				
	(a) (with imperative)			/	/
	(b) (with other tenses)	/	/	/	/
	Autonomous			/	
VERBAL CONSTRUCTIONS	Common infinitive eg Ba mhaith liom dul …	/	/	/	/
	Verbs which require a preposition, eg Is liom … Amharc ar … bain le … etc	/	/	/	/
NOUNS	Gender and plurals	/	/	/	/
	Declension of commonly used nouns	/	/	/	/
PRONOUNS	Singular and Plural	/	/	/	/
	Subjective	/	/	/	/
	Objective	/	/	/	/
CLAUSES	Simple purpose clauses	/	/	/	/
	Interrogatives, eg "Cad é … ?" Cá háit … ?	/	/	/	/
NUMBERS	Counting	/	/	/	/
	Time	/	/	/	/
	Counting objects	/	/	/	/
	Personal	/	/	/	/
	Ordinal 1–31	/	/	/	/

14 TARGET LANGUAGE RUBRICS

In this section is listed the key words and phrases which candidates are likely to encounter in question paper rubrics.

Léigh an sliocht/litir/nóta thíos

Freagair na ceisteanna

Éist leis an téip

Cuir tic (✓) sa bhosca ceart (cuí)

Críochnaigh an abairt (na habairtí) seo

Ceart nó mícheart

Líon na bearnaí

Críochnaigh (líon isteach) an "grid" (mogalra) thíos

Bain úsáid as na focail/habairtí thíos

Déan cur síos ar …

Tarraing líne idir

Scríobh 30-40 focal

15 MINIMUM CORE VOCABULARY LIST (FOUNDATION TIER)

15.1 This minimum core Vocabulary List for Foundation Tier is primarily intended as a guide for teachers to assist in the planning of work in relation to the programme of study.

The assessment tasks at Foundation Tier will be based on the minimum core Vocabulary List but candidates should also expect to encounter unfamiliar vocabulary.

15.2 **Alphabetical Vocabulary List**

Note: (b) = baininscneach after an entry indicates feminine gender.

abair
abairt
ábalta
abhaile
abhainn (b)
ábhar
ach
ádh
admhaigh
aduaidh
aer
aerfort
aeróstach
áfach
ag
ag cur allais
agallamh
aghaidh (b)
agus
Aibreán
aiféala
Aifreann
aimsir (b)
aingeal
ainm
ainmhí
aintín (b)
airde
aire (b) (ag tabhairt aire)
airgead
áirithe (in)
áis (b)
Áise (b)
aiste (b)
aisteach
aisteoir
áit (b)
aithne (b)
áitiúil
álainn
Albain (b)
am
amach/amuigh
amadán
amaideach
amárach
amháin
amharc ar
amharclann (b)
amhlaidh
amhrán
amhras
amú
an -
aneas
aniar
aníos
anoir
anois
anraith
anseo
ansin
anuraidh
aoibhinn
Aoine (b)
aois (b)
aon
aosta
ar
ar aghaidh
ar ais
ar bith
ar chúl
ar fheabhas
ar feadh
ar son
arán
áras
árasán
ard
ardán
ardmháistir
ardmháistreás (b)
aréir
argóint (b)
arís
arú (inné/amárach)
as
as láthair
asal
athair
áthas/lúcháir (b)
athraigh
athuair

bábóg (b)
bád
bagáiste
bagún
báicéir
baile
baile mór
bailigh/cruinnigh
bailiúchán
bain (amach)
bain triail as
bainis (b)
bainisteoir
bainne
báisín (níocháin)
báisteach (b)
ball
balla
bán
banaltra (b)
banc (taisce)
bándearg
banna ceoil
barr
barra
barraíocht
baróil (b)
bás
bata
beag
beagnach
beairic (b)
béal
bealach
Bealtaine (b)
bean (b)
bean a'tí
beannacht (b)
Béarla
beart
béic (b)
béile
beir
beo
bhuel
bí
bia
bia agus lóistín
biachlár
bialann (b)
bille
bindealán
Bíobla
biseach
bitheolaíocht (b)
bladhaire/lasair (b)
blasta
bláth
bliain (b)
blús
bó (b)
bocht
bodhar
bog
boladh
bolg
bomaite/nóiméad
bonn
bosca
bosca ceoil
bóthar
brachán/leite (b)

bradán
braillín (b)
brat urláir/cairpéad
breá
breac
bréag (b)
bréagán
Breatain (Mhór/Bheag) (b)
breithlá/lá breithe
bricfeasta
Briogáid (b) Dóiteáin
brioscaí
bris
briseadh
bríste
broc
bróg (b)
brón(ach)
bronntanas
bruach
bruscar
buachaill/gasúr
buail (le)
buan
buartha
buí
buicéad
buidéal
buidéal leighis
buile (b)
builín aráin
buíochas
búistéir
bun
bungaló
bunscoil (b)
bus

cá
cad é
cá háit
cá mhéad
cabáiste
cabhair (b)/cuidiú
cad chuige
caife
cailc (b)
cailín/girseach (b)
caill
caint (b)
cairdiúil
cairéad/meacan dearg
cais (b)
Cáisc (b)
caith
caitheamh aimsire
callán
calóga (b)
calóga arbhair
camán
camógaíocht (b)
campáil (b)
canna
caoineadh/gol
caora (b)
capall
captaen
cara
carbhat
carr/gluaisteán
carraig (b)
carráiste
carrchlós
cárta poist
cas
casacht (b)
casóg (b)
casta
cat
catach
cathair (b)
cathaoir (b)
cathaoir uilleach
cé
cén uair
cé leis
ceacht
céad
cead
Céadaoin (b)
cead isteach
ceadúnas
ceamara
ceann
céanna
ceannaigh
ceannaire
ceantar
ceapaire
cearc (b)
ceardscoil (b)
cearnóg (b)
cearr
ceart
ceartaigh
ceart go leor
céilí
ceimic (b)
ceintiméadar
ceirnín
ceist (b)
ceo/ceomhar
ceol/ceoltóir
ceolchoirm (b)/ceirmcheoil (b)
chomh
chuig
chun (b)
ciall (b)/ciallmhar
cibé
cic
cigire
cileagram
ciliméadar
cineál/sórt
cineálta
cinnte
cíor (b)
cíos
cispheil (b)
císte
cisteoir
cistin (b)
citeal
cith
cithfholcadh
ciúin/ciúnas
cladach
clann (b)/teaghlach
clár
cláraigh
clár ama
clár bia
clár dubh
clé
cleas
cléireach
cliste
cloch (b)
clog
clós
clóscríobhaí
clú
cluas (b)
Club na nÓg
clúdach
cluiche
cluin/clois
cnámh (b)
cnoc
cócaire
codladh/codail
cófra
coicís (b)
coileán
coill (b)
coinín
coinne (b)
coinnigh
coinníollacha (oibre)
cóipleabhar
cóir (b)
cóirigh
coirnéal
cois
coitianta
coláiste
col ceathrar
comhairle (b)
comharsa (b)
comhrá
comórtas
cónaí
conas
cóngarach
contae
contúirt (b)/dainséar
cor
corcra
corp
corpoiliúint (b)/corpoideachas (b)
cos (b)
cosain
cosán
cosc
cósta

cosúil
cóta
craic (b)
craiceann
crann
craobh (b)
creid
crinlín/deasc
críochnaigh
crios
cróga
croí
crosta
crua
crúiscín
cuach (b)
cuairt (b)
cuairteoir
cuan
cuardaigh
cuid (b)
cuidigh (le)
cúige
cuileog (b)
cuilt (b)
cuimhin
cuimsitheach
cuir
cuir fios ar
cuireadh
cúirt (b)
cuirtín
cuisneoir
cúl/cúilín
cúl (le)
culaith (b)
cuma (b)
cumann
cumhrán
cúng
cuntar
cuntas
cúntóir
cupán
cúpla
cúramach
cúrsa
custaiméir
custam

dá
dalba/dána
dall
dalta
damáiste
daor
dar (liomsa)
dáta
dath
dathúil/dóighiúil
de
de dhíth
deacair
déagóir
déan
déan dearmad
déan gearán
deara (faoi)
Déardaoin
dearg
dearmad
dearthár
deas
deifir (b)
Deireadh Fómhair
deireadh/deireanach
deireadh seachtaine
deirfiúr (b)
(ar) dheis
deisceart
deisigh
deoch (b)
Dia
dialann (b)
dícheall/dícheallach
dinnéar
díol
díon
díosal
dioscó
díreach
diúltaigh
dlíodóir
dochtúir
dóigh (b)
doiligh
doirt
doirteal
domhan
Domhnach
donn
doras
dorcha
dosaen
dráma/drámaíocht (b)
dréimire
droch (-)
droichead
droim
druid/dún
duais (b)
dúbailte
dubh
dúghorm
dúil (b)
duilleog (b)
duine
dúisigh/múscail
dul a luí

éadach
éadan
eagla (b)
eaglais (b)
ealaín (b)
éan
Eanáir
Earrach
earra/earraí
eastát tionsclaíochta
éide (scoile) (b)
éigin
eile
eilifint (b)
Éire (b)
éirigh
éist le
eitleán
eochair (b)
eolaíocht (b)
eolas
Eorpach

fad
fada
fadhb (b)
fág
faiche (b)
faigh/ar fáil
fáilte (b)
fáilteoir
fáinne
faisean
falsa/leisciúil
fan
faoi
faoin tuath
farraige (b)
fás
fáth
feabhas
Feabhra (b)
féach
feadóg (b) stáin
féar
fear
fear céile
fear a'tí
fearg (b)/feargach
fearthainn (b)
féasóg (b)
féasta
feic
féidir/thig le
féile (b)
féilire
féin
feirm (b)/feirmeoir
feoil (b)
fiacail (b)
fiaclóir
fiafraigh de
ficheall (b)
fill
fíon
fionn
fíor
fios
fís (b)
fisic (b)
físthaifeadán/físeán
fleá
fliú
fliuch
focal

foclóir
foghlaim
fógra
foighneach
foireann (b)
foirm (b)
folamh
folcadán/folcadh
folúsghlantóir
Fómhar
fonn
forc
fós/go fóill
fosta/freisin
Fraincis (b)
freagra/freagair
freastal/freastalaí
fuar
fuath
fuil (b) (ag cur fola)
fuinneog (b)
furasta

gá
gabh
gabh mo leithscéal
gabhar
gach
Gaeilge (b)
Gael
gaineamh
gairdín
gairid
gairmscoil (b)
galánta
galar
gallúnach (b)/gallaoireach (b)
gan
gan luaidhe
gann
gaofar
gaol/gaolta
gaoth (b)
gar
garáiste
garbh
garda/péas
gasta
gé (b)
géag (b)
geal
geansaí
Gearmáinis (b)
gearán
gearr
geata
Geimhreadh
glac
glan
glantóir
glaoigh
glas
glasra/glasraí
gleann
gléas (ceoil)
glic
gloine (b)
glúin (b)
gnách
gnáth
go
go dtí
goid (b) + verb
goile
gorm
gort
gortaigh
grá
grád
gram
gránna
greann/greannmhar
gréithe/soithí
grian (b)/grianmhar
grianghraf
grósaeir
gruagaire
gruaig (b)
grúpa
gual
gualainn (b)
gúna
gunna
guthán/fón

Halla an Bhaile
Halla na Cathrach
halla
hata

i
i lár
i láthair
i ndiaidh
i measc
i mbun
i rith
iarann
iarnáil (b)
iarnóin (b)
iarr
iarracht (b)
iarsmalann (b)
iarthar
iasacht (b)
iasachta (b) (tír)
iasc
iascaireacht (b)
idir
im
imeall
imigh
imir
imní (b)
imreoir
in aice (le)/taobh le
iníon (b)
inis (do)
inné
inneall dóiteáin
innealtóir
inniu
instealladh
íoc as
Iodáilis (b)
iomlán
iománaíocht (b)
ionad pobail
ionadh
ionraic
iontach
iris (b)
is
íseal
ispín
isteach/istigh
ith
Iúil

lá
labhair
lacáiste
laethanta saoire
lag/i laige
laghad
láidir
lámh (b)
lampa
lán
lánaimseartha
lárionad siopadóireachta
las
láthair
le
leaba (b)/a luí
leabhar
leabharlann (b)
leadóg (b) (tábla)
leadránach
leag
léamh
lean
leanbh
léarscáil (b)
leath
leathanach
leathuair (b)
léigh
leigheas
léim (b)
léine (b)
léitheoireacht (b)
leithreas
leithscéal
leitís (b)
leon
liath
liathróid (b)
lig
líne (b)
linn (b) (poll) snámha
líomanáid (b)
líon
líonpheil (b)
líotar

litir (b)
loch
locht
lofa
lóistín
lón
lon dubh
long (b)
luach
Luan
luath/moch
luch (b)
lúcháir (b)
luigh
Lúnasa

má
mac
mac léinn
madra/madadh
maidin (b)
mair
Máirt (b)
mairteoil (b)
máistir
máistreás (b)
maith
mála
mall/déanach
mar
maraigh
marbh
margadh
Márta
matal
matamaitic (b)
máthair (b)
meacan bán
meáchan
méadar
meaisín níocháin
meán
meánaosta
meánscoil (b)
Meán Fómhair
méar (b)
meas
measartha/réasúnta
meicneoir
méid (f + b)
Meitheamh
mí (b)
mian (b)
miocró-oigheann
míle
milis
milliméadar
milseán
milseog (b)
minic
míshásta
mná
moill (b)
móin (b)
mol
monarcha (b)
moncaí
mór
mórán
mótarbhealach
mothaigh
muc (b)
múch
muiceoil (b)
muineál
múinteoir
muintir (b) (na háite)
mullach

naomh
neacht (b)
néal
néata
ní
nia
nigh
nimhneach
nó
Nollaig (b)
nóta
nua
nuachtán/páipéar nuachta
nuair

ó
obair (b)
obair bhaile
obráid (b)
ócáid (b)
ocras
ó dheas
óg
oibrí
oíche (b)
oideas
oifig (b)
Oifig Fáilte
Oifig an Phoist
oigheann
oileán
oinniún
oirthear
ól
ola (b)
olc/dona
Ollscoil (b)
ollstór/ollmhargadh
ór
oráiste
ordaigh
os cionn
os comhair
oscail
ospidéal/otharlann (b)
óstán/teach ósta
othar
otharcharr

pá
paicéad
paidir (b)
páipéar
páirc (b)
páirc imeartha (b)
páirteach i
páirtaimseartha
paisinéir
páiste
Pápa
pas
peann
peann luaidhe
peata
peil (b)
peil Ghaelach (b)
péint (b)
peitreal
pian (b)
pictiúr
pictiúrlann (b)
piliúr
pingin (b)
pinsean
píobán uisce
piobar
piolla/táibléad
píolóta
pionta
piorra
píosa
piseanna (b)
plaisteach
planda
plástar
pláta
pluiméir
plúr
pobal
póca
poitigéir
poll
pónaire/pónairí (b)
portach
pós/pósta
post/jab
pota
praghas
práinneach
práta
príomhchathair (b)
príomhoide
príosún/príosúnach
puball
punt

radharc
Raidió na Gaeltachta
raidió
ramhar
rang
rás
reáchtáil (b)
réalta (b)
réidh
reoiteog (b)/uachtar reoite

riamh
ríomhaire
rince/damhsa
rís (b)
rith
ró (-)
rogha (b)
roghnaigh
roimh
roinn (b)
rolla
rósta
rothaíocht (b)
rothar
rua
rud
rúnaí

sa
sacar
sagart
saibhir
saighdiúir
sailéad
salach
salann
sámh
Samhain (b)
sampla
saoire (b)
saol
saotharlann (b)
Sasana (b)
sásar
Satharn
scairf (b)/scaif (b)
scairt (b) (teileafóin)
scamall (ach)
scannán
scáthán
scéal
scian (b)
sciorta
scíste (b)
scíth (b)
scoil (b)
scoil ghramadaí
scoláire/dalta
scoláireacht (b)
scór
scornach (b)
scread (b)
scríbhneoir
scríobh
scrios
scrúdaigh
scrúdú
scuab (b)
scuab fiacal
seachtain (b)
seacláid (b)
sealadach
sean
seanaimseartha
seanathair/athair mór
seanmháthair/máthair mhór (b)
seas
séasúr/ráithe (b)
seic
seicleabhar
seilf (b)
seinm
seinnteoir (ceirníní)
seisiún
séipéal/teach an phobail
seo
seo caite
seo chugainn
seodóir
seoladh
seomra
seomra bia
seomra codlata/seomra leapa
seomra feithimh
seomra folctha
seomra na gcótaí
seomra ranga
seomra suite/suí
siamsa
siar
sicín
síl
singil
síob (b)
sioc
sionnach/madadh rua
siopa
siopa bréagán
siopa bróg
siopa búistéara
siopa ceirníní
siopa éadaigh/éadaí
siopa glasraí
siopa grósaera
siopa leabhar
siopa milseán
siopa nuachtán
siopa peataí
siopa seodóra
siopa spóirt
siopadóir
siopadóireacht (b)
síos
siúcra
siúinéir
siúl/siúlóid (b)
(ar) shiúl
slaghdán
sláinte (b)
slán
slat (b)
slí (b)
sliabh
sloinne
slua
smaoinigh
smig (b)
snámh
snas
sneachta
snúcar
socraigh
soilsiú
soir
sólann (b)
solas
sona
sorn
sos
Spáinnis (b)
sparán
spéaclaí
spéir (b)
spéis (b)/suim (b)
speisialta
spideog (b)
spórt
spúnóg (b)
sráid (b)
sráidbhaile
sroich
srón (b)
sruthán
stad/stop
staidéar
staighre
stailc (b)
stair (b)
stáisiún
státseirbhís (b)
stéig (b)
stoca
stól
stór
(ar) strae
sú
suas
subh (b)
suigh
súil (b)
suim (b)/suimiúil
suipéar
suite
sula(r)
sult

T-léine (b)
tábhachtach (b)
tabhair (do/le)
tábla
tacsaí
tae
taephota
táille (b)
táiplis (b)
taitin
taisme (b)/timpiste (b)
taispeáin
taisteal
talamh
tamall
tanaí
taobh
taos fiacal

tar
tar éis
tarlú
tarraing
tart
te
teach
teach dhá urlár
teach tábhairne
teagasc/múin
teagasc críostaí
téamh lárnach
teanga (b)
téarma
teas
teastas
teicneolaíocht (b)
teideal
téigh
teileafón
teilifís (b)
téip (b)
téipthaifeadán
teocht (b)
teorainn (b)
thar
thar lear
thart
theas
thiar
thíos
thoir
thuaidh
thuas
ticéad
tine (leictreach) (b)
tinn/breoite
tinneas cinn
tinneas cluaise
tinneas fiacaile
tinneas goile
tintreach (b)
tiomáint (b)/tiománaí
tiontaigh
tíos/eacnamaíocht (b) bhaile
tír (b)
tíreolaíocht (b)
tirim
tit
tobac
tobann
tóg
tógálaí
toil (b)
toirneach (b)
toirtín(b)
toit (b)
toitín
tolg
toradh
tóraíocht (b) taisce
tornapa
tosaigh
tost
trá (b)
trácht
traein (b)
traein luais
traidisiún
trasna
tráta
tráth na gceist(eanna)
tráthnóna
treo
treoir (b)
trí
triomaigh
trom
troscán
trua (b)
truailliú
tuáille
tuairim (b)
tuaisceart
tuarastal
tuath (b)
tuig
tuilleadh
tuirse (b)
tuismitheoir
turas
turcaí
tús

uachtar
uachtarán
uafásach/millteanach
uaineoil (b)
uair (b)
uaireadóir
uaireanta (oibre)
uan
uasal
ubh (b)
údar
uilig/uile
uillinn (b)
uimhir (b)
uisce
uisce beatha
úll
ullmhaigh
um
uncail
úr (-)
urlár
urnaí (b)/ag guí
úsáid (b)/úsáideach

vaein
vardrús
veidhlín
víosa (b)

X-ghathú

16 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates identify and note main points and extract some details from simple language spoken clearly at near normal speed.

Candidates take part in simple translations and conversations showing some ability to substitute words and phrases. Their pronunciation is intelligible, and although there are grammatical inaccuracies, the main points of the message are communicated.

Candidates identify main points and extract some information from short, simple texts, both printed and hand written. They use a bilingual dictionary or glossary to find out the meaning of unfamiliar words.

Candidates write short sentences, and respond to written texts by substituting words and set phrases. Although there will be mistakes in spelling and grammar, the main points of the message are communicated.

Grade C

Candidates identify and note main points and extract details and points of view from language spoken at normal speed. The spoken texts include narratives and future events. They are drawn from a variety of topics which include familiar language in unfamiliar contexts.

Candidates undertake transactions and develop conversations which include past, present and future events. They express personal opinions and show an ability to deal with some unpredictable elements. Although there are some errors, they convey a clear message, and their pronunciation and intonation are generally accurate.

Candidates identify and extract details and points of view from printed and hand written texts, authentic and simulated, drawn from a variety of topics and which include past, present and future events. They use bi-lingual dictionaries or glossaries to understand unfamiliar language.

Candidates express personal opinion and write about a variety of topics, including past, present and future events. They write simple formal letters or personal letters. The style is basic but despite errors the writing conveys a clear message.

Grade A

Candidates understand gist and identify main points and detail in a variety of types of authentic spoken language. They recognise points of view, attitudes and emotions and are able to draw conclusions.

Candidates initiate and carry through transactions, take part in conversations and narrate events. They express and justify ideas and points of view, and produce longer sequences of speech using a variety of vocabulary, structures and time references. They speak confidently, with good pronunciation and intonation. The message is clear although there may still be some errors, especially when candidates use more complex structures.

Candidates understand gist and identify main points and detail in a variety of types of authentic texts. They recognise points of view, attitudes and emotions and are able to draw conclusions. They select and make appropriate use of reference materials.

Candidates give factual information, narrate events and express and justify ideas and points of view. They produce longer sequences using a range of vocabulary, structure and time references. Their spelling and grammar are generally accurate, and the style is appropriate to the purpose.

APPENDIX
EXTRACT FROM NORTHERN IRELAND PROGRAMME OF STUDY

General Skills and Cultural Awareness

Developing Personal and Social Skills

Pupils should have opportunities, through the communicative process, to enhance their self-esteem by enjoying success and to develop positive attitudes to others. Such attitudes should include tolerance, empathy and appreciation of the talents and contributions of other people. Concentration and perseverance should be encouraged among pupils. These attitudes and qualities may be promoted by:

a working independently and collaborating in pairs and small groups;

b working on whole class activities;

c undertaking tasks in co-operation with the teacher or with another adult such as a language assistant or visitor;

d conducting or taking part in interviews, surveys or investigations;

e developing the skills of self-expression and presentation;

f taking part in decision-making;

g acknowledging their own contribution and that of peers.

Developing Language Learning Skills

Pupils should have opportunities to acquire, develop, and apply through the language learning processes, skills which include:

a memorising sounds, words and structures;

b note-taking;

c dealing with information;

d drawing conclusions and making inferences;

e predicting meaning from context;

f using resources independently;

g developing an awareness of sounds and language patterns;

h reading for a purpose;

i managing their own learning;

j solving problems;

k listening attentively;

l redrafting writing to improve accuracy and presentation.

Developing Cultural Awareness

Pupils should have opportunities to develop an awareness, understanding and appreciation of the culture of the country or community of the target language. They should have opportunities to develop a sense of European identity and to appreciate the diversity of European cultures and societies. By identifying similarities and acknowledging differences between cultures, they may learn to view their own culture more objectively. Pupils should have opportunities to:

- use authentic materials, for example, *magazines and videos*;
- meet native speakers of the target language, for example, *language assistants or visitors*;
- participate in correspondence and, where appropriate, visits to and exchange schemes with the country or community of the target language;
- experience or learn about the customs and traditions of the country or community of the target language through song, dance and the celebration of festivals.

Language Skills and Contexts for Learning

Language Skills

Throughout the programmes of study, pupils should be exposed to the target language and have frequent opportunities to use it. As a consequence, when responding to questions in a spoken or written form, pupils should use the target language except where a response in their first language is a necessary part of the task, for example, *in an interpreting exercise.*

Pupils should take part in activities which:

- combine two or more of the four language skills (listening, speaking, reading, writing) where appropriate;
- enable them to use the target language for real purposes;
- help them to acquire and use the target language to communicate with each other, their teacher and other speakers of the language;
- cultivate informed attitudes towards other people's lifestyles, social conventions, beliefs, opinions and ideas.

Pupils should have opportunities to develop language learning skills and awareness of language through the following activities:

- practising pronunciation and intonation;
- recognising how sounds are represented in writing;
- practising and internalising structures and vocabulary;
- developing awareness of different conventions and styles of language.

In order to develop and reinforce linguistic skills and to manipulate the target language, pupils should be taught to:

a listen for comprehension of general meaning and detail;

b listen for pleasure;

c seek and give information;

d ask about meanings and seek clarification or repetition;

e express preferences and reactions;

f take part in short exchanges and conversations;

g participate in imaginative and creative activities, for example, *drama, poetry and song;*

h follow instructions, for example, *when making and drawing;*

i read printed or handwritten texts for comprehension of general meaning and detail;

j read for information and for pleasure;

k use a range of reference materials and resources to aid comprehension and communication;

l select and copy;

m produce short pieces of continuous writing;

n write for pleasure;

o write formal and informal letters;

p interpret the meaning of language with the help of visual and other non-verbal clues;

q respond to different types of aural, visual and textual sources.

As they progress through the levels of attainment, teaching should enable pupils to engage in activities involving the higher order skills of:

r initiating and sustaining conversations;

s responding to unprepared situations;

t expressing feelings, opinions and ideas;

u discussing issues and making comparisons;

v adjusting language to suit context, audience and purpose;

w taking notes and reporting orally or in writing.

IRISH (GAEILGE)

Candidates in this examination will be assessed in the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 This syllabus and scheme of examination is designed primarily for those candidates whose first language is not Irish and for whom Irish may not be the everyday language of the home. They will however have obtained their formal education at primary school through the medium of Irish and provision will have been made in their secondary school to enable them to continue their study of the language through Irish-medium education.

1.2 The syllabus content, aims and assessment objectives set out below are consistent with and reflect the Programme of Study for Irish (in Irish-medium Education) in the Northern Ireland Curriculum including the statutory cross curricular themes. It is therefore distinct from Irish as included in the Curriculum Order for Modern Languages.

1.3 The syllabus has been designed to be as free as possible from ethnic, gender, religious, political or other forms of bias.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

2 RATIONALE

2.1 The course will be assessed through the three skills of

- Watching, Listening and Speaking
- Reading
- Writing.

The Northern Ireland Curriculum attainment targets of Watching and Listening and Speaking have been combined for assessment purposes into the single skill of Watching, Listening and Speaking in keeping with the published guidelines as set out in the Programme of Study for Key Stage 4.

2.2 Watching, Listening and Speaking will be assessed wholly through internally-assessed coursework carrying a weighting of 35%.

2.3 Reading and Writing will be assessed through a terminal examination carrying a weighting of 50%. Assessment of these skills will be supplemented by an internally-assessed coursework component weighted at 15%.

2.4 The coursework elements will enable candidates to provide evidence of achievement arising out of the range of classroom activities set out in the Programme of Study for Key Stage 4 Irish (in Irish-medium Education).

2.5 All coursework will be moderated in accordance with the scheme set out in Section 9 of this syllabus.

2.6 A GCSE certificate will be awarded to those candidates who achieve Grade G or higher.

3 AIMS

3.1 The Aims describe the educational purposes of following a course in GCSE Irish (Gaeilge). Not all aims however can be translated into assessment objectives.

3.2 The aims are:

3.2.1 to foster in the pupils a positive attitude towards the Irish language, culture and heritage;

3.2.2 to affirm the self-esteem and self-confidence of the pupils and to develop their creative and imaginative ability;

3.2.3 to develop the facility to communicate effectively in Irish in the context of the school and beyond;

3.2.4 to deepen the pupils' awareness of language and how it works;

3.2.5 to introduce the pupils to a range of reading material appropriate to their age and maturity for pleasure and information;

3.2.6 to encourage the pupils' bilingualism so that they may appreciate the advantages that accrue from it educationally, socially and professionally;

3.2.7 to develop knowledge, understanding and skills related to the statutory cross-curricular themes.

3.3 It should be noted that the cross-curricular themes will be embedded in the schemes of work prepared for this course and will not be separately assessed.

4 ASSESSMENT OBJECTIVES

4.1 The assessment objectives set out below are derived from the attainment targets and statements of attainment of the Curriculum Order for Irish (in Irish-medium Education). They reflect both the range of experiences which pupils encounter and the quality of their achievements appropriate to the tier of entry. The range of opportunities which should be made available to the pupils in each skill is set out in the Programme of Study for Key Stage 4 and is included as Appendix A to this syllabus.

4.2 **Watching, Listening and Speaking**

Pupils should be given opportunities to develop their skills in a range of oral activities according to purpose and audience as set out in the Programme of Study.

Candidates will be assessed on their ability to:

4.2.1 understand a range of spoken and broadcast material in formal and informal contexts and make an appropriate response;

4.2.2 analyse information presented on a wide range of topics, concrete or abstract;

4.2.3 respond appropriately to speakers in familiar or unfamiliar contexts;

4.2.4 communicate fluently, and accurately;

4.2.5 express themselves effectively;

4.2.6 participate effectively in a range of activities and to evaluate and summarise the contribution of others;

4.2.7 respond with appropriate linguistic skill to a given task.

4.3 **Reading**

Pupils should be encouraged to read independently and should have opportunities to develop their skills in the range of activities set out in the Programme of Study.

Candidates will be assessed on their ability to:

4.3.1 understand texts which present a variety of views and opinions and make an appropriate response;

4.3.2 extract specific information to fulfil certain tasks;

4.3.3 assess, analyse and compare various texts with regard to the author's purpose and style;

4.3.4 give a thoughtful and imaginative response to a wide range of materials.

4.4 **Writing**

Pupils should be given opportunities to write in different forms, according to purpose and audience, as set out in the Programme of Study.

Candidates will be assessed on their ability to:

4.4.1 produce imaginative or creative writing in which feelings and/or opinions are expressed;

4.4.2 produce descriptive or factual pieces of writing;

4.4.3 write using forms and styles appropriate to the task;

4.4.4 write in a competent manner with due regard to fluency, accuracy and presentation.

5 SCHEME OF ASSESSMENT

In the description of the scheme of assessment below reference is made to levels of attainment. This has been done for convenience and it must be emphasised that grades will be awarded on the lettered grade scale A* to G.

5.1 The scheme of assessment is designed to enable candidates to demonstrate the levels of attainment they have achieved in relation to each of the language skills. In Watching, Listening and Speaking it will be necessary to arrive at an aggregate level for these combined attainment targets based on guidance set out in the Coursework Memorandum.

Attainment from the coursework component for the skills of Reading and Writing will be aggregated with attainment in the respective terminal examination for these two skills.

5.2 The weightings for each of the assessment objectives and their distribution between coursework and terminal examination are set out in Table 5.2.

6 DIFFERENTIATION

Differentiation will be achieved by task and by outcome in the coursework elements and by the use of tiered papers in the terminal examinations for Reading and Writing.

7 TERMINAL EXAMINATION

7.1 There will be two tiers of terminal examination papers in Reading and Writing, each targeted at distinct but overlapping grades.

Tier S will be appropriate for candidates considered capable of achieving Grades C to G.

Tier T will be appropriate for candidates considered capable of achieving Grades A* to D(E).

7.2 Candidates may be entered for only one tier of papers and the choice of tier must be made at the time of entry. Grade E may be awarded exceptionally to candidates entered for Tier T who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

7.3 Each tier will comprise two papers. In both papers, Section A will be dedicated to Reading and Section B to Writing on an equal weighting basis.

Paper 1 (25%), 2 hours

Section A: **Reading**

This section will comprise three or four items of stimulus material in Irish which may be in any of the following styles: extracts from novels or plays, poetry, letters, and magazine or newspaper articles.

Table 5.2

Assessment Objectives	Terminal Examination	Coursework	Weighting
Watching, Listening and Speaking	0%	35%	35%
Reading	25%	7.5%	32.5%
Writing	25%	7.5%	32.5%
Overall Weighting	50%	50%	100%

Each item will be followed by three or four questions which will permit candidates to demonstrate a range of responses based upon their reading of items. Questions will be set and answered in Irish.

Section B: **Writing**

The candidates will be asked to make a personal response in writing to one of a number of tasks which take as their starting point the stimulus material presented in Section A. Approximately 250 words in Irish will be expected.

Paper 2 (25%), 2 hours

Section A: **Reading**

A choice of questions will be set on the reading and interpretation of stimulus material in Irish such as directions, brochures, application forms, advertisements, and reference sources including teletexts and databases. Candidates will be required to answer one question only in Irish.

Section B: **Writing**

A choice of questions will be set on a number of topics which require the candidate to make an appropriate response in writing. The candidate will be required to answer one question in Irish in approximately 250 words.

8 COURSEWORK COMPONENT

8.1 By the end of the course all candidates will be expected to produce coursework relating to each of the language skills.

8.2 Assessment of Watching, Listening and Speaking will be based on teacher records through observation of the students' ability to listen and to speak in a variety of situations during the course. The final assessment will be based on the candidate's four best outcomes in Watching, Listening and Speaking.

8.3 Coursework for Reading and Writing will take the form of two assignments in each skill. The assignments must reflect the activities set out in the Programme of Study reproduced in Appendix A.

9 MODERATION

The Centre must ensure that all coursework is internally standardised. The coursework will be subject to moderation in accordance with the Council's agreed procedures.

10 PROHIBITED COMBINATIONS

Candidates taking the examination in GCSE Irish (Gaeilge) are prohibited from taking the examination in GCSE Irish in the same series.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF COURSEWORK

1 INTRODUCTION

1.1 Coursework in GCSE Irish (Gaeilge) refers to the range of activities indicated for each of the Attainment Targets in the Programme of Study for Key Stage 4 and included in this document as Appendix A. These activities should be embedded in classroom practice and should arise naturally from a planned process of learning. For example, the Programme of Study for Watching, Listening and Speaking states that the pupils should have opportunities "to listen to their fellow-pupils and to adults on a one-to-one basis or in groups, so as to develop sympathetic listening and debating skills" and to "participate in activities which involve contact with the local community".

1.2 The assessment of coursework in each of the language skills will be carried out by the teacher using the statements of attainment as assessment criteria. The ongoing process of assessment will provide opportunities for the pupil to be assessed against those statements of attainment which are not appropriate in the context of a terminal examination.

1.3 For the purposes of standardisation the Council requires certain procedures to be followed in the marking of assessment assignments and activities and in the submission of this work for moderation.

2 TEACHER ASSESSMENT

Teachers should take the opportunity to assess pupils regularly in the three skills throughout the course. The assessment criteria should be applied holistically allowing for compensation between strengths and weaknesses in performance.

3 TASK SETTING

3.1 The Programme of Study for Key Stage 4 emphasises the key role of spoken language and combines the activities of Watching, Listening and Speaking. The tasks and activities designed to meet the coursework requirements must reflect this relationship.

3.2 Tasks designed to assess Reading and Writing must be drawn from the activities listed in the Programme of Study.

3.3 While challenging pupils, tasks should be within the competence of candidates in order to promote positive achievement and differentiation.

4 AUTHENTICATION

Where an assignment submitted to the Council takes the form of tangible evidence it must be the student's own work. This must be authenticated by the teacher on the candidate record sheet. Where evidence is intangible the teacher's coursework record will provide authentication. Candidate record sheets will be supplied by the Council.

5 INTERNAL STANDARDISATION

5.1 Where there is more than one teaching group in a centre coursework marks must be standardised according to procedures set down by the Council. Internal standardisation must take place before a final mark is awarded for the coursework components in each of the skills and before being forwarded to the Council.

5.2 On a specific date centres will be asked to forward to the Council the coursework marks for each of the skills.

6 ASSESSING WATCHING, LISTENING AND SPEAKING

6.1 Although the two attainment targets of Watching and Listening and Speaking are listed separately in the Northern Ireland Curriculum Order, the Programme of Study combines the two. This reflects their interdependence and similarly the approach adopted in this syllabus is to combine them in this way so that they may be more easily assessed.

6.2 The evidence for this skill will arise out of classroom practice. Language activities must reflect those set out in the Programme of Study and will therefore range from the formal classroom debate situation to one-to-one activities such as role plays and conversations.

6.3 When deciding on the level of a candidate's performance in a particular task in this skill the teacher should consider the statements of attainment for Watching and Listening and Speaking holistically. The teacher's record of these will identify the best pieces of coursework and will be a valuable source of formative information for both the teacher and the student.

Contexts

6.4 As a further aid to record-keeping it is possible to condense the various activities set out in the Programme of Study for the combined language skills into the following four contexts:

(a) Watching and Listening attentively and discussing with others.

(b) Asking and responding to questions for specific purposes.

(c) Talking about what has been seen, heard or read.

(d) Expressing, developing and defending opinions.

6.5 These contexts will at times overlap but it is expected that (a) and (b) will occur in most coursework tasks. Four assessments, which in total cover all four contexts, thereby reflecting the Programme of Study, will provide sufficient evidence of attainment for assessment purposes.

6.6 Once the four best outcomes have been selected it will be necessary to decide upon a final overall level of attainment. The degree of attainment within a level should be indicated by the use of a superscript symbol to denote High ($^+$), Middle ($^\circ$) and Low ($^-$) performances. The final level must be converted to a mark using the Conversion Table set out in Section 10 of this memorandum.

6.7 Set out below is part of a suggested Record Sheet indicating the coursework tasks and contexts covered. It should be noted that a single level for Watching, Listening and Speaking must be adjudged using the statements of attainment for the two attainment targets.

Example A: Watching, Listening and Speaking

Examplar Coursework Tasks	Contexts				AT1	AT2
	(a)	(b)	(c)	(d)		
Planned a project on a local area as part of a group/sought information from residents.	✓	✓			6°	
Developed arguments for the siting of a community centre/investigated its feasibility/talked about local reactions.		✓	✓	✓		6^+
Took part in a debate on the community centre and discussed the class investigation in detail.	✓	✓	✓	✓	7^-	7°
Listened to a reading by visiting poet, clearly showed enjoyment and took part in discussion afterwards.	✓		✓	✓	6^+	
Final Combined Level	—	—	—	—	6^+	
Final Mark	—	—	—	—	36	

6.8 As can be seen from the above example each formally assessed task has been given a level of performance based on an impression of how the student has met the statements of attainment set out for that level. It must be recognised that the individual appropriateness of each criterion will vary from task to task. The level of performance should reflect the teacher's overall judgement of the student's achievement and should allow for compensation between strengths and weaknesses in the performance of the task. Performance within a level has been differentiated by the use of a superscript, eg level 6^+ denoting a high performance within level 6 and 7—denoting attainment in the lower region of level 7.

6.9 For summative purposes an overall level for the combined attainment targets must be determined. This level should not simply be an average but should reflect the achievement of the student and the considered judgement of the teacher. The final level 6+ was then recorded as a mark using the conversion table set out in Section 10.

7 ASSESSING READING

7.1 The Programme of Study encourages independent reading and suggests a range of textual material such as novels, poetry, plays, letters, brochures, advertisements, reference sources, teletexts and databases. Oral responses to what is read will certainly yield information about the candidate's understanding or appreciation of a text but for the purposes of moderation the coursework should be in written form. When deciding on the level of a candidate's performance in this skill the assessment should be measured against the statements of attainment.

Contexts

The various activities set out in the Programme of Study fall into the following contexts.

(a) Reading material in order to fulfil a specific requirement.

(b) Making a personal response to what has been read.

(c) Assessing, analysing and comparing various texts with regard to the author's purpose and style.

7.2 These contexts will overlap and at least two should be represented in each coursework task. Two assignments covering all three contexts, thereby reflecting the Programme of Study, will provide sufficient evidence of attainment for assessment purposes.

7.3 Once the best pieces have been selected it will be necessary to decide upon an overall level for the skill. This level must be converted to a mark using the table set out in Section 10 of this memorandum.

7.4 Set out below is part of a suggested Record Sheet indicating the coursework tasks and contexts covered. Performance within the level has been differentiated by the use of a superscript.

Example B: Reading

Exemplar Coursework Tasks	Contexts			AT3
	a	b	c	
Read material on third world to obtain specific information and summarised finding as a fund raising poster.	✓	✓		7°
Reviewed a book, dealing with author's style of writing/stated own feelings.		✓	✓	5⁺
Final Level	—	—	—	6°
Final Mark	—	—	—	34

8 ASSESSING WRITING

8.1 Coursework for this skill should be quite accessible and varied. The Programme of Study sets out several activities which lend themselves to the design of coursework tasks.

Contexts

8.2 As with the previous skills the Programme of Study yields a number of contexts for writing. These are

(a) Descriptive/factual.

(b) Communication of feelings and opinions.

(c) Imaginative/creative.

8.3 Two assignments, covering all three contexts will provide sufficient evidence of attainment for assessment purposes.

8.4 Once the candidate's two best pieces of writing have been selected it will be necessary to decide upon an overall level for the skill. This level must be converted to a mark using the Conversion table set out in Section 10 of this memorandum.

8.5 Set out below is part of a suggested record sheet indicating the coursework tasks and contexts covered. Performance within the level has been differentiated by the use of the superscript.

Example C: Writing

Exemplar Coursework Tasks	Contexts			AT4
	a	b	c	
Wrote a biography of a famous Irish person in a form suitable for primary children.	✓		✓	9+
Wrote school magazine article promoting study of Irish, setting out contrary views and attempting to refute them.		✓		10–
Final Level	—	—	—	9+
Final Mark	—	—	—	53

9 MODERATION

9.1 Teachers must record pupils' attainment in Watching, Listening and Speaking and Reading and Writing and will be required to submit these records to the Council along with tangible evidence for Reading and Writing.

9.2 Standardisation will be achieved through Agreement Trials which will be organised by the Council. At the Agreement Trial teachers will be briefed on the use of statements of attainment as assessment criteria and will engage in trial marking of candidates' work. The Agreement Trial will cover all coursework components.

9.3 Where there is more than one teaching group in a centre taking the subject then the teachers in that centre will be expected to carry out their own within-school moderation before submitting their assessments to the Council. The purpose of this internal standardisation exercise is to ensure that each teacher of the subject has applied the assessment criteria consistently. As a result of this process it may be necessary for the marking of individual teachers to be adjusted to bring it into line with other teachers in the centre and to march the standards set at the Agreement Trial. Where such adjustments to teacher marking have been made the assessments on the Candidate Record Sheet must be amended accordingly.

External Moderation of Oral Evidence

9.4 The Coursework Moderator will visit each centre and assess a sample of candidates from each teaching group. The time of the visit and the method of selection of candidates will be determined by the Council. The candidates will be required to engage in group discussion on a topic chosen from six drawn up by the Council.

9.5 Using the criteria for Watching, Listening and Speaking, the Coursework Moderator will assess

performance of the candidates and award levels. In the light of these judgements, the Coursework Moderator, in consultation with the teacher, will review the assessments of the teacher and decide whether the levels awarded are appropriate or require adjustment to bring them into line with the standards set at the Agreement Trial.

External Moderation of Written Evidence

9.6 The Coursework Moderator, will scrutinise samples of coursework drawn from teaching groups in the centre in accordance with the instructions issued by the Council in order to determine whether internal standardisation has been achieved within the centre, whether the assessments are consistent across the rank order and whether an adjustment is necessary to bring the assessments into line with the standards set at the agreement trial.

9.7 Following the issue of results all centres will receive a statement of any adjustments which may have been made.

10 CONVERSION TABLE

When converting from overall levels of attainment in the various coursework components to marks, teachers should decide which of the marks in the range allocated to the superscript levels opposite are the most appropriate.

The mark allocated to that particular level should then be submitted to the Council. In order to ensure that the weightings specified in the scheme of assessment are observed the Council will scale the coursework marks for each skill according to the following ratios:

Watching, Listening and Speaking	60 : 70
Reading	60 : 15
Writing	60 : 15

LEVEL 10	**10^-**	**10°**	**10^+**
MARKS	55–56	57–58	59–60
LEVEL 9	**9^-**	**9°**	**9^+**
MARKS	49–50	51–52	53–54
LEVEL 8	**8^-**	**8°**	**8^+**
MARKS	43–44	45–46	47–48
LEVEL 7	**7^-**	**7°**	**7^+**
MARKS	37–38	39–40	41–42
LEVEL 6	**6^-**	**6°**	**6^+**
MARKS	31–32	33–34	35–36
LEVEL 5	**5^-**	**5°**	**5^+**
MARKS	25–26	27–28	29–30
LEVEL 4	**4^-**	**4°**	**4^+**
MARKS	19–20	21–22	23–24
LEVEL 3	**3^-**	**3°**	**3^+**
MARKS	13–14	15–16	17–18
LEVEL 2	**2^-**	**2°**	**2^+**
MARKS	7–8	9–10	11–12
LEVEL 1	**1^-**	**1°**	**1^+**
MARKS	1–2	3–4	5–6

APPENDICES

APPENDIX A
PROGRAMME OF STUDY: OPPORTUNITIES TO DEVELOP SKILLS

Watching and Listening

Pupils should have opportunities to:

- watch and listen attentively to develop accuracy and enrich their language;
- listen to their fellow-pupils and to adults on a one-to-one basis or in groups, so as to develop sympathetic listening and debating skills;
- listen to all kinds of direction within their educational experience;
- listen to various kinds of broadcast material suitable to their personal and educational needs;
- experience a wide range of material, for example, *fact, fiction, folklore, mythology, poetry, drama and music*;
- enjoy listening and speaking activities;
- listen and respond to a wide range of material that will enhance their knowledge of current affairs;
- participate in role-play or drama based on a range of situations;
- participate in activities which involve contact with the local community;
- use language in formal and/or informal situations;
- ask and respond to questions for a specific purpose, for example, *interview people in order to gain or to present exact information*;
- respond to and participate in group discussion based on their own experience, opinions and reading;
- read aloud a text and present it in an effective and sympathetic manner;
- relate stories which they have read or heard to their fellow pupils;
- develop their language skills to enrich vocabulary, grammatical accuracy and pronunciation;
- listen to broadcast materials on a range of topics, for example, *programmes on current affairs, sport, documentaries*.
- make contact with their peers and adults from the Gaeltacht;
- speak appropriately and purposefully in a range of formal situations, for example, *interviews, debates, discussion of projects*;
- discuss, in detail, complex topics;
- prepare a topic and present it to a group and direct the group discussion effectively;
- respond to imaginative works and express considered opinions on them;
- express, develop and defend their own opinions on a complex, diverse or abstract issue.

Reading

Pupils should have opportunities to:

- derive pleasure from reading;
- read a wide range of written material to extend their reading experience, for example, *novels, poetry, plays, letters, magazines, diaries, newspaper articles, directions, tourist leaflets, brochures, application forms, information leaflets, advertisements, dictionaries, reference books, atlases, teletexts and databases;*
- read material in order to fulfil a specific requirement;
- read closely to develop their skills of obtaining specific information from various texts;
- use a library to develop their reading skills in selecting information and to carry out research;
- retell a story;
- talk and write about what they have been reading;
- read aloud, highlighting meaning sensitively;
- respond to what they have been reading with understanding and empathy;
- discuss the role of characters in plays and novels;
- recognise particular bias in a newspaper report;
- recognise and discuss an author's opinions;
- compare two authors' accounts of the same event;
- revise their own opinions;
- use their imagination to compose an alternative ending to a story;
- read a wide range of materials, recognise and analyse an author's bias or slant and compare this to that of other authors;
- read a range of contemporary writing in order to recognise and discuss the authors' style;
- read a wide range of material to obtain specific information and to accomplish certain tasks;
- recognise and discuss the author's aims and objectives and the factors which have influenced him/her.

Writing

Pupils should have opportunities to write for their own enjoyment:

- to describe;
- to give information;
- to give instructions;
- to report;
- to communicate feelings and opinions;

- to show understanding;
- to put forward a point of view;
- to develop imaginative skills;
- to produce personal and imaginative writing at regular intervals;
- to produce creative writing in which there is a fitting atmosphere, background, plot and characterisations;
- to express their own opinions and use techniques which attract a reading audience by their use of images, distinctive examples and appropriate language;
- to describe precisely various activities within their own experience using a wide range of forms;
- to write about vocational, practical and social matters.

APPENDIX B

ATTAINMENT TARGETS AND STATEMENTS OF ATTAINMENT

ATTAINMENT TARGET 1: WATCHING AND LISTENING

LEVEL	STATEMENTS OF ATTAINMENT
	Pupils should be able to:
4	(a) respond to the teacher, group, peers and others, demonstrating an increased span of attention and understanding, while engaged in a prescribed task;
	(b) respond to stories, poetry, music and drama;
	(c) widen their experience of language by
	(i) extending their phonetic awareness,
	(ii) enriching their language,
	(iii) strengthening their grasp of sentence structure.
5	(a) respond with greater confidence, and participate effectively in group discussion, demonstrating an extended span of attention;
	(b) respond to stories, poetry, music and drama;
	(c) widen their experience of language and their ability to use it by
	(i) consolidating their phonetic awareness
	(ii) enlarging and enriching their vocabulary,
	(iii) showing a flowing command of sentence structure.
6	(a) show competence in group roles such as leadership which takes account of others;
	(b) show enjoyment is being derived from effective listening;
	(c) enrich their experience of language by
	(i) investigating further the phonetic patterns, with special reference to the exceptions to the general rules of pronunciation,
	(ii) developing awareness of the power of language to shape meaning and feeling,
	(iii) developing an awareness of various linguistic registers,
	(iv) becoming aware of and understanding various dialects of Irish.
7	(a) respond to and participate in group discussion in class on a topic which is beyond the life of the school but is within the pupils' experience;
	(b) respond to their peers from the Gaeltacht.
8	(a) listen to programmes from the broadcasting media suitable for their age and maturity and analyse the main points of information;
	(b) respond to speakers in a unfamiliar situation who are speaking about a topic within the pupils' own experience.
9	(a) analyse specific points of information in a wide range of topics which suit their age and maturity;
	(b) respond to native speakers from the Gaeltacht.
10	understand broadcast programmes and debates, in which language is used in formal and informal situations, where opinions are expressed and where concrete and abstract topics are discussed.

ATTAINMENT TARGET 2: SPEAKING

LEVEL	STATEMENTS OF ATTAINMENT
	Pupils should be able to:
4	(a) share and discuss with their teacher, their fellow-pupils and with others, their experiences and their thoughts and opinions. They should demonstrate an awareness of the conventions of classroom debate;
	(b) give a fuller and more confident account of people, objects, places and events;
	(c) demonstrate the acquisition of linguistic accuracy through the use of the dependent form of the past tense;
	(d) display accuracy in phonetics and intonation in a wider and more continuous range of sentences and speech;
	(e) use in their own speech the language enrichment acquired from teachers and from their reading.
5	(a) impart and discuss, with increased confidence, thoughts and opinions, taking account of different views;
	(b) give correct intelligible instruction to fellow-pupils, and provide an explanation for the teacher or a visitor;
	(c) demonstrate the acquisition of further elements of linguistic accuracy, such as a more complex use of the copula and agreement between singular noun and adjective;
	(d) show understanding of the differences between English and Irish phonetic structures;
	(e) use with understanding, in their own speech, metaphorical language acquired from reading or from other sources. Display an understanding of, for example, prefixes, suffixes and compound words.
6	(a) participate effectively in a group investigation and thereby arrive at a higher level of understanding of the subject matter;
	(b) express their personal opinions and defend them;
	(c) demonstrate the acquisition of linguistic accuracy by use of relative pronouns of "if" clauses;
	(d) display a high standard of phonetic accuracy in speech, including the principal points of Northern Irish, and an awareness of other dialects;
	(e) use their personal store of enriched language, incorporating metaphorical language in everyday usage.
7	(a) discuss in detail matters within their own experience with their fellow pupils;
	(b) use language which they would require outside school.
8	(a) contribute effectively in a group discussion on matters within their own experience expressing themselves clearly and logically;
	(b) use language for formal purposes in preparation for activities beyond school, in work or at leisure.
9	(a) discuss the viewpoints of their fellow pupils and present a logical argument without prior preparation;
	(b) express themselves effectively in front of individuals and various groups in a formal situation.
10	(a) play a full part in the planning and directing of a discussion group, recognise and evaluate discussion points and attempt to reach a compromise.

ATTAINMENT TARGET 3: READING

LEVEL	STATEMENTS OF ATTAINMENT
	Pupils should be able to:
4	(a) use the usual reading clues as well as patterns in words from a personal word store to read new words;
	(b) demonstrate that some development has taken place in higher order reading skills, namely • understanding meaning, • inferential understanding, • ability to appreciate, • understanding emotional content, • ability to summarise/classify;
	(c) ask searching questions to enable them to acquire information about a theme they are investigating;
	(d) derive satisfaction and enjoyment from a wider range of reading materials, selected personally or under teacher direction;
	(e) read aloud to fellow pupils.
5	(a) use patterns within words as well as the usual reading clues to read new words;
	(b) demonstrate that further development has taken place in the higher order reading skills;
	(c) use various reading strategies suitable to the project in hand;
	(d) read regularly over an extended period of time with pleasure and enthusiasm;
	(e) read aloud from personal reading matter displaying a range of emotion in their voices.
6	(a) recognise the structure of compound words in reading;
	(b) use the higher order reading skills to read critically prose or poetry;
	(c) demonstrate independence in their efforts to acquire comprehensive information concerning the subject of a class project;
	(d) select independently, in a library or elsewhere, reading material which fulfils a reading need;
	(e) prepare a passage which can be read aloud with expression so that it conveys the meaning, pace and context of the passage.
7	(a) read and understand selected pieces of reading material in which there is a wide range of views and opinions;
	(b) read for enjoyment and satisfaction;
	(c) read to obtain specific information in order to accomplish a particular purpose.
8	(a) read a range of texts for enjoyment and learning including books not specifically written for young people;
	(b) read and assess material in which young people would be interested;
	(c) read and analyse a range of selected contemporary written material.
9	(a) communicate a thoughtful and imaginative response to a wide range of texts;
	(b) read texts and shown an appreciation of meaning of storyline;
	(c) read and assess a range of contemporary writing.
10	(a) read and analyse a wide range of written material;
	(b) recognise and analyse an author's style in a wide range of texts;
	(c) make independent use of appropriate reading skills to suit different tasks.

ATTAINMENT TARGET 4: WRITING

LEVEL	STATEMENTS OF ATTAINMENT
	Pupils should be able to:
4	(a) develop a consistent legible style of handwriting, with attention to the patterns of eclipsis and aspiration;
	(b) write a short story or give a concise account of an aspect of class work that is readable and comprehensible;
	(c) develop further ability in spelling by
	(i) demonstrating an extended spelling vocabulary,
	(ii) demonstrating familiarity with the more common spelling patterns,
	(iii) using lexical resources in order to spell words;
	(d) write a piece of work independently containing patterns of accidence;
	(e) write a realistic or imaginative sequenced account.
5	(a) write a legible, consistent style, using with ease the joins between the appropriate letters;
	(b) convey, with accuracy, factual information or express personal feelings feelings/opinions/desires;
	(c) display a good standard of familiarity with a wider range of spelling patterns, including the pattern of accidence;
	(d) manipulate the syntax of the language showing a suitable degree of mastery of the patterns of accidence;
	(e) write a passage containing a series of events, organising the events so that the beginning, middle and end of the story are recognisable.
6	(a) show an increased awareness of presentation;
	(b) use the written or printed medium confidently to fulfil their communicative and creative needs in a precise and polished manner;
	(c) demonstrate the possession of a wide spelling vocabulary, using knowledge of the spelling conventions of Irish, as well as sources such as dictionaries and thesauri;
	(d) manipulate syntax and accidence to a standard which will ensure effective communication with the reader, and which will show knowledge of grammatical system;
	(e) use editorial skills on personal work to ensure that it displays readability and polish.
7	(a) write with guidance in a wide range of forms which vary according to purpose, subject matter or readership;
	(b) produce articles and creative pieces of writing which display an increasing awareness of form, structure and grammar;
	(c) demonstrate an ability to handle some official or formal texts.
8	(a) fulfil independently a range of written tasks requiring imagination and match length and style of the text to the task and to the reader;
	(b) demonstrate an ability to write in a wide range of forms and styles.
9	(a) produce a concise piece of writing based on research;
	(b) demonstrate an ability to write in a wide range of forms and styles and to select the appropriate form for the purpose.
10	(a) demonstrate the ability to organise complex or demanding subject matter in an assured and competent fashion;
	(b) write a passage in Irish with a wide range of vocabulary, grammatical accuracy, fluency, idiom, correct spelling and structure;
	(c) organise their own ideas and imagination and convey them effectively and competently.

ITALIAN

1 INTRODUCTION

1.1 The format of this syllabus is common to each of the subjects of French, German, Irish, Italian and Spanish.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Modern Languages. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.3 A course based on this syllabus will help to facilitate the further study of Modern Languages at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 RATIONALE

The syllabus and scheme of assessment requires candidates to demonstrate their ability to understand and use the target language and to explore the five Contexts for Learning as set out in the Programme of Study for Key Stage 4 in the Northern Ireland Curriculum Order for Modern Languages. Some answers may be required in English. Subject criteria state that a maximum of 10% of the total marks for the subject may be awarded for such answers but no more than half of this maximum allocation may be assigned to any particular assessment objective. The Programme of Study sets out the range of opportunities and activities which should be made available to pupils and for ease of reference these have been included as an Appendix to this syllabus.

3 AIMS

3.1 The aims set out below describe the educational purposes of following a course in GCSE Modern Languages. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

3.2 The aims of the syllabus are to:

3.2.1 develop the ability to use the target language for the purpose of practical communication;

3.2.2 develop an awareness of the nature of language and language learning in general;

3.2.3 offer insights into the culture and civilisation of the country or community in which the target language is spoken;

3.2.4 foster sympathetic and positive attitudes to other cultures and civilisations;

3.2.5 promote in pupils a better understanding of themselves and their own culture through comparison of the customs of the country or community of the target language with their own;

3.2.6 promote learning skills of a more general nature, such as analysis, memorising and drawing conclusions;

3.2.7 provide a firm base for the acquisition of the language skills and attitudes required for further study, work and leisure;

3.2.8 develop knowledge, understanding and skills related to the statutory cross-curricular themes.

4 ASSESSMENT OBJECTIVES

4.1 The assessment objectives set out below indicate the skills and abilities which will be assessed. Candidates will be required to demonstrate their ability to:

4.1.1 understand and respond to spoken language (Listening);

4.1.2 communicate in speech (Speaking);

4.1.3 understand and respond to written language (Reading);

4.1.4 communicate in writing (Writing).

5 RELATIONSHIP OF ASSESSMENT OBJECTIVES TO THE EXAMINATION COMPONENTS

This table below sets out the relationship of assessment objectives to the examination components and the points associated with each component.

Table 5.1

Component	Assessment Objectives	Foundation Weighting	Higher Weighting
Paper 1	4.1.1	25% 4 points	25% 4 points
Paper 2	4.1.2	25% 4 points	25% 4 points
Paper 3	4.1.3	25% 4 points	25% 4 points
Paper 4	4.1.4	25% 4 points	25% 4 points
Overall Weighting	–	100%	100%

Information on the system of converting points to grades, agreed by all Examining Boards will be circulated in due course.

6 DIFFERENTIATION

Differentiation will be achieved by the use of tiered papers.

7 SCHEME OF ASSESSMENT

7.1 The course will be assessed through the four skill areas of:

- Listening
- Speaking
- Reading
- Writing.

7.2 Each skill area is offered in two tiers, Foundation and Higher. Entry at the Foundation Tier will be appropriate for candidates considered capable of achieving Grades C to G overall and entry at the Higher Tier for those considered capable of achieving Grades A* to D(E) overall.

	A*		
	A		
Higher	B		
Tier	C	C	Foundation
	D	D	Tier
	(E)	E	
		F	
		G	

7.3 Candidates must indicate at time of entry which tier they wish to take in each skill area. Where candidates do not attain the lowest of the targeted grades available in a tier (ie G at Foundation and D at Higher) their performance will be recorded as unclassified. However candidates who narrowly miss achieving grade D in the Higher Tier may be classified as E. Given the flexible pattern of entry final grades will be awarded on the basis of accumulation of points scored in each skill.

8 TECHNIQUES OF ASSESSMENT

8.1 Set out below for each component of the examination are details of the assessment techniques which will be used. In view of the overlapping grade structure each skill area will be assessed using question(s) common to both tiers as specified below.

8.2 **Listening (4.1.1) (25%)**

Foundation: 30 minutes

Higher: 30 minutes

This paper will comprise a variety of items of stimulus material in the target language. Items may take the form of short announcements, messages and dialogues. Each item will be followed by one or more tasks which will require candidates to demonstrate a range of responses through such assessment strategies as gap filling, matching exercises, ticking boxes, completing grids and sequencing. Short answer questions requiring a response in the target language will also be set. Where the nature of the task demands, eg in an interpreting activity, questions may be set which require an answer in English. A number of questions will be common to both tiers.

Candidates are not permitted the use of a dictionary for the Listening component.

8.3 **Speaking (4.1.2) (25%)**

Foundation: 10 minutes

Higher: 10 minutes

(Preparation Time: 10 minutes)

The Speaking Test will be conducted by the candidates' own teachers and recorded on cassette. Two options for the assessment of the Speaking Test are available.

In Option A the teacher will be responsible for making an assessment of each candidate's performance and for submitting the recording to the Council for the purposes of moderation.

In Option B the recordings will be submitted to the Council for external assessment. If Option B is intended then this should be indicated at the time of provisional entry to the examination.

The Speaking Test will involve candidates in such activities as asking and answering questions, giving information and instructions through taking part in rôle plays and in general conversations. The rôle play tasks, certain of which will be common to both tiers, will be provided by the Council.

Candidates will be permitted the use of a bilingual dictionary during the 10 minutes preparation time. Further guidance on the conduct and assessment of the Speaking Test will be published separately.

8.4 **Reading (4.1.3) (25%)**

Foundation: 40 minutes

Higher: 40 minutes

This paper will comprise a variety of items of stimulus material in the target language which may be in any of the following styles: short items such as notices and announcements, extracts from letters, magazine or newspaper articles and other forms of imaginative writing. Each item will be followed by one or more tasks which will require candidates to demonstrate a range of responses through such assessment strategies as gap filling, matching visuals to text, ticking boxes, completing grids and sequencing. Short answer questions requiring a response in the target language will also be set. Where the nature of the task demands, eg in an interpreting activity, questions may be set, which require an answer in English. A number of questions will be common to both tiers.

Candidates will be permitted the use of a bilingual dictionary for the Reading component.

8.5 **Writing (4.1.4) (25%)**

Foundation: 45 minutes

Higher: 45 minutes

The candidates will be required to respond in writing to a number of tasks which take as their starting point stimulus material of a visual or written nature. In the

Foundation Tier candidates may be asked to produce lists; complete forms or write notes and cards. The task common to both tiers will require them to produce more extended writing such as formal or informal letters. Approximately 120 words in total will be expected. In addition to the common task Higher Tier candidates will be expected to produce a more substantive letter, report or account. Assistance in the form of structured guidance contained within the question, may be given to the candidate for example, a series of sub-questions or key phrases in the target language. Candidates may be required to respond to or obtain information from a text in the target language, such as a letter, newspaper article or report.

Candidates will be permitted the use of a bilingual dictionary for the Writing component.

9 MODERATION OF TEACHER-ASSESSED SPEAKING TESTS

9.1 Where the speaking components of the examination are assessed by the candidates' own teacher under Option A (See 8.3) the assessment will be subject to moderation according to the procedures approved by the Council, and published separately.

9.2 In cases where there is more than one teaching group in the centre, that centre must ensure that the assessment of the Speaking Tests is internally standardised. It is recognised that logistical problems would be likely given the short space of time between the end of the Speaking test period and the submission of marks to the Council. In this case the process of internal standardisation would be best promoted through the organisation of a within-school agreement trial prior to the conduct and assessment of the Speaking Test.

9.3 Arrangements will be made on an individual basis for the assessment of private candidates.

10 PROHIBITED COMBINATIONS

Candidates are not permitted to enter for both tiers in the same skill area.

11 SYLLABUS CONTEXTS AND TOPICS

Materials selected for use in examination papers will reflect the statutory Contexts for Learning and associated topics set out in the Northern Ireland Curriculum Order for Modern Languages. These are set out below:

Context 1: Everyday Activities

Topics

(a) Home and school life

(b) Food and drink

(c) Shopping

(d) Eating out.

Context 2: Personal Life and Social Relationships

Topics

(a) Self, family and friends

(b) Health

(c) Holidays and leisure

(d) Celebrations and special occasions.

Context 3: The World Around Us

Topics

(a) House and home

(b) Town and countryside

(c) Getting around

(d) Weather.

Context 4: The World of Work

Topics

(a) Services to the public

(b) Occupations and places of work

(c) Future plans and careers.

Context 5: The International World

Topics

(a) Travel and tourism

(b) Life in countries or communities in which the target language is spoken

(c) Caring for the environment.

12 FOCUS OF LANGUAGE CONTENT

Set out below for each topic is a brief description focusing on the language areas in which candidates may be expected to perform. The language areas identified for Foundation Tier also apply to Higher for which additional areas have been specified.

Focus of Language Content	
Foundation	**Higher**
1 Everyday Activities	**1 Everyday Activities**
(a) ***Home and School Life***	(a) ***Home and School Life***
Home routine	Jobs to be done around garden
Helping at home	School building
Jobs to be done around home	School facilities
Type of school	School year
Location of school	Examinations
School day	Pocket money
Travel to school	
Timetable	
Subjects studied	
Number of teachers/pupils	
(b) ***Food and Drink***	(b) ***Food and Drink***
Common types of food and drink	Further types of food and drink
Dislikes, likes, preferences	Recipes
(c) ***Shopping***	(c) ***Shopping***
Types of shops/shopping facilities	Commenting on the cost
Location of shopping facilities /department/item	Asking for change (money)
Types of items	Exchanging an item
Availability of items	Requesting delivery of an item
Number/quality/quantity/colour/size	Refund
Cost	Special offers
Shopping announcements	Trying something on
Payment	
(d) ***Eating Out***	(d) ***Eating Out***
Location of cafés/restaurants	Problems and complaints
Making a reservation	Contents of a dish/items on menu
Requesting a menu/wine list	Quality of meal/dish/drink
Ordering food/drinks	
Settling the bill	

Focus of Language Content	
Foundation	**Higher**
2 Personal Life and Social Relationships	**2 Personal Life and Social Relationships**
(a) ***Self, family and friends***	(a) ***Self, family and friends***
Name	Personal characteristics
Address	Marital status
Telephone number	
Date and place of birth	
Age	
Sex	
Composition of family	
Other relatives	
Nationality	
Physical features	
Details of friends	
Pets	
(b) ***Health***	(b) ***Health***
Parts of the body	Injuries
Physical condition, eg well, ill, tired	Personal safety
Needs – thirst, hunger	Warning of danger
Position of pain	
Doctor/dentist/chemist	
Common illnesses	
Medicines and treatment	
Instructions for taking medicines	
(c) ***Leisure activities***	(c) ***Leisure activities***
Hobbies/interests/pastimes	Describing what is involved in hobbies, interests, pastimes, sporting activities
Sporting activities	
Venues	Merits of performances, events
Times and dates of activities	Visits to zoo, circus
Requesting ticket/seat	
Meeting people	
Making arrangements to go out	
Making reservations	
(d) ***Celebrations and special occasions***	(d) ***Celebrations and special occasions***
Annual festivals	Making arrangements for a party/celebration
Parties	Celebrating birthdays, Christmas etc
Giving a present	
Congratulations	
Taking leave	
Days of weeks, dates	

Focus of Language Content	
Foundation	**Higher**
3 **The World Around Us**	3 **The World Around Us**
(a) ***House and Home***	(a) ***House and Home***
Location of building	Rent, price of property
Type of house/flat	Availability of services
Type of rooms	
Furniture	
Household items	
Kitchen equipment	
(b) ***Town and countryside***	(b) ***Town and countryside***
Town	Description of town and countryside
Buildings	Qualities of town and countryside
Places in the town	Comparing town and country life
District	
Region	
Countryside	
Farm animals	
Plants	
(c) ***Getting around***	(c) ***Getting around***
Directions	Losing the way
Times	
Means of transport	
Distances	
(d) ***Weather***	(d) ***Weather***
Types of weather	Weather forecasts
Seasons	

Focus of Language Content	
Foundation	**Higher**
4 **The World of Work**	4 **The World of Work**
(a) ***Services to the Public***	(a) ***Services to the Public***
Services/items required in:	Reporting/describing lost property
• post office	Services/items required in:
• filling station	• garage
• bank	• police station
Request services of:	• hospital
• police	• fire station
• fire	
• ambulance	
Recognise signs/notices relating to public services	
(b) ***Occupations and places of work***	(b) ***Occupations and places of work***
Types of occupations	Full time and part time jobs
Places of work	Future plans and careers
Hours of work	What particular jobs involve
Being out of work	Conditions of work
Opinions about jobs	Being on strike
(c) ***Future plans and careers***	(c) ***Future plans and careers***
Type of job they would like to do	Reasons for choice of occupation
Where they would like to work	Opportunities for work at home
Plans for immediate future/on leaving present school	Opportunities for work in target country
	Qualifications/preparations for a particular occupation

Focus of Language Content	
Foundation	**Higher**
5 **The International World**	5 **The International World**
(a) ***Travel and Tourism***	(a) ***Travel and Tourism***
Planning to go/going/being on holiday	What you did/will do on holiday
Hostel, campsite, hotel, etc	Enquiries about travel arrangements
Travel literature	Availability of facilities in airports/ports/stations
Notices and announcements relating to travel (including timetables)	Special terms (including supplements and reductions)
Prices and types of tickets	Travel problems (eg delays, alterations)
Travel documents/luggage	Customs
Tourist sights	
(b) ***Life in countries or communities in which the target language is spoken***	(b) ***Life in countries or communities in which the target language is spoken***
Names of other countries	Social customs
Nationalities	Characteristic traits
Main cities/towns	Drawing comparisons with life in their own community/ country
Currency	Regions
Money, weights and measures	
National dishes	
(c) ***Caring for the environment***	(c) ***Caring for the environment***
Location of litter bins	Pollution matters
Disposal of rubbish	Aspects of conservation
Smoking/non-smoking	
Simple conservation measures, eg saving water, switching off lights	

13 GRAMMAR AND STRUCTURES LIST

In this section the Grammar and Structures are defined for each tier of entry. The definition indicates whether knowledge is required for receptive use, ie Listening and Reading, or for productive use, ie Speaking and Writing. It is important to note that not all structures are equally important and that some structures are required for receptive use only. *Where the masculine form is stated, the feminine and plural forms are understood.*

Structures		Foundation		Higher	
		Receptive	Productive	Receptive	Productive
NOUNS	Genders and plurals	/	/	/	/
ARTICLES	Definite	/	/	/	/
	Indefinite	/	/	/	/
	Partitive and omission	/	/	/	/
ADJECTIVES	Agreement	/	/	/	/
	Comparative and superlative	/	/	/	/
	Demonstrative (questo and quello)	/	/	/	/
	Interrogative che, quale, quanto	/	/	/	/
	Possessive	/	/	/	/
VERBS	Present tense (regular and common irregular)	/	/	/	/
	Imperfect tense	/	/	/	/
	Perfect tense (including agreement with essere)	/	/	/	/
	Past historic tense			/	/
	Future tense	/	/	/	/
	Conditional tense	/	/	/	/
	Pluperfect tense	/		/	/
	Present subjunctive	/		/	/
	Imperatives	/	/	/	/
	Passive (limited to essere excluding venire)			/	
	Imperfect subjunctive (if clauses only)			/	/
	Gerund (including stare and gerund)	/		/	/
	Past participle agreement (Preceding Direct Object)	/		/	/
	Reflexive verbs (in common usage)				
	in singular	/	/	/	/
	in plural			/	/
	Past conditional			/	/
CONSTRUCTIONS	Constructions with "da"	/		/	/
	(a) Negatives	/	/	/	/
	(b) Double negatives with compound tenses	/		/	/
	Common constructions with "avere"	/	/	/	/

Structures		Foundation		Higher	
		Receptive	Productive	Receptive	Productive
CONJUNCTIONS	Common conjunctions (eg quindi, così, quando)	/	/	/	/
PRONOUNS	Conjunctive personal pronouns (Direct and indirect object pronouns)	/	/	/	/
	Order of personal pronouns with the verb (eg me lo da)			/	/
	Disjunctive personal pronouns (eg me)	/		/	/
	Interrogative pronouns (eg Chi? & Che?)	/	/	/	/
	Relative pronouns (eg Il quale)	/		/	/
	Subject pronouns (eg io, tu)	/	/	/	/
ADVERBS	Adverbs (eg facilmente)	/	/	/	/
NUMERALS	Cardinal	/	/	/	/
	Ordinal	/	/	/	/
	Fractions	/	/	/	/
PREPOSITIONS	Contraction of preposition and definite article (eg al, alla)	/	/	/	/
		/	/	/	/
	Common idiomatic uses of prepositions (eg in Italia, a Roma/di sera)	/	/	/	/
IDIOMS	With andare, dare, fare, stare	/	/	/	/

14 TARGET LANGUAGE RUBRICS

In this section is listed the key words and phrases which candidates are likely to encounter in question paper rubrics.

Ascolti e risponda alle domande

Ascolti e completi la lista

Ascolti e completi la scheda

Ascolti e lasci un massaggio

Ascolti il dialogo e risponda alle domande

Ascolti l'intervista e …

Dica

Domanda

Faccia il dialogo

Legga l'articolo e scriva

Legga e risponda alle domande

Legga e completa la scheda

Metta il nome nella colonna giusta

Scriva un messaggio in italiano

Scriva una lista

Scriva un racconto

Scriva una lettera/una cartolina

Scriva … parole in italiano

Unisca il nome con il disegno

Unisca i nomi con i numeri

15 MINIMUM CORE VOCABULARY LIST (FOUNDATION TIER)

15.1 This minimum core Vocabulary List for Foundation Tier is primarily intended as a guide for teachers to assist in the planning of work in relation to the programme of study.

The assessment tasks at Foundation Tier will be based on the minimum core Vocabulary List but candidates should expect to encounter unfamiliar vocabulary.

15.2 **Alphabetical Vocabulary List**

a
a buon mercato
a causa di
a piedi
abbandonare
abbassare
abbastanza
abbracciare
abbronzato
abile
abilità
abitare
abitualmente
accanto
accendere
accesso
accettare
accomodarsi
accompagnare
accorgersi
aceto
acqua
acqua minerale
acquistare
ad un tratto
adesso
adorare
adriatico
aereo
aeroporto
affamato
affare
affetto
affisso
affittare
agente
agenzia di viaggio
aggiungere
agitato
agnello
agricoltore
agricoltura
aiuola
aiutare
alba
albergo
albero
albicocca
alcool
alcuni
allegro
allora
almeno
alpi
alto
altro
alunno
alzarsi
amare
amaro
ambizione
ambulanza
amicizia
amico
ammalato
ammobiliato
amore
anche
ancora
andare
andare d'accordo
andata e ritorno
anello
angolo
animali domestici
anitra
anniversario
anno
antico
antipasto
antipatico
anzi
anziano
aperitivo
apparecchiare
appartamento
appassionato
appena
applauso
applicazione
appuntamento
aprire
arancia
archeologico
argento
aria
armadio
arrabbiato
arrivare
arrosto
arte
articolo
artista
ascensore
asciugamani
ascoltare
asino
aspettare
aspirapolvere
aspirina
assaggiare
assegno
assicurazione
assistente di volo
atletico
attaccare
attendere
attento
attore
attraversare
attrice
attuale
attualmente
autista
autobus
automobile
autostop
autostrada
autunno
aver bisogno di
aver caldo
aver fame
aver freddo
aver intenzione
aver luogo
aver mal di
aver paura
aver ragione
aver sete
aver sonno
aver torto
aver vergogna
aver voglia
avvenimento
avvicinarsi
avvocato
azione
azzurro

babbo
baciare
baffi
bagaglio
bagnato
bagno
balcone
ballare
bambino
bambola
banca
banchina
banco
bandiera
bar
barattolo
barba
barbiere
barca
barca a vela
basilica
basso

bastare
batteria
Befana
bella figura
bello
bene
benzina
bere
bevanda
biancheria
bianco
bibita
biblioteca
bicchiere
bicicletta
biglietteria
biglietto
binario
biondo
birra
biscotto
bisognare
bistecca
bizzarro
blu
bocca
bolletino
bollitoio
bologna
borsa
borsellino
borsetta
bosco
bottega
bottiglia
bottone
braccialetto
braccio
bravo
breve
brillare
brodo
bruno
brutto
buca
bucato
buffo
bugia
buio
buon affare
buon mercato
buongiorno
buono
burro
busta
buttare

cabina
caccia
cadere
caffè
caffelatte
caffettiera
calcio
caldo
calendario
calmo
calpestare
calvo
calza
calzino
calzolaio
cambiare
cambio
camera da letto
cameriera
cameriere
camicetta
camicia
caminetto
camminare
campagna
campana
campanile
campeggio
campione
campo
canale
canarino
cancello
cane
cannellone
cantante
cantare
cantina
canzone
capace
capelli
capire
capitale
capo
capodanno
capolavoro
capoluogo
capostazione
cappello
cappotto
cappuccino
capra
capriccioso
carabiniere
caraffa
caramella
caratterisitico
carbone
caricare
carino
carne
carnevale
caro
carriera
carrozza
carta
cartoleria
cartolina
casa
casalinga
cassa
cassiere
castano
castello
cattedrale
cattivo
cavallo
caviglia
cavolo
celeste
celibe
cena
centimetro
centrale
centro (acquisti tempo libero, sportivo, storico)
cercare
cerchio
cerino
cerotto
certo
cervello
cespuglio
che
che cosa
che ore sono?
Chi
chiamar (si)
chiaro
chiasso
chiave
chiedere
chiesa
chilo
chilometro
chirurga
chitarra
chiudere
chiuso
ciao
ciascuno
cibo
cielo
ciglio
cinema
cintura
ciò
cioccolato
cioé
cipolla
circa
circolare
città
cittadino
classe
classico
cliente
clima
coda
cogliere
cognato
cognome
coincidenza
colazione
collana
collant
collega
collegio

collina
colonna
colore
colpo (di sole)
coltello
coltivare
come
come mai
comico
cominciare
commedia
commercio
commesso
comodo
compagno
compito
compleanno
completore
complicato
complicazione
complimento
compositore
composto
comprare
comprendere
compreso
con
concerto
conferenza
confortevole
confuso
congelato
coniglio
conoscere
conservare
consistere
consolato
contadino
contento
continuare
conto
contorno
controllare
copiare
coprire
coraggio
correre
corriera
corrispondente
corsa
corso
cortile
corto
cosa
così
costare
costretto
costringersi
costruire
costume da bagno
cotoletta
cotone
cotto
cravatta
credere
crema
crescere
cretino
crisi
crudo
cuccetta
cucchiaino
cucchiaio
cucina
cucinare
cugino
cui
cuoco
cuore
curare
cuscino

da
dare
data
davanti
debole
decidere
decisione
denaro
dente
dentifricio
dentista
dentro
depresso
desiderare
destinatario
destra
detestare
deviazione
di
diagramma
dialogo
di buon'ora
di fronte a
diario
dibattito
dichiarare
dietro
differente
diffetto
difficile
difficoltà
digestivo
dimenticare
dimostrare
dintorni
dire
direttore
direzione
diritto
discoteca
discreto
discussione
discutere
disegno
disgustoso
disocupato
dispiace
distà
distante
distinguere
distinti saluti
disturbare
disturbo
dito
ditta
divenire
diventare
diverso da
divertirsi
divorziato
doccia
documento
dogana
doganiere
dolce
dolore
domanda
domandare
domani
domicilio
donna
dopo
dopo aver
dopodomani
doppio
dormire
dormitorio
dottore
dove
dovere
dozzina
dritto
drogheria
dubbio
duca
dunque
duomo
durante
durare
duro

ed
eccetto
eccezione
ecco
edicola
edificio
educato
elegante
elencare
elenco
elettricità
elezione
entare in
erba
esame
esatto
escluso
eseguire
esempio
essere
esso
est

estero (all')
estate
età
etichetta
etto
evitare

fa
fabbrica
facchino
faccia
facile
fagiolino
falegname
falso
fame
famiglia
famoso
fantascienza
fantastico
far cadere
fare
fare la maglia
fare una passeggiata
farfalla
farmacia
farmacista
fattoria
favore
favorito
fazzoletto
fabbre
fedele
fegato
felice
femmina
feria
ferito
fermarsi
ferro
ferrovia
fertile
festa
fiammifero
fiasco
fidanzato
fieno
figlia
figlio
fila
finalmente
fine
finestra
finire
fino a
fiore
firma
firmare
fissare
fitto
fiume
foglia
foglio
folclorico
fontana
forchetta
foresta
forestiero
forma
formaggio
formidabile
forno
forse
forte
fortuna
fotografia
francobollo
frase
fratello
freddo
freni
fresco
fretta
frigo
fritto
frittura
fronte
frontiera
frutta
fruttivendolo
fucile
fuggire
fumare
funzionare
funzionario
fuoco
fuori
furore
furto
futuro

gabinetto
galleria
gallina
gamba
garage
garza
gasolio
gatto
gelateria
gelato
gelo
gemelli
generalmente
genero
generoso
genitore
gennaio, etc
gente
gentile
geografia
gettare
gettone
ghiaccio
già
giacca
giallo
giardino
ginocchio
giocare
giocattolo
gioco
gioelli
gioia
giornalaio
giornale
giornata
giorno
giovane
girare
giro
gita
giù
giungere
giusto
gnocchi
godere
gola
gomito
gomma
gonna
grado
grammo
grande
grano
grappa
grasso
gratis
gratuito
grave
grazie
gridare
grigio
grosso
gruppo
guadagnare
guancia
guardare
guardia
guarire
guasto
guerra
guida
guidare
gusto

idea
identità
idraulico
ieri
imbarcare
immediatamente
imparare
impaziente
impedire
impermeabile
impertinente
impiegato
importante
impossibile
impratico
improvvisamente
imprudente
in
in aereo

in anticipo
in fondo
in macchina
in mezzo a
in panne
in ritardo
in seguito
in treno
incidente
incluso
incontrare
incrocio
indietro
indirizzo
indovinare
industria
infatti
infelice
inferiore
infermiera
influenza
informazioni
ingegnere
ingresso
inizio
inquinato
insalata
insalata mista
insegnante
insegnare
inserire
insetto
insieme
intanto
intelligente
interessante
interessar (si)
internazionale
interno
intervista
intorno
inutile
invano
invece
inverno
inviare
invitare
invito
io tu lei lui noi voi loro
iscrivere
isola
istituto
itinerario

labbro
lacrima
ladro
laggiù
lago
lamentarsi
lampada
lampeggiare
lana
larghezza
largo
lasagna
lasciar cadere
lasciare
lassù
latte
laurea
lavandino
lavapiatti
lavare
lavastoviglie
lavatrice
lavorare
leggere
leggero
legno
legume
lentamente
lento
lenzuolo
lettera
letto
lettura
lezione
libero
libreria
libretto
libro
limonata
limone
linea
lingua
liquore
lira
liscio
lista
listino
litigare
litro
livello
lo la li le ne
locanda
lontano
luce
luna
lunedì, etc
lunghezza
lungo
lupo

ma
maccheroni
macchina
macchina fotografica
macedonia di frutta
macellaio
macelleria
madre
maestro
maggiore
maglia
maglione
magnifico
magro
mai
maiale
malato
malattia
male
maleducato
malgrado
mamma
mancare
mancia
mandare
mangiare
manica
manifestazione
mano
manzo
marciapiedi
mare
marito
marmellata
marmo
marrone
maschio
matematica
materia
materiale sintetico
matrimonio
mattina
matto
maturo
me te lei lui se noi voi loro
medicina
medico
Mediterraneo
meglio
mela
membro
meno
mente
mentire
mento
mentre
meraviglia
meraviglioso
mercato
meridionale
mese
messaggio
mestiere
metà
metallo
metro
metropolitana
mettere
mettersi
mezzanotte
mezzo
mezzogiorno
mezzolitro
mi ti gli le ci vi loro
mi ti la lo ci vi si
migliaio
migliore
milione
minestra
ministro
minore

minuto
mio tuo suo nostro vostro loro
misura
mittente
mobile
moda
moderno
modo
modulo
moglie
molto
momento
monaco
monastero
mondo
moneta
montagna
monumento
morbido
mortadella
morte
morto
mosca
mostra
motocicletta
motoscafo
mozzarella
mucca
mulo
municipio
muro
museo
musica
mutandine

nailon
nascita
nascondere
naso
nato
Natale
nave
nazionalità
nazione
nebbia
necessario
negozio
nemico
nero
neve
nevicare
niente
nipote
noioso
noleggiare
nome
non ... affatto
non ... ancora
non ... mai
non ... ne ... nè
non ... neanche
non ... nessuno
non ... niente
non ... nulla
non ... neppure
non più
nonno
nord
normale
notare
notizia
notte
nozze
nubile
numero
nuora
nuotare
nuovo
nuvola

o
obbligatorio
oca
occasione
occhi
occhiali
occidentale
occupato
odiare
odio
odore
offrire
oggetto
oggi
ogni
olio
oliva
ombra
ombrello
onda
onesto
opera
operaio
operazione
opinione
oppure
opuscolo
ora
orario
ordinare
orecchio
organizzazione
orientale
oro
orologio
oroscopo
orto
ospedale
ospite
ostello (della gioventù)
ottimo
ovest

pacchetto
pace
padella
padre
padrone
paesaggio
paese
pagare
pagina
paio
palazzo
palcoscenico
pallone
pancia
pane
panetteria
panino
panna
pantaloni
papà
parcheggiare
parcheggio
parco
parecchio
parente
parere
parete
parlamento
parlare
parola
parrocco
parte
partenza
particolare
partire
partita
partito
parucchiere
Pasqua
passaggio
passaporto
passare
passatempo
passato
passeggiata
passione
passo
pasta
pasta asciutta
pasticceria
pasticcia
pastiglia
pasto
pastore
patata
patente
pavimento
pazienza
pazzo
peccato
pecora
pedaggio
pedone
peggio
peggiore
pelle
pellicola
peloso
pena
penna
pensare
pensiero

pensione
pentirsi
pepe
per
per favore
per piacere
pera
percepire
perché
perdere (si)
perdonare
pericolo
pericoloso
periferia
permesso
permettere
però
persona
personale
persuadere
pesante
pescare
pesca
pescatore
pesce
pescivendolo
pessimo
pettine
pettinarsi
petto
pezzo
piacere
piacevole
piangere
pianista
piano
pianoforte
pianta
pianterreno
pianura
piatto
piazza
piccolo
piede
piegare
pieno
pietra
pigiama
pigrizia
pigro
pillola
pineta
pioggia
piombo
piovere
pipa
piroscafo
piscina
piselli
pittore
pittura
più
più tardi
piuttosto
pizza
pizzeria
plastico
platea
po'
poco
podere
poesia
poeta
poi
poichè
polizia
poliziesco
poliziotto
pollo
polmone
poltrona
polvere
pomato
pomeriggio
pomodoro
pompa
pompiere
ponte
populare
porre
porta
portacenere
portafogli
portare
portiere
porto
porzione
possibile
posta
postino
posto
potabile
potere
povero
pozzo
pranzo
pratico
prato
preferire
prefisso
pregare
premere
prendere
prenotare
preoccupato
preparare
preparativi
presentare
presidente
prestare
presto
prete
previsioni
prezioso
prezzo
prigione
prima colazione
prima di
primavera
principe
principessa
privato
problema
problematico
prodotto
professione
professore
profondo
profumo
programma
promessa
promettere
pronto
pronto soccorso
proporre
proposta
proprietario
proprio
prosciutto
proseguire
prossimo
proteggere
provare
provincia
provvedere
prudente
pubblico
pulire
pulito
pullman
pullover
punire
puzzo

qua
quaderno
quando
qualche cosa
qualche volta
qualcosa
qualcuno
quale
quando
quanti anni ha
quantità
quanto
quartiere
quarto
quasi
quello
questo
questura
qui
quindicina

raccogliere
raccolta
raccomandare
raccontare
radio
raffreddato
raffreddore
ragazzo
raggiungere
ragione

rallentare
ramo
rapido
rappresentazione
rassomigliare
raramente
raro
rasoio
re
reazione
recapito
recente
regalo
regina
regione
regista
registrare
reparto
repubblica
restare
rete
rettangolare
rettangolo
ricamo
ricci
ricco
ricetta medica
ricevere
ricevimento
ricevuta
riconoscere
ricordare
ricordo
ridere
ridicolo
ridotto
riempire
rifiutare
rigovernare
rimanere
rimborsare
ringraziare
riparare
ripetere
riportare
riposare
riscaldamento
riso
risotto
risparmiare
rispondere
risposta
ristorante
risultato
ritirare
ritornare
riunione
riuscire
riva
rivista
roba
roccia
romanzo
rompere
rosa
rosso
rosticceria
rotondo
rotto
roulotte
rovinare
rubare
rubinetto
rumore
rumoroso
ruota

sabbia
sala d'aspetto
sala da pranzo
saldi
sale
salire
salotto
salsiccia
saltare
salumeria
salutare
salute
salve
salvo
sangue
sano
santo
sapere
sapone
sapore
sarto
sbagliar (si)
sbarcare
scaffale
scala
scambio
scampagnata
scarico
scarpa
scatola
scegliere
scelta
scemo
scena
scendere
scheda
scherzare
scherzo
schiena
sciarpa
sciopero
sciroppo
scompartimento
sconto
scontrino
scopo
scoppiare
scorso
scrittore
scrivania
scrivere
scuderia
scultura
scuola
scuro
scusare
scusi
se
secco
secolo
secondo
sedersi
sedia
sedia a sdraio
segnare
segretaria
seguire
semaforo
sembrare
semplice
sempre
sentiero
sentirsi
senza
separare
sera
serata
sereno
serio
servire a
servizio
seta
settentrionale
settimana
siccome
sicurezza
sicuro
sigaretta
sigaro
signora
signore
signorina
silenzio
simile
simpatico
sindaco
sinistra
situazione
snello
società
socio
soffitto
soggiorno
soldi
sole
solito (di)
solo
soltanto
soluzione
somaro
sondaggio
sopra
sopraciglio
sorella
sorpresa
sottile
sotto
spaghetti

spalla
sparare
sparire
spazioso
spazzola
spazzolino
speciale
specialità
specchio
spegnere
spendere
sperare
spesa
spesso
spettacolo
spettatore
spiacente
spiacevole
spiaggia
spiegare
spillo
spinaci
spingere
splendere
splendido
spolverare
sporco
sporgersi
sportello
sportivo
sposarsi
spostare
spremuta
spugna
spumante
spuntino
squadra
squisito
stadio
stagione
stanco
stanza da bagno
stare
stare per
stasera
statua
stazione
stella
sterlina
stesso
stipendio
stirare
stivale
stoffa
stomaco
storia
storico
strada
straniero
strano
straordinario
stretto
studente
studentessa
studiare
stufo
stupendo
stupido
su
subito
succedere
succo
sud
suocero
suonare
superiore
supporre
svantaggio
sveglia
svegliarsi
svendita
sventura
sviluppo

tabaccheria
tabacchi
tabella
tacchino
tacere
tagliare
tale
tanto ... quanto
tappeto
tardi
tasca
tassì
tavola
tazza
tè
teatro
telefonare
telefono
telegiornale
telegramma
televisione
televisore
temere
temperatura
tempo
temporale
tenda
tenere
terminare
termometro
terra
terrazza
terremoto
terribile
tesoro
tessuto
testa
testardo
testo
tetto
tifoso
tintarella
tipo
tiramisù
tirare
tira vento
toccare
togliere
tornare
torre
torta
tosse
tovaglia
tovagliolo
tra (fra)
tradurre
traffico
tragedia
traghetto
tragico
tragitto
tramonto
tranquillità
tranquillo
trascorrere
trascurare
trattoria
tremendo
treno
triangolare
triste
tristezza
troppo
troppo tardi
trovare
tuonare
turchino
turismo
turista
tuttavia
tutti e due
tutto ciò che

uccello
uccidere
udire
ufficio
ufficio oggetti smarriti
ufficio postale
uguale
ultimo
umido
umore
undicesimo
unire
università
uomo
uovo
urgente
usanza
uscire da
uscita
utile
utilizzare
uva

vacanza
vagone
valere
valigia
valle

vano
vantaggio
vapore
vaporetto
varietà
vario
vaso
vasto
vecchio
vedere
vedovo
veleno
veloce
velocemente
velocità
vendemmia
vendere
venire
vento
verde
verdura
vergognarsi
verme
vero
versare
verso
vestirsi
vestito
vetro
via
viaggiare
viaggiatore
viaggio
viale
vicino
vietato
vigile
vigile urbano
vigna
villa
villaggio
vincere
vino
violinista
visita
visitare
viso
vitello
vittima
vivace
vivo
voce
volentieri
volare
volere
volgere
volo
volpe
volta
voltare
votare
vuotare

zanzara
zero
zia
zio
zitto
zona
zucchero
zucchino
zuppa
zuppa inglese

16 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates identify and note main points and extract some details from simple language spoken clearly at near normal speed.

Candidates take part in simple transactions and conversations showing some ability to substitute words and phrases. Their pronunciation is intelligible, and although there are grammatical inaccuracies, the main points of the message are communicated.

Candidates identify main points and extract some information from short, simple texts, both printed and hand written. They use a bi-lingual dictionary or glossary to find out the meaning of unfamiliar words.

Candidates write short sentences, and respond to written texts by substituting words and set phrases. Although there will be mistakes in spelling and grammar, the main points of the message are communicated.

Grade C

Candidates identify and note main points and extract details and points of view from language spoken at normal speed. The spoken texts include narratives and future events. They are drawn from a variety of topics which include familiar language in unfamiliar contexts.

Candidates undertake transactions and develop conversations which include past, present and future events. They express personal opinions and show an ability to deal with some unpredictable elements. Although there are some errors, they convey a clear message, and their pronunciation and intonation are generally accurate.

Candidates identify and extract details and points of view from printed and hand written texts, authentic and simulated, drawn from a variety of topics and which include past, present and future events. They use

bi-lingual dictionaries or glossaries to understand unfamiliar language.

Candidates express personal opinion and write about a variety of topics, including past, present and future events. They write simple formal letters or personal letters. The style is basic but despite errors the writing conveys a clear message.

Grade A

Candidates understand gist and identify main points and detail in a variety of types of authentic spoken language. They recognise points of view, attitudes and emotions and are able to draw conclusions.

Candidates initiate and carry through transactions, take part in conversations and narrate events. They express and justify ideas and points of view, and produce longer sequences of speech using a variety of vocabulary, structures and time references. They speak confidently, with good pronunciation and intonation. The message is clear although there may still be some errors, especially when candidates use more complex structures.

Candidates understand gist and identify main points and detail in a variety of types of authentic texts. They recognise points of view, attitudes and emotions and are

able to draw conclusions. They select and make appropriate use of reference materials.

Candidates give factual information, narrate events and express and justify ideas and points of view. They produce longer sequences using a range of vocabulary, structure and time references. Their spelling and grammar are generally accurate, and the style is appropriate to the purpose.

APPENDIX
EXTRACT FROM NORTHERN IRELAND PROGRAMME OF STUDY

General Skills and Cultural Awareness

Developing Personal and Social Skills

Pupils should have opportunities, through the communicative process, to enhance their self-esteem by enjoying success and to develop positive attitudes to others. Such attitudes should include tolerance, empathy and appreciation of the talents and contributions of other people. Concentration and perseverance should be encouraged among pupils. These attitudes and qualities may be promoted by:

a working independently and collaborating in pairs and small groups;

b working on whole class activities;

c undertaking tasks in co-operation with the teacher or with another adult such as a language assistant or visitor;

d conducting or taking part in interviews, surveys or investigations;

e developing the skills of self-expression and presentation;

f taking part in decision-making;

g acknowledging their own contribution and that of peers.

Developing Language Learning Skills

Pupils should have opportunities to acquire, develop, and apply through the language learning processes, skills which include:

a memorising sounds, words and structures;

b note-taking;

c dealing with information;

d drawing conclusions and making inferences;

e predicting meaning from context;

f using resources independently;

g developing an awareness of sounds and language patterns;

h reading for a purpose;

i managing their own learning;

j solving problems;

k listening attentively;

l redrafting writing to improve accuracy and presentation.

Developing Cultural Awareness

Pupils should have opportunities to develop an awareness, understanding and appreciation of the culture of the country or community of the target language. They should have opportunities to develop a sense of European identity and to appreciate the diversity of European cultures and societies. By identifying similarities and acknowledging differences between cultures, they may learn to view their own culture more objectively. Pupils should have opportunities to:

- use authentic materials, for example, *magazines and videos*;
- meet native speakers of the target language, for example, *language assistants or visitors*;
- participate in correspondence and, where appropriate, visits to and exchange schemes with the country or community of the target language;
- experience or learn about the customs and traditions of the country or community of the target language through song, dance and the celebration of festivals.

Language Skills and Contexts for Learning

Language Skills

Throughout the programmes of study, pupils should be exposed to the target language and have frequent opportunities to use it. As a consequence, when responding to questions in a spoken or written form, pupils should use the target language except where a response in their first language is a necessary part of the task, for example, *in an interpreting exercise.*

Pupils should take part in activities which:

- combine two or more of the four language skills (listening, speaking, reading, writing) where appropriate;
- enable them to use the target language for real purposes;
- help them to acquire and use the target language to communicate with each other, their teacher and other speakers of the language;
- cultivate informed attitudes towards other people's lifestyles, social conventions, beliefs, opinions and ideas.

Pupils should have opportunities to develop language learning skills and awareness of language through the following activities:

- practising pronunciation and intonation;
- recognising how sounds are represented in writing;
- practising and internalising structures and vocabulary;
- developing awareness of different conventions and styles of language.

In order to develop and reinforce linguistic skills and to manipulate the target language, pupils should be taught to:

a listen for comprehension of general meaning and detail;

b listen for pleasure;

c seek and give information;

d ask about meanings and seek clarification or repetition;

e express preferences and reactions;

f take part in short exchanges and conversations;

g participate in imaginative and creative activities, for example, *drama, poetry and song*;

h follow instructions, for example, *when making and drawing*;

i read printed or handwritten texts for comprehension of general meaning and detail;

j read for information and for pleasure;

k use a range of reference materials and resources to aid comprehension and communication;

l select and copy;

m produce short pieces of continuous writing;

n write for pleasure;

o write formal and informal letters;

p interpret the meaning of language with the help of visual and other non-verbal clues;

q respond to different types of aural, visual and textual sources.

As they progress through the levels of attainment, teaching should enable pupils to engage in activities involving the higher order skills of:

r initiating and sustaining conversations;

s responding to unprepared situations;

t expressing feelings, opinions and ideas;

u discussing issues and making comparisons;

v adjusting language to suit context, audience and purpose;

w taking notes and reporting orally or in writing.

LATIN

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria and the components of the examination to which the criteria will be applied will be issued annually.

1 INTRODUCTION

1.1 The examination in Latin will consist of two written papers. This is a limited grade, single tier examination targeted at Grades A*–E.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and criteria for classical subjects.

1.3 A course based on this syllabus will help to facilitate the further study of Latin at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 AIMS

The aims set out below describes the broad educational purposes of following a course in GCSE Latin. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

The aims of the syllabus are to:

2.1 develop an appropriate level of competence in Latin;

2.2 develop a sensitive and an analytical approach to language generally by seeing English in relation to a language of very different structure and by observing the influence of Latin on the languages of today;

2.3 read, understand, appreciate and make a personal response to some Latin literature in the original language;

2.4 acquire some understanding of the civilisation within which the literature studied was produced;

2.5
- develop the ability to observe, abstract and analyse information paying due regard to evidence;
- develop a sympathetic awareness of others' motives and attitudes; and
- make an informed response to the material studied using written and where appropriate oral and other means of communication.

3 ASSESSMENT OBJECTIVES

3.1 Candidates will be expected to demonstrate knowledge and understanding of:

(i) vocabulary, morphology and syntax in context;

(ii) the differences between English and Latin, including word order, and the different ways in which ideas are expressed in the two languages.

3.2 Candidates will be expected to demonstrate understanding and appreciation of:

(i) Latin literature, including some verse, studied in the original language, with reference to content and literary quality;

(ii) the customs, institutions and historical significance of the Roman civilisation in relation to the language and literature studied, including the ability to evaluate evidence and to draw comparisons between the ancient world and later times.

4 DIFFERENTIATION

This GCSE Syllabus in Latin is a limited grade examination for which only one Tier of examination will be provided. Differentiation will be achieved by the use of structured questions and by the use of an incline of difficulty in the unprepared passages.

5 RELATIONSHIP BETWEEN ASSESSMENT OBJECTIVES AND EXAMINATION COMPONENTS

The grid below shows the relationship between the assessment objectives and examination components and provides a summary of assessment techniques. Northern Ireland criteria for classical subjects require broadly equal weighting to be allocated to each assessment objective and the grid below illustrates how this requirement might be met in an operational examination.

Assessment Objective	**Techniques of Assessment**	**3.1**		**3.2**		
Component		(i)	(ii)	(i)	(ii)	
Paper 1A	Translation Comprehension	45 25 (70)	15 5 (20)	–	30	120
Paper 1B	Set Book Comprehension Essay			60 20 (80)		80
Paper 2A	Prescribed Prose Literary Essay			60 20 (80)		80
Paper 2B	Composition **or** Comprehension Translation	45 45 (90)	15 15 (30)			120
		160	50	160	30	
Total		210		190		400

6 TECHNIQUES OF ASSESSMENT

Paper 1 consists of two sections entitled Section A and Section B.

Section A: Unprescribed Latin prose passages (30%)

The examination in Section A consists of two passages of unprescribed Latin prose, one for the translation into English, the other for comprehension.

The two passages may be linked in content to facilitate the setting of a wide range of comprehension questions. The questions set will be designed to test candidates' understanding of the content including an awareness of the life and customs of the Romans.

Section B: Prescribed verse text

The examination in Section B will consist of two questions in English on a prescribed verse text.

Question 1 – The candidates will be required to answer comprehension questions on one or more passages of Latin taken from the prescribed text. The questions will be designed to test the candidates' knowledge of and response to the passage and its wider context, and may include sections for translation (15%).

Question 2 – The candidates will be required to answer concisely in English a question designed to test further knowledge of and response to the content, immediate background and literary qualities of the prescribed text (5%).

Questions on scansion may be asked but will be limited to elegiacs and hexameters.

Paper 2 consists of two sections entitled Section A and Section B.

Section A: Prescribed prose text

The examination in Section A will consist of two questions on a prescribed prose text.

Question 1 – The candidates will be required to answer comprehension questions on one or more passages of Latin taken from the prescribed text. The questions will be designed to test the candidates' knowledge of and response to the passage and its wider context and may include sections for translation (15%).

Question 2 – The candidates will be required to answer concisely in English a question designed to test further knowledge of and response to the content, immediate background and literary qualities of the prescribed text (5%).

Section B

Question 1 – The candidates will be required to answer one of the following alternatives:

either (a): A passage of prose for translation from English into Latin (15%)

or (b): A passage of unprescribed Latin prose for comprehension (15%).

Some of the questions will be designed to test the candidates' understanding and appreciation of the language of the passage.

Question 2 – An unprescribed prose passage for translation into English (15%).

7 CONTENT

Prescribed Reading

Paper 1 – Section B: Verse

either Virgil, *Aeneid X*, lines 755 – end.

or *Libellus* ed. M. J. Tennick (C.U.P.) sections II and IV.

Paper 2 – Section A: Prose – Prescribed Text

either *Five Roman Authors* – Sallust section

or *Ecce Scriptores Romani* (Oliver and Boyd) – Caesar (sections 37 and 38).

8 BACKGROUND MATERIAL

Candidates will be expected to have some outline knowledge of the life and customs of the Romans in the 1st Century BC and 1st Century AD. Candidates may be required to make use of this knowledge in answering questions on both the prescribed and unprescribed sections of the examination.

Topics:

Home/life:	houses, clothes, food, women and children, daily activities, salutatio.
Slaves:	sources, the slave market, types of work, freeing of slaves, freedmen.
Leisure and Entertainment:	amphitheatre, Circus Maximus, theatre, baths.
Education:	school, the stages of Roman education.
Religion:	the major deities, household religion, sacrifices, divination, priests, temples.
Roman Government:	the senate, magistrates (including tribunes), the assemblies.
Travel:	by land and sea.

The Roman Legion:

The amount of detail required in the topics will be similar to that given in the relevant chapters of *These Were the Romans*, Tingay and Badcock (Hulton).

9 GRAMMAR

Candidates will be expected to have knowledge of:

The declension of regular and irregular nouns, adjectives and pronouns which appear in the vocabulary list.

The comparison of these adjectives.

The formation and comparison of adverbs from these adjectives.

All moods, voices and tenses of verbs in the vocabulary list.

The formation and declension of participles, gerunds, gerundives.

The prepositions which appear in the vocabulary list.

Numerals: cardinal (1–1,000) and ordinal (1–10).

10 SYNTAX

Candidates will be expected to have knowledge of:

Standard case usage including expressions of time, place and distance, agent and instrument, ablative of comparison.

Relative clauses.

Direct command and prohibition – omitting ne and perfect subjunctive.

Direct question: interrogative words (as in vocabulary list) and use of – ne, nonne, num, utrum ... an.

Use of participles.

Indirect statement, command, question.

Final clauses.

Consecutive clauses.

Clauses with verbs of fearing.

Conditional sentences.

Concessive clauses with indicative.

Causal clauses.

Temporal clauses introduced by conjunctions listed in the vocabulary.

Knowledge of the following will not be expected in the translation from English into Latin:

use of intransitive verbs in the passive;

final clauses using the relative pronoun and the subjunctive;

use of gerund and gerundive.

11 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade C

Candidates demonstrate some accuracy in knowledge of the meaning (and use where applicable) of vocabulary and grammatical constructions.

Candidates demonstrate a general knowledge and understanding of prescribed texts in the original language. They identify narrative aspects and appreciate simple points of style.

Candidates demonstrate a sound knowledge and understanding of the customs, institutions, events and achievements of the Roman world in the context of the literature studied. They evaluate evidence and draw simple conclusions. When appropriate they make comparisons between the classical world and later times.

Grade A

Candidates demonstrate a high level of accuracy in knowledge of the meaning (and use where applicable) of vocabulary and grammatical constructions.

Candidates demonstrate a detailed knowledge and understanding of prescribed texts in the original language. They make an informed personal response to the author's ideas, opinions, and literary techniques.

Candidates demonstrate a good knowledge and understanding of the customs, institutions, events and achievements of the Roman world in the context of the literature studied. They evaluate evidence in depth and draw informed conclusions. When appropriate they make detailed comparisons between the classical world and later times.

12 VOCABULARY LIST

In Paper 1(A) knowledge will be expected only of words in the vocabulary list; meanings of other words will be given. However, where the meaning of a word is vital for the understanding of a passage it may be given even though it appears on the list.

In Paper 2(B) no words from the list will be given and words whose meanings may easily be derived from words on this list may not be given.

Vocabulary List

a, ab	from
abeo	I go away from
absum	I am away, distant from
accidit	it happens
accipio	I receive
accuso	I accuse
ad	to
adeo	to such a degree
adeo	I approach
adsum	I am present
aedifico	I build
aeger	sick
aestas	summer
ager	field
ago	drive, do, act
agricola	farmer
albus	white
alius	other, another
alter	the other
altus	high, deep
ambulo	I walk
amicus	friend
amitto	I lose
amo	I love, like
animus	mind, spirit
annus	year
ante	before

antea	previously
antequam	before
aperio	I open
appropinquo	I approach
aqua	water
arbor	tree
argentum	silver
arma	arms
ascendo	I climb
at	but
atque, ac	and
audeo	I dare
audax	daring
audio	I hear
aurum	gold
aut … aut	either … or
aut	or
autem	however
auxilium	help
bellum	war
bene	well
bis	twice
bonus	good
brevis	short
cado	I fall
caecus	blind
caelum	sky
canis	dog
capio	I capture, take
captivus	prisoner
caput	head
carus	dear
castra	camp
celer	swift
celo	I hide
cena	dinner
cibus	food
circum	around
civis	citizen
clamo	I shout
clamor	shout
claudo	I close
coepi	I begin
cognosco	I find out
cogo	I compel
comes	companion
comparo	I procure
compieo	I fill
complures	several
comprehendo	I seize
concilium	meeting
confico	I complete
conor	I try
consilium	plan
consisto	I halt
conspicio	I catch sight of
constituto	I decide
contra	against
copia	supply
corpus	body
cotidie	daily
cras	tomorrow
credo	I believe
crudelis	cruel
culpo	I blame
cum	when, since
cum	with
cupidus	eager (to)
cupio	desire
cur	why
cura	care, anxiety
curo	I look after
curro	I run
custodio	I guard
de	about, concerning
dea	goddess
deus	god
debeo	I ought
defessus	tired
deinde	then, next
deleo	I destroy
descendo	I go down
dexter	right
dico	I say
dies	day
digitus	finger
dignus	worthy (of)
disco	I learn
diu	for a long time
do	I give
doceo	I teach
doleo	I grieve
dolor	grief/pain
dolus	trick
dominus	master
domus	home/house
donum	gift
dubius	doubtful
duco	I lead
dum	while
durus	harsh/hard
dux	leader
e, ex	from, out of
ecce	see, look
edo	I eat
ego	I
enim	for
eo, ire	I go
eo	there, to that place
epistola	letter
equus	horse
erro	I wander
et	and
etiam	also, even
exeo	I go out of
exercitus	army
exspecto	I wait for
extra	outside
fabula	story
facio	I do, make
facilis	easy
fames	hunger
felix	lucky
femina	woman
fere	almost

fero	I carry
ferox	fierce
fera	wild animal
festino	I hurry
fidelis	faithful
filia	daughter
filius	son
finis	end
fio	I become, I am made
fleo	I weep
flumen	river
forte	by chance
fortasse	perhaps
fortis	brave
fossa	ditch
frango	I break
frater	brother
frustra	in vain
fugio	I flee
gaudium	joy
gemo	I groan
gladius	sword
gratus	pleasing
gravis	heavy
habeo	I have
habito	I live
haud	not
heri	yesterday
hic, haec, hoc	this
hic	here
hiems	winter
hinc	from here
hodie	today
homo	man
hora	hour
hortor	I encourage
hortus	garden
hospes	guest, stranger, host
hostis	enemy
huc	to here
iaceo	I lie
iacio	I throw
iam	now, already
ibi	there
idem	the same
igitur	therefore
ignavus	lazy, cowardly
ignis	fire
ille, illa, illud	that
impedio	I hinder, prevent
imperator	commander
impero	I command
in	in, on, into
incendium	fire
incendo	I burn
incola	inhabitant
incolumis	safe
inde	from there
ineo	I enter
ingens	huge
initium	beginning
inopia	scarcity
inquit	he, she says
insula	island, tenement
intellego	I understand, I realise
inter	among, between
interea	meanwhile
interficio	I kill
intra	inside
intro	I enter
invenio	I find
invidia	jealousy
ipse	self
ira	anger
iratus	angry
is, ea, id	he, she, it, that
ita	in this way, thus
itaque	therefore
iter	journey
iterum	again
iubeo	I order
iudex	judge
iustus	just
iuvenis	young man
iuvo	I help
labor	I slip
labor	work
laboro	I work
lacrima	tear
laetus	happy
latro	robber
latus	broad/wide
laudo	I praise
legatus	ambassador, officer
lego	I read
leo	lion
levis	light, smooth
lex	law
liber	book
liberi	children
libero	I set free
licet	it is allowed
lingua	tongue, language
locus	place
loquor	I speak
ludo	I play
luna	moon
lux	light
magnopere	greatly
magnus	great
malo	I prefer
malus	evil
mane	in the morning
maneo	I remain
manus	hand
mare	sea
mater	mother
medius	middle of
memini	I remember
mensa	table
mercator	merchant
meus	my
miles	soldier
milia	thousands
miror	I wonder

mirus	wonderful/strange
miser	unhappy
mitto	I send
modo	only
modus	way
moneo	I warn, I advise
mons	mountain
monstro	I show
morbus	illness, disease
morior	I die
mors	death
moveo	I move
mox	soon
multi, ae, e	many
multitudo	crowd
murus	wall
nam	for
narro	I tell
nato	I swim
nauta	sailor
navigo	I sail
navis	ship
nec, neque	and – not
nec … nec	neither … nor
neco	I kill
nego	I deny
nemo	no one
niger	black
nihil	nothing
nisi	unless, if not
nobilis	noble
nolo	I refuse, do not wish
nomen	name
nondum	not yet
nonnulli	some
nos	we, us
noster	our
novus	new
nox	night
nudus	bare
nullus	no
nunquam	never
nuntio	I announce
nuntius	messenger
nusquam	nowhere
occido	I kill
oculus	eye
officium	duty
olim	once, one day
omnis	all
onus	burden
oportet	it is one's duty
oppidani	townspeople
oppidum	town
oppugno	I attack
opus	work
ora	shore
oro	I beg
orator	orator
oratio	speech
os, oris	mouth
os, ossis	bone
ostendo	I show
paene	almost
panis	bread
paero	I obey
paro	I prepare
pars	part
parvus	small
passus	pace
pater	father
patria	one's own country
pauci	few
paulatim	gradually
pax	peace
pecunia	money
per	through
pereo	I die
periculosus	danger
periculum	danger
pervenio	I reach, arrive
pes, pedis	foot
peto	I look for, ask
piscis	fish
placeo	I please
plenus	full
pono	I place
pons	bridge
populus	people
porta	gate
porto	I carry
possum	I am able
post	after
postea	afterwards
postquam	after
postremus	final, last
potestas	power
potius	rather
praeclarus	famous
praemium	reward
praeterea	besides
praetor	praetor/magistrate
primo	at first
priusquam	before
pro	on behalf of
procul	in the distance, far
proelium	battle
proficiscor	I set out
progredior	I advance
prohibeo	I prevent
promitto	I promise
prope	near
propter	on account of
provincia	province
proximus	next, nearest
prudens	wise
puella	girl
puer	boy
pugna	battle
pugno	fight
pulcher	beautiful, handsome
punio	I punish
puto	I think
qualis	what kind
quam	how, than
quamquam	although

quando	when
quantus	how big
-que	and
qui, quae, quod	who, which
quidam	a certain
quidem	indeed
quis, quis, quid	who, what
quisque	each
quo	to where
quod	because
quomodo	how
quoque	also
quot	how many
quotiens	how often
recipio	I receive
me recipio	I retreat
reddo	I take back, recover
redeo	I go back
regina	queen
rego	I rule, govern
relinquo	I leave
reliquus	rest
reor	I think
res	thing
res publica	state
resisto	I resist
respondeo	I answer
rex	king
rideo	I laugh
ripa	river bank
rogo	I ask
rursus	again
rus	country
sacer	sacred
sacerdos	priest
saepe	often
saevus	cruel
satis	enough
saxum	rock
scelus	crime
scientia	knowledge
scio	I know
scribo	I write
se	oneself
secundus	second
sed	but
sedeo	I sit
semper	always
senato	senator
senatus	senate
senex	old man
sequor	I follow
servo	I save, keep
servus	slave
si	if
sic	so
silentium	silence
silva	wood, forest
similis	like
simul	at the same time
simul ac	as soon as
sine	without
sinister	left
sino	I allow
sol	sun
soleo	I am used to
solus	alone
somnus	sleep
soror	sister
spectaculum	show
specto	I watch
spero	I hope
spes	hope
statim	immediately
stipendium	pay
sto	I stand
studium	zeal
stultus	foolish
sub	under
subito	suddenly
sum	I am
sumo	I take
superbus	proud
superior	higher, previous
supra	above
surgo	I rise
suus	his, her, its, their
taceo	I am quiet
tacitus	silent
talis	such
tam	so
tamen	however
tandem	at last
tantum	only
tantus	so big
tardus	slow, late
tectum	roof
templum	temple
tempus	time
tenebrae	darkness
teneo	I hold
terra	land, ground
terreo	I frighten
timeo	I am afraid, fear
timor	fear
tollo	I raise, remove
tot	so many
totiens	so often
totus	whole
trado	I hand over
traho	I drag, pull
trans	across
trepidus	afraid
tristis	sad
tu	you
tutus	safe
tum	then
turba	crowd
tuus	your
ubi	where, when
ullus	any
ultimus	last
umbra	shadow
unda	wave
unde	from, where
undique	on all sides

unquam	ever
urbs	city
ut	so that, as when
uter	which
uterque	each
utor	I use
uxor	wife
vaccus	empty
vale	goodbye
validus	strong
varius	different
vasto	I lay waste
vel	or
vel … vel	either … or
venio	I come
ventus	wind
ver	spring
verbum	word
verto	I turn
vertus	true
vester	your
vestis	clothes
veto	I forbid
vetus	old
via	road, street
vicinus	neighbouring
victor	winner
video	I see
vir	man
vires	strength
virtus	courage
vis	force
vita	life
vito	I avoid
vivo	I live
vivus	living
vix	scarcely
voco	I call
volo	I wish
vos	you
vox	voice

MATHEMATICS: SYLLABUS A

Two alternative syllabuses are available – Syllabus A and Syllabus B. Candidates may not be entered for both of these examinations within the same series of examinations.

1 INTRODUCTION

1.1 This syllabus has been designed to assess what candidates know, understand and can do in mathematics. It enables them to demonstrate their full potential in developing their mathematical knowledge, giving them confidence through enhancing their oral, written and practical skills. The teacher-assessed component is intended to be integrated into normal classroom practice, encouraging candidates to develop their mathematical abilities in the consideration of problems and experiments within mathematics and through other subjects of the curriculum. So that the experience is enjoyable for all candidates the syllabus promotes a variety of styles of teaching and learning.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Mathematics. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4 in Mathematics.

1.3 A course based on this syllabus will help to facilitate the further study of Mathematics at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 AIMS

The aims of the course in Mathematics leading to the examination are as follows. The course should enable students to:

2.1 develop their mathematical knowledge and oral, written and practical skills in a manner which encourages confidence;

2.2 read mathematics, and write and talk about the subject in a variety of ways;

2.3 develop a feel for number, carry out calculations and understand the significance of the results obtained;

2.4 apply mathematics in every day situations and develop an understanding of the part which mathematics plays in the world around them;

2.5 solve problems, present the solutions clearly, check and interpret the results;

2.6 develop an understanding of mathematical principles;

2.7 recognise when and how a situation may be represented mathematically, identify and interpret relevant factors and, where necessary, select an appropriate mathematical method to solve the problem;

2.8 use mathematics as a means of communication with emphasis on the use of clear expression;

2.9 develop an ability to apply mathematics in other subjects particularly in science and technology;

2.10 develop the abilities to reason logically, to classify, to generalise and to prove;

2.11 appreciate patterns and relationships in mathematics;

2.12 produce and appreciate imaginative and creative work arising from mathematical ideas;

2.13 develop their mathematical abilities by considering problems and conducting individual and co-operative enquiry and experiment, including extended pieces of work of a practical and investigative kind;

2.14 appreciate the interdependence of different branches of mathematics;

2.15 acquire a foundation appropriate to a further study of mathematics and of other disciplines.

3 ASSESSMENT OBJECTIVES

The scheme of assessment will test the ability of students to:

3.1 recall, apply and interpret mathematical knowledge in the context of everyday situations;

3.2 set out mathematical work, including the solution of problems, in a logical and clear form using appropriate symbols and terminology;

3.3 organise, interpret and present information accurately in written, tabular, graphical and diagrammatic forms;

3.4 perform calculations by suitable methods;

3.5 use an electronic calculator;

3.6 understand systems of measurement in everyday use and make use of them in the solution of problems;

3.7 estimate, approximate and work to degrees of accuracy appropriate to the context;

3.8 use mathematical and other instruments to measure and to draw to an acceptable degree of accuracy;

3.9 recognise patterns and structures in a variety of situations and form generalisations;

3.10 interpret, transform and make appropriate use of mathematical statements expressed in words or symbols;

3.11 recognise and use spatial relationships in two and three dimensions, particularly in solving problems;

3.12 analyse a problem, select a suitable strategy and apply an appropriate technique to obtain its solution;

3.13 apply combinations of mathematical skills and techniques in problem solving;

3.14 make logical deductions from given mathematical data;

3.15 respond to a problem relating to a relatively unstructured situation by translating it into an appropriately structured form;

3.16 respond orally to questions about mathematics, discuss mathematical ideas and carry out mathematical exercises, including calculations, mentally;

3.17 carry out practical and investigational work, and undertake extended pieces of work.

4 RELATIONSHIP BETWEEN ASSESSMENT OBJECTIVES AND CONTENT

The assessment of particular objectives cannot be prescriptively linked to particular items of content. The relationship between assessment objectives and content must be flexible in order that use can be made of various appropriate linkages of objectives to content, to suit the different abilities of candidates.

The weighting given to any particular objective will vary across the three tiers of assessment but no one objective will be given disproportionate emphasis.

5 SCHEME OF ASSESSMENT

5.1 The scheme of assessment is detailed below. At the time of entry candidates must be entered for **ONE** of the tiers of examination – Foundation, Intermediate or Higher. The scheme of assessment at each tier will comprise two written papers, an aural and computation test and a teacher-assessed component. The written papers and the aural and computation test will assess Number, Algebra, Shape, Space and Measures, and Handling Data and the teacher-assessed component will assess Processes in Mathematics.

5.2 The scheme of examination incorporates a differentiated system of assessment. There are three tiers of entry for the examination. The relationship between the tier of entry, the written papers candidates take and the grades available is as follows:

Tier	Combination of Papers	Grades Available
Foundation	1, 2 and 7	G–D
Intermediate	3, 4 and 8	E–B
Higher	5, 6 and 9	(D)C–A*

Higher Tier: Grades A*–C(D)

Grade D may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade C but who demonstrate the qualities associated with a grade D performance.

The scheme of assessment is designed to reward positive achievement. Consequently candidates should be entered for the tier which will most appropriately allow them to demonstrate their abilities. *Candidates entered for whichever tier of entry will be ungraded if their performance does not reach the standard required for the lowest grade available at that tier.* The scheme of assessment enables the candidate to respond to questions about mathematics, discuss mathematical ideas, carry out practical and investigational work, carry out calculations and undertake extended pieces of work.

5.3 The content set out in the appendix to the syllabus is displayed separately for each of "Foundation Tier"; "Intermediate Tier"; and "Higher Tier". It should be noted that the Intermediate Tier content subsumes all of the material contained in the Foundation Tier column and the Higher Tier content subsumes all of the material in both the Foundation and Intermediate Tier columns.

5.4 **Written Papers**

Each of the written papers will consist of a number of short answer questions and long questions most of which will be structured. The number of each type of question included in each of the six papers will vary according to the tier of examination. Papers 1 and 2 which are designed to assess the Foundation Tier will be comprised largely of short answer questions and the number of structured questions will be small. Papers 5 and 6 which are designed to assess the Higher Tier syllabus will contain comparatively few short answer questions with most of the marks being allocated to the long questions.

5.5 Candidates will be *required* to use electronic calculators in all six written papers. Calculators should have the following functions: $+, -, \times, \div, \sqrt{}$ and single memory. This list constitutes the minimum functions required.

5.6 For all written papers each candidate **must** be in possession of a suitable electronic calculator, ruler, compasses, set-square and protractor. For trigonometry questions on the Intermediate and Higher Tier written papers, electronic calculators with trigonometric functions must be used.

In each paper all questions are compulsory: questions will, for the most part, be set in context, where the mathematical content may be involved in an implicit rather than an explicit way.

Mark allocations for questions/parts of questions will be shown on each written paper.

5.7 **Aural and Computation Tests**

An Aural and Computation Test will be set for each tier of examination and this test will assess the candidate's ability to carry out mathematical exercises, including calculations, mentally and to perform simple written computation. The Aural and Computation test will be carried out by teachers in their normal class groups during a timetabled session set by the Council.

5.8 **Teacher-Assessed Component**

The purpose of this component is to assess Processes in Mathematics. Candidates will normally

be required to submit two extended tasks or assignments for formal assessment, each of which could take between 3 to 4 hours to complete. Teachers will be responsible for devising the tasks and marking them in accordance with the mark scheme given in the Coursework Memorandum. The teacher assessments will be subject to moderation. One of the tasks submitted for formal assessment must be of a practical nature and the other must be of an investigative nature. The Coursework Memorandum which follows this syllabus gives further details regarding the teacher-assessed component. Candidates repeating the examination may either resubmit their coursework for assessment or carry forward their coursework mark from the previous examination; coursework marks may be carried forward once only in a twelve month period.

Unless data is collected from outside the centre, the tasks *must* be completed under teacher supervision. The teacher must confirm that the work submitted is solely that of the candidate concerned and must present a written declaration that the candidate's coursework was conducted under the required conditions. Any help which is given to candidates beyond normal learning support must be reported and taken into account when assessing candidates' work. This may occur when the only way a candidate can achieve an assessable outcome is through the direct intervention of the teacher.

5.9 The time allocation and the weighting of each component of the examination are given in Table 5.9 below:

5.10 An assessment grid which provides the basis for relating assessment instruments (papers and coursework) to the specified assessment objectives and for ensuring syllabus cover is given in Table 5.10 below:

The syllabus content will carry the weightings shown in each tier of the examination. In particular the Aural and Computation test will concentrate mainly on Number and Algebra.

6 MODERATION PROCEDURES

6.1 Support Service and Advice

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres and arrangements can be made to provide support during the course by contacting the Council.

6.2 Internal Centre Standardisation

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as possible, that each of the teachers has applied the assessment criteria consistently when marking assessments.

The internal standardisation should take the form of a mini agreement trial based on samples of work drawn from each of the teaching groups concerned. From each teaching group the work selected should illustrate the variety of types of work undertaken by that group and also the range of performance within the group. Five items of work from each group are likely to suffice as sample material. The sample work from one teaching group should be re-marked by the other teachers in the department. The original marks

Table 5.9

Tier of Examination	Paper	Combination of Papers	Percentage Weighting	Time Allocation
Foundation	Written	1	35%	1½ hrs
		2	35%	1½ hrs
	Aural and Computation	7	10%	½ hr
	Coursework		20%	6 hrs (approx)
Intermediate	Written	3	35%	2 hrs
		4	35%	2 hrs
	Aural and Computation	8	10%	½ hr
	Coursework		20%	6 hrs (approx)
Higher	Written	5	35%	2½ hrs
		6	35%	2½ hrs
	Aural and Computation	9	10%	½ hr
	Coursework		20%	6 hrs (approx)

Table 5.10

	Processes in Mathematics	Number	Algebra	Shape, Space and Measures	Handling Data
Papers 1–9		X	X	X	X
Coursework	X				
Weighting	20%	40%		20%	20%

should not be known to those doing the re-marking. All assessments should be in accordance with the assessment criteria for the subject.

The marks resulting from both the original marking and the re-marking should be recorded together and a discussion held on the reasons for any significant discrepancies which appear. Reference should be made to the assessment criteria in this process. If it is found that the original marks awarded by one or more teachers do have to be adjusted, agreement should be reached on the adjustment(s) needed. If substantial adjustments are found to be necessary the original marker should be asked to reconsider the marks for all candidates in that teaching group. It might be wise (time permitting) to hold a second agreement trial based on different items of work from that teaching group, before the submission of the marks to the Council.

Any adjustments to the total mark made as a result of this internal standardisation procedure should be indicated by the letters IS written beside the mark.

Only the final agreed marks should appear on the mark sheet submitted to the Council.

6.3 **External Moderation**

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, will scrutinise samples of coursework drawn from the centre in accordance with instructions issued by the Council. The Assistant Coursework Moderators will determine from the evidence available whether internal standardisation has been achieved within the centre. The recommendations of each Assistant Coursework Moderator are summarised and are reviewed by two other Assistant Coursework Moderators working independently. Any cases of disagreement are referred to the Coursework Moderator for resolution. Following the issue of results all centres will receive a statement of the adjustments made, if any.

7 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of candidates' performance in the examination may be balanced by better performances in others.

Grade F

Candidates identify and obtain information required to carry through tasks and solve mathematical problems. They explain their approach to the task. They present their work using symbols, words and diagrams. They check their results and consider whether these are reasonable. They make general statements based on evidence and give an explanation of their reasoning.

Candidates extend their understanding of the relationships between place values, using this to multiply and divide numbers with up to two decimal places by 10, 100 and 1000. They use the four operations with decimals to two places, multiplying and dividing by whole numbers only. Using their understanding of equivalence, they add and subtract simple fractions. They understand the relationship between simple fractions and percentages. They apply inverse operations or estimation using approximations in order to check solutions. They understand and use negative numbers in context.

Candidates understand and use terms such as square, cube and prime. They use a letter to stand for an unknown number. They follow sets of instructions to generate a sequence and determine possible rules for generating sequences.

Candidates understand congruence of 2-D shapes and similarity. They investigate properties of triangles and quadrilaterals and measure and draw angles up to 360° with reasonable accuracy. They draw nets to make simple 3-D shapes. They reflect a shape in a line. They understand and use scale in the context of maps and drawings. They calculate areas of squares, rectangles and right angled triangles and volumes of cubes and cuboids. They are familiar with the Imperial units still in common use. They convert one metric unit to another. They use timetables involving the twenty four hour clock.

Candidates design and use a data collection sheet and interpret the results. They calculate and use the mean and range of discrete data. They construct and interpret simple line graphs. They interpret graphs and diagrams, including pie charts, and draw conclusions. They insert and interrogate data in a computer database. They place events in order of 'likelihood' and use appropriate words to identify chance, such as fifty-fifty and evens.

Grade C

Candidates carry through substantial tasks. Starting from problems or contexts that have been presented to them, they introduce questions of their own which generate fuller solutions and obtain further information if required. They examine critically and justify their choice of mathematical presentation, considering alternative approaches and explaining improvements they have made. They justify their choice of sub-tasks and the sequence in which these are carried out. They justify their generalisations or solutions. They summarise and present their conclusions, which may be generalisations, in symbolic form. They appreciate the difference between mathematical explanation and experimental evidence.

Candidates solve multiplication and division problems involving numbers of any size, using a calculator efficiently and appropriately. They make mental estimates by rounding to one significant figure. They express one number as a percentage of another. They understand and use repeated proportional change including the calculation of compound interest to a maximum of three iterations.

Candidates solve linear equations with whole coefficients algebraically and graphically. They express a function symbolically. They use graphical methods to solve simultaneous equations in two unknowns. They solve simple inequations in one variable representing the solution on a number line. They remove brackets

from and simplify when working with simple algebraic expressions, equations and formulae. They use 'trial and improvement' methods to solve simple polynomial equations.

Candidates understand and apply Pythagoras' Theorem. They understand and use three figure bearings to define direction. They enlarge a shape by a positive fractional scale factor, through a given centre of enlargement. They understand that a measurement expressed to a given unit is in possible error of half a unit. They understand and use compound measures. They calculate length and area of parallelograms, rhombuses, kites and circles.

Candidates test an issue by designing and using appropriate methods to collect data. They draw conclusions from the data. They understand and use relative frequency as an estimate of probability and use this to compare outcomes of experiments. They construct and interpret bar charts covering the range of a continuous variable. They know that if there are several possible outcomes of an event (exhaustive and mutually exclusive), the total of these probabilities is 1 and that the probability of something happening is 1 minus the probability of it not happening. When dealing with a combination of two independent experiments, they identify all the outcomes and calculate probabilities in the case of equally likely outcomes.

Grade A

Candidates give reasons for the choices they make when investigating within mathematics itself or when using mathematics to analyse tasks; these reasons explain why particular lines of enquiry are followed and others rejected. They apply the mathematics they know in familiar and unfamiliar contexts. They use mathematical language and symbols effectively in presenting a convincing reasoned argument. Their reports include mathematical justifications, explaining their solutions to problems involving a number of features or variables.

Candidates understand the distinction between rational and irrational numbers.

Candidates use symbolic notation to express rules of sequences. They factorise and simplify a variety of algebraic expressions and transpose formulae. They use and display graphically $y = mx + c$, reciprocal functions, growth and decay and quadratic functions. They understand and work with direct and inverse proportion. They solve quadratic equations by factorising and by formula.

Candidates know and use angle and tangent properties of circles. They work with the sine, cosine and tangent functions for all angles. They understand and use similarity and congruence of figures and volumes of similar solids. They understand how transformations are related by combinations and inverses. They calculate the upper and lower bounds of the values of expressions involving numbers expressed to a given degree of accuracy. They perform calculations of perimeters and areas which include circular arcs and calculate surface areas and volumes of cylinders, cones and spheres.

Candidates use graphical methods to solve linear programming problems. They construct a cumulative frequency curve, use it to find the median and quartiles and describe the dispersion of the data. They understand that when dealing with two independent events, the probability of them both happening is less than the probability of either of them happening (unless the probability is 0 or 1). They calculate the probability of combined events.

COURSEWORK MEMORANDUM

1 INTRODUCTION

The teacher-assessed coursework component of the examination is designed to assess the candidate's attainment in Processes in Mathematics. Practical and investigative work associated with the teacher-assessed component of the examination should arise naturally as part of the curriculum.

2 ASSESSMENTS

2.1 Candidates are required to submit for formal assessment two tasks, one of a practical nature and one of an investigative nature. Tasks must be carried out under teacher supervision. Each task should take approximately 3 to 4 hours of normal class time.

2.2 Teachers are responsible for devising the tasks, marking them in accordance with the scheme set out in this memorandum. Teachers will wish to allow their pupils to develop their practical and investigative skills during the course and it is therefore likely that each candidate will complete more than two tasks. Teachers will informally assess such work in order to provide formative feedback to the candidates and then select for formal assessment those tasks likely to obtain the highest mark.

2.3 It is essential that candidates be set tasks which will enable them to demonstrate what they know, understand and can do; consequently it is anticipated that all candidates should only be given tasks commensurate with the degree of mathematical competence they have displayed up to that point in the course. There is no requirement, however, that all the candidates in a particular teaching group should work on different tasks.

2.4 A candidate who is expected to enter for Foundation Tier should not normally be set a task whose successful completion requires the use of knowledge and techniques specified in Higher Tier of the syllabus content. Similarly those expected to enter for Intermediate Tier should not normally be required to attempt work associated with the upper band of Higher Tier. Nonetheless on occasion candidates may attempt to make use of knowledge or techniques beyond the tier of examination for which they intend to enter. Care must be taken therefore to select tasks which are commensurate with the candidate's current skills and abilities.

2.5 Practical tasks are intended to provide candidates with opportunities to put mathematics to use in the real world. Examples of starting points for structured and open-ended practical tasks may be obtained from the Council on request.

2.6 Investigative tasks are intended to provide candidates with opportunities to engage in investigations which are "pure" in the sense that their interest and importance do not lie in possible applications. They serve as a reminder that mathematics can provide a fascination and challenge all of its own. Examples of starting points for structured and open-ended investigative tasks may be obtained from the Council on request.

Authentication

2.7 Teachers will be required to sign a declaration that the candidate's activities were kept under regular supervision and that to the best of their knowledge, no assistance was given apart from any which is acceptable under the scheme of assessment and was identified and recorded.

3 ASSESSMENT OF THE TASKS

3.1 Tasks may be presented in any appropriate form. It is important, however, that the teacher has available for assessment as complete an indication as possible of the processes which the candidate has gone through, including those which may not have contributed to the final outcome. Thus the teacher should be able to ascertain the candidate's method of approach to a task and the way in which decisions have been taken which have led to the nature of the solution adopted.

3.2 Each assignment must have a Cover Sheet attached, which will be supplied by the Council. The candidate should record on the Cover Sheet his/her name, the date of submission, the title of the task and the starting point (structured or open-ended) which the candidate was given.

3.3 In marking ie annotating and scoring tasks for the purpose of the examination, each task will be considered under the following Processes in Mathematics strand headings:

Making and monitoring decisions to solve problems

Communicating mathematically

Developing skills of mathematical reasoning.

3.4 The criteria for the award of marks are based on the requirements of the strands for Processes in Mathematics. Within each tier, teachers must record, ***for each task***, an appropriate mark under each of the three headings – Making and monitoring decisions to solve problems, Communicating mathematically and Developing skills of mathematical reasoning. Discussion, together with the written work produced by the candidate, will enable the teacher to award a mark for each task under each heading. These marks are then awarded as outlined in 3.5 and 3.6.

3.5 **Arrival at Strand Marks**

Mark descriptions comprising a number of statements are provided for each strand. Each description within a strand is assigned one of the marks between 1 and 8. A candidate who fails to satisfy the description for a mark of 1 in a strand should be awarded a mark of 0 (zero) for that strand.

Whenever assessments are made, the mark descriptions should be used to judge the mark within each strand which **best fits** the candidate's performance. The statements within a description should not

be taken as discrete and literal hurdles, all of which must be fulfilled for a mark to be awarded.

The mark descriptions within a strand are designed to be broadly hierarchical. This means that, in general, a description at a particular mark subsumes those at lower marks. Therefore the mark awarded may not be supported by direct evidence of achievement of lower marks in each strand.

It is assumed that tasks which access higher marks will involve more sophisticated approach and/or a more complex treatment.

The professional judgement of the assessor in awarding marks is important.

3.6 **Arrival at Overall Mark Total**

Assessors are required to award a mark between 1 and 8 for each of the three strands. Each of these marks should represent a candidate's best performance within a strand across the tasks submitted.

These three marks should be totalled to give a mark out of 24.

MATHEMATICS: SYLLABUS B

Two alternative syllabuses are available – Syllabus A and Syllabus B. Candidates may not be entered for both of these examinations within the same series of examinations.

1 INTRODUCTION

1.1 This syllabus has been designed to assess what candidates know, understand and can do in mathematics. It enables them to demonstrate their full potential in developing their mathematical knowledge, giving them confidence through enhancing their oral, written and practical skills. Candidates are encouraged to develop their mathematical abilities in the consideration of problems and experiments within mathematics and through other subjects of the curriculum. So that the experience is enjoyable for all candidates the syllabus promotes a variety of styles of teaching and learning.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Mathematics. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4 in Mathematics.

1.3 A course based on this syllabus will help to facilitate the further study of Mathematics at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 AIMS

The aims of the course in Mathematics leading to the examination are as follows. The course should enable students to:

2.1 develop their mathematical knowledge and oral, written and practical skills in a manner which encourages confidence;

2.2 read mathematics, and write and talk about the subject in a variety of ways;

2.3 develop a feel for number, carry out calculations and understand the significance of the results obtained;

2.4 apply mathematics in every day situations and develop an understanding of the part which mathematics plays in the world around them;

2.5 solve problems, present the solutions clearly, check and interpret the results;

2.6 develop an understanding of mathematical principles;

2.7 recognise when and how a situation may be represented mathematically, identify and interpret relevant factors and, where necessary, select an appropriate mathematical method to solve the problem;

2.8 use mathematics as a means of communication with emphasis on the use of clear expression;

2.9 develop an ability to apply mathematics in other subjects particularly in science and technology;

2.10 develop the abilities to reason logically, to classify, to generalise and to prove;

2.11 appreciate patterns and relationships in mathematics;

2.12 produce and appreciate imaginative and creative work arising from mathematical ideas;

2.13 develop their mathematical abilities by considering problems and conducting individual and co-operative enquiry and experiment, including extended pieces of work of a practical and investigative kind;

2.14 appreciate the interdependence of different branches of mathematics;

2.15 acquire a foundation appropriate to a further study of mathematics and of other disciplines.

3 ASSESSMENT OBJECTIVES

The scheme of assessment will test the ability of students to:

3.1 recall, apply and interpret mathematical knowledge in the context of everyday situations;

3.2 set out mathematical work, including the solution of problems, in a logical and clear form using appropriate symbols and terminology;

3.3 organise, interpret and present information accurately in written, tabular, graphical and diagrammatic forms;

3.4 perform calculations by suitable methods;

3.5 use an electronic calculator;

3.6 understand systems of measurement in everyday use and make use of them in the solution of problems;

3.7 estimate, approximate and work to degrees of accuracy appropriate to the context;

3.8 use mathematical and other instruments to measure and to draw to an acceptable degree of accuracy;

3.9 recognise patterns and structures in a variety of situations and form generalisations;

3.10 interpret, transform and make appropriate use of mathematical statements expressed in words or symbols;

3.11 recognise and use spatial relationships in two and three dimensions, particularly in solving problems;

3.12 analyse a problem, select a suitable strategy and apply an appropriate technique to obtain its solution;

3.13 apply combinations of mathematical skills and techniques in problem solving;

3.14 make logical deductions from given mathematical data;

3.15 respond to a problem relating to a relatively unstructured situation by translating it into an appropriately structured form;

3.16 respond orally to questions about mathematics, discuss mathematical ideas and carry out mathematical exercises, including calculations, mentally;

3.17 carry out practical and investigational work, and undertake extended pieces of work.

4 RELATIONSHIP BETWEEN ASSESSMENT OBJECTIVES AND CONTENT

The assessment of particular objectives cannot be prescriptively linked to particular items of content. The relationship between assessment objectives and content must be flexible in order that use can be made of various appropriate linkages of objectives to content, to suit the different abilities of candidates.

The weighting given to any particular objective will vary across the three tiers of assessment but no one objective will be given disproportionate emphasis.

5 SCHEME OF ASSESSMENT

5.1 The scheme of assessment is detailed below. At the time of entry candidates must be entered for **ONE** of the tiers of examination – Foundation, Intermediate or Higher. The scheme of assessment at each tier will comprise three written papers and an aural and computation test. One of the written papers will assess Processes in Mathematics, the others and the aural and computation test will assess Number, Algebra, Shape, Space and Measures, and Handling Data.

5.2 The scheme of examination incorporates a differentiated system of assessment. There are three tiers of entry for the examination. The relationship between the tier of entry, the written papers candidates take and the grades available is as follows:

Tier	Combination of Papers	Grades Available
Foundation	1, 2, 7 and 10	G–D
Intermediate	3, 4, 8 and 11	E–B
Higher	5, 6, 9 and 12	(D)C–A*

Higher Tier : Grades A*–C(D)

Grade D may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade C but who demonstrate the qualities associated with a grade D performance.

The scheme of assessment is designed to reward positive achievement. Consequently candidates should be entered for the tier which will most appropriately allow them to demonstrate their abilities. *Candidates entered for whichever tier of entry will be ungraded if their performance does not reach the standard required for the lowest grade available at that tier.* The scheme of assessment enables the candidate to respond to questions about mathematics, discuss mathematical ideas, carry out practical and investigational work, carry out calculations and undertake extended pieces of work.

5.3 The content set out in the appendix to the syllabus is displayed separately for each of "Foundation Tier"; "Intermediate Tier"; and "Higher Tier". It should be noted that the Intermediate Tier content subsumes all of the material contained in the Foundation Tier column and the Higher Tier content subsumes all of the material in both the Foundation and Intermediate Tier columns.

5.4 **Papers Assessing Processes in Mathematics**

Each of the written papers, one for each tier of entry, assessing Processes in Mathematics will consist of a task. The mathematics involved in each task will allow candidates to demonstrate their abilities up to and including the highest grade associated with the tier of entry for which they have been entered. Paper 10 at Foundation Tier will be of 1 hour's duration. At Intermediate Tier Paper 11 will last for 1½ hours. At Higher Tier Paper 12 will be of 2 hour's duration. All papers assessing Processes in Mathematics will carry a weighting of 20%.

5.5 **Papers Assessing Remaining Content**

Each of the written papers will consist of a number of short answer questions and long questions most of which will be structured. The number of each type of question included in each of the six papers will vary according to the tier of examination. Papers 1 and 2 which are designed to assess the Foundation Tier will be comprised largely of short answer questions and the number of structured questions will be small. Papers 5 and 6 which are designed to assess the Higher Tier syllabus will contain comparatively few short answer questions with most of the marks being allocated to the long questions.

In each paper all questions are compulsory, questions will, for the most part, be set in context, where the mathematical content may be involved in an implicit rather than an explicit way.

Mark allocations for questions/parts of questions will be shown on each written paper.

5.6 Candidates will be *required* to use electronic calculators in all six written papers. Calculators should have the following functions: +, –, ×, ÷, √ and single memory. This list constitutes the minimum functions required.

5.7 For all written papers each candidate **must** be in possession of a suitable electronic calculator, ruler, compasses, set-square and protractor. For trigonometry questions on the Intermediate and Higher Tier written papers, electronic calculators with trigonometric functions must be used.

5.8 **Aural and Computation Tests**

An Aural and Computation Test will be set for each tier of examination and this test will assess the

Table 5.9

Tier of Examination	Paper	Combination of Papers	Percentage Weighting	Time Allocation
Foundation	Written	1	35%	1½ hrs
		2	35%	1½ hrs
	Aural and Computation	7	10%	½ hr
	Terminal Task	10	20%	1 hr
Intermediate	Written	3	35%	2 hrs
		4	35%	2 hrs
	Aural and Computation	8	10%	½ hr
	Terminal Task	11	20%	1½ hrs
Higher	Written	5	35%	2½ hrs
		6	35%	2½ hrs
	Aural and Computation	9	10%	½ hr
	Terminal Task	12	20%	2 hrs

Table 5.10

	Processes in Mathematics	Number	Algebra	Shape, Space and Measures	Handling Data
Papers 1–9		X	X	X	X
Papers 7–9	X				
Weighting	20%	40%		20%	20%

candidate's ability to carry out mathematical exercises, including calculations, mentally and to perform simple written computation. The Aural and Computation test will be carried out by teachers in their normal class groups during a timetabled session set by the Council.

5.9 The time allocation and the weighting of each component of the examination are given in Table 5.9 above.

5.10 An assessment grid which provides the basis for relating assessment instruments to the specified assessment objectives and for ensuring syllabus cover is given in Table 5.10 above.

The syllabus content will carry the weightings shown in each tier of the examination. In particular the Aural and Computation Test will concentrate mainly on Number and Algebra.

6 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of candidates' performance in the examination may be balanced by better performances in others.

Grade F

Candidates identify and obtain information required to carry through tasks and solve mathematical problems. They explain their approach to the task. They present their work using symbols, words and diagrams. They check their results and consider whether these are reasonable. They make general statements based on evidence and give an explanation of their reasoning.

Candidates extend their understanding of the relationships between place values, using this to multiply and divide numbers with up to two decimal places by 10, 100 and 1000. They use the four operations with decimals to two places, multiplying and dividing by whole numbers only. Using their understanding of equivalence, they add and subtract simple fractions. They understand the relationship between simple fractions and percentages. They apply inverse operations or estimation using approximations in order to check solutions. They understand and use negative numbers in context.

Candidates understand and use terms such as square, cube and prime. They use a letter to stand for an unknown number. They follow sets of instructions to generate a sequence and determine possible rules for generating sequences.

Candidates understand congruence of 2-D shapes and similarity. They investigate properties of triangles and quadrilaterals and measure and draw angles up to 360° with reasonable accuracy. They draw nets to make simple 3-D shapes. They reflect a shape in a line. They understand and use scale in the context of maps and drawings. They calculate areas of squares, rectangles and right angled triangles and volumes of cubes and cuboids. They are familiar with the Imperial units still in common use. They convert one metric unit to another. They use timetables involving the twenty four hour clock.

Candidates design and use a data collection sheet and interpret the results. They calculate and use the mean and range of discrete data. They construct and interpret simple line graphs. They interpret graphs and diagrams, including pie charts, and draw conclusions. They insert and interrogate data in a computer database. They place events in order of 'likelihood' and use appropriate words to identify chance, such as fifty-fifty and evens.

Grade C

Candidates carry through substantial tasks. Starting from problems or contexts that have been presented to them, they introduce questions of their own which generate fuller solutions and obtain further information if required. They examine critically and justify their choice of mathematical presentation, considering alternative approaches and explaining improvements they have made. They justify their choice of sub-tasks and the sequence in which these are carried out. They justify their generalisations or solutions. They summarise and present their conclusions, which may be generalisations, in symbolic form. They appreciate the difference between mathematical explanation and experimental evidence.

Candidates solve multiplication and division problems involving numbers of any size, using a calculator efficiently and appropriately. They make mental estimates by rounding to one significant figure. They express one number as a percentage of another. They understand and use repeated proportional change including the calculation of compound interest to a maximum of three iterations.

Candidates solve linear equations with whole coefficients algebraically and graphically. They express a function symbolically. They use graphical methods to solve simultaneous equations in two unknowns. They solve simple inequations in one variable representing the solution on a number line. They remove brackets from and simplify when working with simple algebraic expressions, equations and formulae. They use 'trial and improvement' methods to solve simple polynomial equations.

Candidates understand and apply Pythagoras' Theorem. They understand and use three figure bearings to define direction. They enlarge a shape by a positive fractional scale factor, through a given centre of enlargement. They understand that a measurement expressed to a given unit is in possible error of half a unit. They understand and use compound measures. They calculate length and area of parallelograms, rhombuses, kites and circles.

Candidates test an issue by designing and using appropriate methods to collect data. They draw conclusions from the data. They understand and use relative frequency as an estimate of probability and use this to compare outcomes of experiments. They construct and interpret bar charts covering the range of a continuous variable. They know that if there are several possible outcomes of an event (exhaustive and mutually exclusive), the total of these probabilities is 1 and that the probability of something happening is 1 minus the probability of it not happening. When dealing with a combination of two independent experiments, they identify all the outcomes and calculate probabilities in the case of equally likely outcomes.

Grade A

Candidates give reasons for the choices they make when investigating within mathematics itself or when using mathematics to analyse tasks; these reasons explain why particular lines of enquiry are followed and others rejected. They apply the mathematics they know in familiar and unfamiliar contexts. They use mathematical language and symbols effectively in presenting a convincing reasoned argument. Their reports include mathematical justifications, explaining their solutions to problems involving a number of features or variables.

Candidates understand the distinction between rational and irrational numbers.

Candidates use symbolic notation to express rules of sequences. They factorise and simplify a variety of algebraic expressions and transpose formulae. They use and display graphically $y = mx + c$, reciprocal functions, growth and decay and quadratic functions. They understand and work with direct and inverse proportion. They solve quadratic equations by factorising and by formula.

Candidates know and use angle and tangent properties of circles. They work with the sine, cosine and tangent functions for all angles. They understand and use similarity and congruence of figures and volumes of similar solids. They understand how transformations are related by combinations and inverses. They calculate the upper and lower bounds of the values of expressions involving numbers expressed to a given degree of accuracy. They perform calculations of perimeters and areas which include circular arcs and calculate surface areas and volumes of cylinders, cones and spheres.

Candidates use graphical methods to solve linear programming problems. They construct a cumulative frequency curve, use it to find the median and quartiles and describe the dispersion of the data. They understand that when dealing with two independent events, the probability of them both happening is less than the probability of either of them happening (unless the probability is 0 or 1). They calculate the probability of combined events.

APPENDIX

PROCESSES IN MATHEMATICS

Making and monitoring decisions to solve problems

Pupils should have opportunities to:

a gather information, initially with help, for a task; progress to identifying and obtaining information needed to pursue a line of enquiry, for example, *complete a data collection sheet*;

b take increasing responsibility for selecting and using appropriate resources and mathematics;

c plan and organise their work, learning to work systematically; outline steps to be taken to carry out a task; progress to giving reasons for the order of the steps;

d select, trial and evaluate a variety of possible approaches; identify what further information may be required in order to pursue a particular line of enquiry;

e review progress in the course of their work, check their results and evaluate their solutions; consider whether these are reasonable;

f develop a range of mathematical strategies for solving problems, for example, *simplify the task, use trial and improvement methods, work backwards, make organised lists, look for patterns;* review and evaluate the effectiveness of these strategies and suggest refinements;

g apply independently a range of appropriate mathematical techniques to challenging tasks and contexts.

Communicating mathematically

Pupils should have opportunities to:

a explain, interpret and discuss their mathematics as they work; compare their ideas and methods with others; understand and use appropriate mathematical language and notation accurately and efficiently to present a convincing and concise reasoned argument;

b present their work and results clearly, initially with help, using writing and symbolic notation, for example, *diagrams, graphs and symbols*; choose the most appropriate format and use it to present information and results clearly, for example, *record results in tabular form to assist in identifying patterns*; explain the reasons for the choice of presentation;

c comment on results; summarise and explain the main findings, for example, *indicating trends*, presenting these in an appropriate format;

d examine critically, improve and justify their choice of mathematical presentation.

Developing skills of mathematical reasoning

Pupils should have opportunities to:

a recognise important variables; progress to controlling these variables, for example, *in considering the area of rectangles vary length of one side keeping the other constant*;

b use patterns and relationships arising from their work to make and test predictions; understand general statements; understand, make and test generalisations, initially in words, later translating these into symbolic form where appropriate; appreciate the difference between mathematical explanation and experimental evidence; use and understand the role of counter examples in disproving;

c ask and respond to open-ended questions;

d use mathematical reasoning, for example, *if ... then; what would happen if ...* , initially when explaining, and then when following a line of sufficiently rigorous argument, recognising inconsistencies;

e synthesise information which is in a variety of mathematical forms;

f justify how they arrived at a conclusion or solution to a problem considering conditions for validity.

ASSESSMENT CRITERIA FOR PROCESSES IN MATHEMATICS

Mark Band	Making and monitoring decisions to solve problems	Communicating mathematically	Developing skills of mathematical reasoning
1	Candidates try different approaches and find ways of overcoming difficulties that arise when they are solving problems. They are beginning to organise their work and check results.	Candidates discuss their mathematical work and are beginning to explain their thinking. They use and interpret mathematical symbols and diagrams.	Candidates show that they understand a general statement by finding particular examples that match it.
2	Candidates are developing their own strategies for solving problems and are using those strategies both in working within mathematics and in applying mathematics to practical contexts.	Candidates present information and results in a clear and organised way, explaining the reasons for their presentation.	Candidates search for a pattern by trying out ideas of their own.
3	In order to carry through tasks and solve mathematical problems, candidates identify and obtain necessary information; they check their results, considering whether these are sensible.	Candidates show an understanding of situations by describing them mathematically using symbols, words and diagrams.	Candidates make general statements of their own, based on evidence they have produced, and give an explanation of their reasoning.
4	Candidates carry through substantial tasks and solve quite complex problems by breaking them down into more manageable tasks.	Candidates interpret, discuss and synthesise information presented in a variety of mathematical forms. Their writing explains and informs their use of diagrams.	Candidates are beginning to give a mathematical justification for their generalisations; they test them by checking particular cases.
5	Starting from problems or contexts that have been presented to them, candidates introduce questions of their own, which generate fuller solutions.	Candidates examine critically and justify their choice of mathematical presentation, considering alternative approaches and explaining improvements they have made.	Candidates justify their generalisations or solutions, showing some insight into the mathematical structure of the situation being investigated. They appreciate the difference between mathematical explanation and experimental evidence.
6	Candidates develop and follow alternative approaches. They reflect on their lines of enquiry when exploring mathematical tasks; in doing so they introduce and use a range of mathematical techniques.	Candidates convey mathematical meaning through consistent use of symbols.	Candidates examine generalisations or solutions reached in an activity, commenting constructively on the reasoning and logic employed, and make further progress in the activity as a result.
7	Candidates analyse alternative approaches to problems involving a number of features or variables. They give detailed reasons for following or rejecting particular lines of enquiry.	Candidates use mathematical language and symbols accurately in presenting a convincing reasoned argument.	Candidates' reports include mathematical justifications, explaining their solutions to problems involving a number of features or variables.
8	Candidates consider and evaluate a number of approaches to a substantial task. They explore extensively a context or area of mathematics with which they are unfamiliar. They apply independently a range of appropriate mathematical techniques.	Candidates use mathematical language and symbols efficiently in presenting a concise reasoned argument.	Candidates provide a mathematically rigorous justification or proof of their solution to a complex problem, considering the conditions under which it remains valid.

FOUNDATION TIER

This table outlines, in the left hand column, the content of the Programme of Study for Key Stage 3/4 which is required for Foundation Tier. The right hand column gives associated notes and additional exemplar material throughout.

NUMBER

Understanding number and number notation

Pupils should have opportunities to:

a understand and use the language of number, *for example, whole, decimal, fraction, percentage, prime, square, cube, root, factor, multiple, positive and negative, integer, natural, sum, difference, product, numerator, denominator, equivalent;*	Find all primes between 0 and 100. $\sqrt{16}, \sqrt[3]{27}$
b read, write and order whole numbers;	
progress to work with numbers with up to three decimal places, initially in the context of measurement;	Read scales marked in hundreds and numbered in tenths (1.89 m). Know that 0.235 is 2 tenths and 3 hundredths and 5 thousandths or 235 thousandths. Understand that 0.24 is greater than 0.235. Know that 5000 is 5 thousands or 50 hundreds or 500 tens or 5000 ones.
understand and use the concept of place value in whole numbers and decimals and use this to multiply and divide numbers by 10, 100 and 1000;	Explain why the cost of 10 objects costing £23 each is £230.
c approximate numbers to the nearest 10 or 100; estimate within calculations, initially with numbers within 100 and extending to all whole numbers; estimate and approximate to gain a feeling for the size of a solution to a problem, *for example, understand that 32.34 × 9.75 is approximately 30 × 10*; approximate to specified degrees of accuracy including a given number of decimal places and significant figures;	Estimate that 1472 – 383 is about 1100. Estimate that 278 ÷ 39 is about 7. Read a calculator display, approximating to three decimal places.
use 'trial and improvement' methods;	Find the side of a square whose area is 78 cm² in the following way: $9^2 = 81$, $8^2 = 64$, so the side is more than 8 cm, but less than 9 cm. As 8.52 is 72.25, the side is greater than 8.5 cm, etc.
d understand and use the conventional way of recording money;	A result, obtained using a calculator, of 26.3 should be recorded as 26.30.
e understand the four operations and the relationship between them;	
f understand and use fractions, decimals, percentages and ratios in context; understand and use the relationship between fractions, decimals, ratios and percentages, square and square root, cube and cube root;	Know that 7 books out of a total of 100 books represents 7%. Know that 3/5 = 6/10 = 60/100 = ... Know that 40% equals 2/5. Know that 2/5 = 4/10 = 0.4 = 40%.
g understand and use index notation;	Squares and cubes only

Number operations and applications

Pupils should have opportunities to:

a consolidate knowledge of number facts, including multiplication to 10×10; use this knowledge to find facts that they cannot recall;	Calculate mentally that there are 63 days in 9 full weeks. Calculate 70×100 leading to $70 \times 500 = 35{,}000$; $800 \div 10$ leading to $800 \div 20 = 40$.
b add, subtract, multiply and divide initially with whole numbers and progressing to numbers with up to two decimal places; understand the effects of operations on numbers of any size;	Work out mentally how much heavier an object weighing 75 kg is than one weighing 48 kg. Work out, without a calculator, how much longer 834 mm is than 688 mm. Work out in a variety of ways how many chocolate bars can be bought for £5 if each costs 19p, and how much change there will be.
apply order of precedence, first without brackets and then with brackets; solve problems requiring application of order of precedence; check calculations including the use of inverse operations;	Distinguish correctly between $3 + 2 \times 5$ and $(3 + 2) \times 5$.
c calculate with fractions, mainly in context, including fractions of quantities and fractional change; initially using simple percentages, calculate percentages of quantities and percentage change;	Work out the cost of a computer which is offered at 15% discount in a sale. Calculate 3/5 of £320; 15% of 170 m; 1/10 of 2 m; 37% of £234.
use unitary ratios and calculate with ratios in a variety of situations;	Use the approximation of 5 miles to 8 km to find the equivalent of 12 miles. State that lengths 8 cm and 12 cm in a drawing are in the ratio 2 : 3. Adapt a recipe for 6 people to one for 8 people.
d understand and use directed numbers starting with interpreting negative numbers in familiar contexts, *for example, temperature;*	Explain below zero temperatures on a television weather chart. Understand the meaning of integers in familiar contexts only. Calculate the increase in temperature from –4°C (degrees of frost) to +10°C.
e use square and cube numbers, and square and cube roots;	
f calculate with money; solve problems in the context of finance, *for example, currency exchange rates, profit and loss, discount, loans, current and deposit accounts, cheques, statements, lodgements and withdrawals, credit cards, hire purchase, general bank accounts including overdrafts, interest rates and mortgages, mail order sales, insurance, taxation, wages, salaries, unemployment benefit.*	To include simple interest.

ALGEBRA

Patterns, relationships, sequences and generalisations

Pupils should have opportunities to :

a explore, explain and generalise number patterns and predict and check subsequent numbers;	Understand the patterns in addition and multiplication tables, including symmetry of results and relationships between multiplication by 2, 4 and 8 etc.
generalise, mainly in words, patterns which arise in various situations; *for example, through spatial arrangement*;	Construct match stick squares, using an appropriate number of match sticks to make 1, 2, 3, 4 ... squares. Recognise square and triangular numbers and the relationship between them.
follow sets of instructions to generate sequences and determine possible rules for generating a sequence;	Produce a sequence in which the third and each subsequent number is the sum of the previous two numbers. Understand that 1, 2, 4 ... may be part of the sequence 1, 2, 4, 8, 16 ... or the sequence 1, 2, 4, 7, 11 ...

Algebraic conventions and manipulations

Pupils should have opportunities to

a understand key concepts and terms, *for example, substitute, simplify, like terms, expand, expression, equation, rule, sequence, index/indices, power;*

b understand and use conventional notations of algebra, *for example,*

$1a$	is written as a,
$b+b+b$	is written as $3b$,
$3c+4c$	is written as $7c$,
$7x-2x+y$	is written as $5x+y$,
$a \times b \times 2$	is written as $2ab$,
$y \times y$	is written as y^2
$2x^2+3x^2$	is written as $5x^2$,
$a \div b$	is written as a/b.

c formulate, interpret and evaluate algebraic expressions;

If cakes cost 15p each then write $c = 15 \times n$ (or $15n$) where c pence is the total cost and n is the number of cakes.

manipulate simple expressions, simplifying, removing brackets and factorising as appropriate.

Know that $2(a + b)$ is the same as $2a + 2b$.

Functions, formulae, equations and inequalities

Pupils should have opportunities to:

a appreciate the use of letters to represent variables;

b use simple function machines where appropriate;

$3 \rightarrow \times 2 \rightarrow ?$
$? \rightarrow \div 7 \rightarrow 2$

understand and work with simple functions arising in a variety of situations;

Use the fact that the perimeter $p = 2a + 2b$ where a and b are the dimensions of an appropriate shape.

interpret graphs that describe real-life situations including conversion graphs;

d appreciate the use of letters to represent unknowns;

e understand and evaluate formulae related to mathematics or other subjects or real-life situations;

f formulate, use and solve graphs of linear equations;

Solve a problem such as "If I double a number, then add 1 and the result is 49, what is the number?"

SHAPE, SPACE AND MEASURES

Exploration of shape

Pupils should have opportunities to:

a explore shape through drawing and practical work using a wide range of materials;

recognise and describe 2-D and 3-D shapes, including squares, rectangles, triangles, hexagons, pentagons, circles, cubes, cuboids, cylinders, spheres, cones, triangular prisms, pyramids; recognise right-angled corners in 2-D and 3-D shapes;

investigate tessellation of 2-D shapes, *for example, equal angles in diagrams and tessellations;*

Determine whether a tessellation of given shapes is possible.

b explore and investigate lines and angles, using appropriate language and notation including vertical, horizontal, perpendicular, parallel, acute, obtuse, right, reflex, vertically opposite, adjacent, alternate and corresponding angles;

c classify and define types of triangles including scalene, right angled, equilateral and isosceles; classify and define types of quadrilaterals including square, rectangle, parallelogram, rhombus, kite and trapezium, use the properties of triangles and quadrilaterals;

d know and use language associated with circles, including circumference, radius, diameter;

f explore a range of regular and irregular 2-D and 3-D shapes; make 2-D and 3-D shapes from given information; use associated language including edge, face and vertex; draw nets; estimate, measure and calculate angles;

construct triangles and simple scale drawings using protractor, ruler and compasses, as appropriate;

Make triangles, quadrilaterals and circles using apparatus such as geoboards.

g understand the concept of congruence;

Group together congruent shapes from a range of triangles and quadrilaterals.

Position and movement

Pupils should have opportunities to:

a understand the notion of angle in the context of turning; give and understand instructions for moving through 1/2, 1/4 and 3/4 turns;

Use LOGO to draw a square.

b locate position; use clockwise and anti-clockwise; use the 8 points of the compass; specify location by means of co-ordinates in the first and then the four quadrants;

Describe wind direction from a weather vane.
Locate features on an ordnance survey map, given their grid references.
Plot the vertices of a triangle (3, 2), (−1, 5), (−2, −6).

c recognise symmetry properties in a variety of shapes in two dimensions; recognise line symmetry; draw the axes of symmetry; reflect shapes in a mirror line; recognise rotational symmetry, its order and centre; know and use symmetry properties of triangles, quadrilaterals and other polygons; recognise planes of symmetry in practical situations;

Find the centres and axes of symmetry in a variety of plane and solid shapes.
Turn shapes using tracing paper.
Reflection to include rectilinear figures only.
Use LOGO to draw regular polygons.

Study shapes and identify some planes of symmetry.

d enlarge a shape through a given centre of enlargement, by a whole number scale factor.

Measures

Pupils should be given opportunities to:

a understand and use metric units of length, area, capacity and 'weight'/mass; understand the relationship between units; convert from one metric unit to another;

Use two units such as millilitres and litres to measure the capacity of the same jug.
Work out that 2.4 kg is equivalent to 2400 g.

b choose and use appropriate metric units and measuring instruments in a variety of situations, interpreting numbers on a range of measuring instruments;

c make sensible estimates of length, area, capacity, 'weight'/mass and time;

Estimate the length of a car, the capacity of a teacup, the 'weight' of a school bag.
Estimate the time taken to complete a task.

d understand and use compound measures including speed;

Work out average speed (distance/time).

e know Imperial measures still in common use including foot, yard, mile, pound and pint and their approximate metric equivalents;

Recall that 1 kg is about 2.2 lb, 8 km is approximately 5 miles, 1 litre is about 1.75 pints.

f read digital and analogue displays; use a calendar; understand and use the twelve and twenty four hour clock; use timetables involving the twenty four hour clock; interpret and display information on travel graphs;	To include single journey graphs only.
g understand and use scale in the context of maps and drawings, *for example, calculate the actual distance as the crow flies between two places on a map*;	
h develop an understanding of the continuous nature of measure and the approximate nature of measurement;	
i understand the concept of perimeter; calculate the perimeters of squares, rectangles, triangles and other straight-edged figures and circles;	Calculate the circumference of a circle of radius 7 cm.
j understand the concepts of area and volume; find areas and volumes, *for example, by counting methods*; calculate the areas of squares, rectangles and triangles;	Find the approximate area of a leaf.
	Work out the surface area of a box.
calculate the volume of cubes and cuboids;	Work out the approximate volume of a small box. Calculate the volume of a cube of side 2 cm.

Handling Data

Collect and record data

Pupils should have opportunities to:

a formulate questions that can be considered using statistical methods and undertake purposeful enquiries based on data analysis;	
b access and retrieve data from a variety of sources and understand the purpose for which the data is required; collect, organise and record data by using and designing recording sheets, using tallying methods where appropriate; group data where appropriate, initially with given class intervals; use a given decision tree diagram to sort a collection of items;	Devise a simple habitat recorder for an ecological survey. Investigate the number of children crossing the road to school in order to establish the need for a crossing patrol and the necessary hours of duty. Conduct a survey of cars passing with one, two, three ... occupants. Determine the best location for a pedestrian crossing.

Represent, analyse and interpret data

Pupils should have opportunities to:

a interpret and display information in a variety of ways, including: • bar charts with a given scale; • pictograms using whole symbols only to represent one or more than one item; • frequency tables for ungrouped discrete data; • line graphs; understand that intermediate values may or may not have a meaning; • scatter graphs;	
interpret information in pie charts and two-way tables;	Use a table of distances between towns to plan a journey.

b interrogate data in a database, which may be a computer database, initially using one criterion; use the facilities of the database to represent information graphically;

c extract and use information from tables and lists; answer straightforward questions, then draw more general inferences for a single distribution; calculate or estimate and use the mean and range of sets of discrete data; distinguish between and be able to find the mean, median and mode of discrete data;

consider the suitability of the mean, mode or median in different circumstances;

compare sets of data by making appropriate use of mean, mode, median and range;

Calculate the mean score of two teams which have played different numbers of games, over a season, to compare their performance.

Probability

Pupils should have opportunities to:

a understand possible outcomes of random trials or experiments; understand that there is a degree of uncertainty about the occurrence of some events and others are certain or impossible; place events in order of 'likelihood' and use appropriate words to identify chance;

know that when repeating the same experiment, different outcomes may result and that the possible outcomes may not be equally likely; understand and use 0 and 1 as the limits of the probability scale;

Know that you do not always get 5 heads in 10 tosses of a "fair" coin and that very occasionally there will be none.

know that, for equally likely outcomes, the probability of an event is the number of desirable outcomes divided by the number of possible outcomes;

Know that if there are six identical beads numbered 1, 1, 2, 2, 3, 4 the probability of selecting a bead labelled 1 is 2/6.

b recognise situations where probabilities can be based on equally likely outcomes and others where estimates must be based on sufficient experimental evidence and make these estimates;

c identify all the outcomes when dealing with a combination of two independent events using diagrams or tables and use these to find probabilities.

List all the outcomes when tossing 2 coins: HH, TT, TH, HT.
List all the outcomes when throwing 2 dice and show the total sums arising.

INTERMEDIATE TIER

This table outlines, in the left hand column, the content of the Programme of Study for Key Stage 3/4 which is required for Intermediate Tier. The right hand column gives associated notes and additional exemplar material throughout. Content in bold is the content required for Intermediate Tier beyond the requirements for Foundation Tier.

NUMBER

Understanding number and number notation

Pupils should have opportunities to:

a understand and use the language of number, *for example, whole, decimal, fraction, percentage, prime, square, cube, root, factor, multiple, positive and negative, integer, natural, sum, difference, product, numerator, denominator, equivalent*;	Find all primes between 0 and 100. $\sqrt{16}$, $\sqrt[3]{27}$
b read, write and order whole numbers;	
progress to work with numbers with up to three decimal places, initially in the context of measurement;	Read scales marked in hundreds and numbered in tenths (1.89 m). Know that 0.235 is 2 tenths and 3 hundredths and 5 thousandths or 235 thousandths. Understand that 0.24 is greater than 0.235. Know that 5000 is 5 thousands or 50 hundreds or 500 tens or 5000 ones.
understand and use the concept of place value in whole numbers and decimals and use this to multiply and divide numbers by 10, 100 and 1000;	Explain why the cost of 10 objects costing £23 each is £230.
c approximate numbers to the nearest 10 or 100;	
estimate within calculations, initially with numbers within 100 and extending to all whole numbers;	**Recognise that $\frac{0.25 \times 83.4}{5.7}$ is about 3 or 4.**
estimate and approximate to gain a feeling for the size of a solution to a problem, *for example, understand that 32.34 × 9.75 is approximately 30 × 10*; approximate to specified degrees of accuracy including a given number of decimal places and significant figures;	
use 'trial and improvement' methods;	Find the side of a square whose area is 78 cm^2 in the following way: $9^2 = 81$, $8^2 = 64$, so the side is more than 8 cm, but less than 9 cm. As 8.5^2 is 72.25, the side is greater than 8.5 cm, etc.
in the context of a problem select an appropriate degree of accuracy;	
d understand and use the conventional way of recording money;	A result of a money problem, obtained using a calculator, of 26.3 should be recorded as £26.30.
e understand the four operations and the relationship between them;	
f understand and use fractions, decimals, percentages and ratios in context; understand the relationship between fractions, decimals, ratios and percentages, square and square root, cube and cube root;	Know that 7 books out of a total of 100 books represents 7%. Know that 3/5 = 6/10 = 60/100 = ... Know that 40% equals 2/5. Know that 2/5 = 4/10 = 0.4 = 40%.
g understand and use index notation;	

Number operations and applications

Pupils should have opportunities to:

a consolidate knowledge of number facts, including multiplication to 10 × 10; use this knowledge to find facts that they cannot recall;	Calculate mentally that there are 63 days in 9 full weeks. Calculate: 70 × 100 leading to 70 × 500 = 35,000 800 ÷ 10 leading to 800 ÷ 20 = 40
b add, subtract, multiply and divide initially with whole numbers and progressing to numbers with up to **three** decimal places; understand the effects of operations on numbers of any size;	Work out mentally how much heavier an object weighing 75 kg is than one weighing 48 kg. Work out, without a calculator, how much longer 834 mm is than 688 mm. Work out in a variety of ways how many chocolate bars can be bought for £5 if each costs 19p, and how much change there will be. **Determine weekly pay for a 37½ hour week at £2.865 per hour.**
apply order of precedence, first without brackets and then with brackets; solve problems requiring application of order of precedence; check calculations including the use of inverse operations;	**Distinguish correctly between** $\frac{7.2}{9.8 + 12.7}$ **and** $\frac{7.2}{9.8} + 12.7$.
c calculate with fractions, mainly in context, including fractions of quantities and fractional change; initially using simple percentages, calculate percentages of quantities and percentage change;	Work out the cost of a computer which is offered at 15% discount in a sale. Calculate 3/5 of £320; 15% of 170 m; 1/10 of 2 m; 37% of £234; $\frac{22}{7} \times \frac{3^2}{2}$.
express one number as a percentage of another;	
understand and use repeated proportional change including the calculation of compound interest restricted to a maximum of three iterations;	
use unitary ratios and calculate with ratios in a variety of situations;	Use the approximation of 5 miles to 8 km to find the equivalent of 12 miles. State that lengths 8 cm and 12 cm in a drawing are in the ratio 2 : 3. Adapt a recipe for 6 people to one for 8 people.
d understand and use directed numbers starting with interpreting negative numbers in familiar contexts, *for example, temperature;*	Explain below zero temperatures on a television weather chart. Understand the meaning of integers in familiar contexts only. Calculate the increase in temperature from –4°C (degrees of frost) to +10°C.
progress to addition, subtraction, multiplication and division of negative numbers in context;	**Work out** $s = ut + \frac{1}{2}at^2$ **where** u**, or** a **may have negative values.**
e use square and cube numbers, and square and cube roots;	
express a positive number as a product of primes;	**Express 147 as 3 × 7 × 7 or 3 × 7².** **Find the Highest Common Factor (HCF) and Lowest Common Multiple (LCM) of two whole numbers.**
calculate using integer indices; express numbers in standard index form using integer powers of 10; express all powers in index notation;	**Whole number powers only.** **Know that 1 million = 10^6 and 22731 = 2.2731 × 10^4.** **Use the x^y key on a calculator to find $(1.05)^4$.**
calculate with numbers in standard index form using both positive and negative integer powers of 10;	**Calculate** $\frac{3.2 \times 10^4}{1.6 \times 10^{-3}}$.

f calculate with money; solve problems in the context of finance, *for example, currency exchange rates, profit and loss, discount, loans, current and deposit accounts, cheques, statements, lodgements and withdrawals, credit cards, hire purchase, general bank accounts including overdrafts, interest rates and mortgages, mail order sales, insurance, taxation, wages, salaries and unemployment benefit*;

To include simple interest.

g **multiply and divide mentally single-digit multiples of any power of 10, and realise that, with a number less than 1, multiplication has a decreasing effect and division has an increasing effect.**

Work out mentally 80 × 0.2 and 600 ÷ 0.2

ALGEBRA

Patterns, relationships, sequences and generalisations

Pupils should have opportunities to:

a explore, explain and generalise number patterns and predict and check subsequent numbers;

Understand the patterns in addition and multiplication tables, including symmetry of results and relationships between multiplication by 2, 4 and 8 etc.

Construct match stick squares, using an appropriate number of match sticks to make 1, 2, 3, 4 ... squares.
Recognise square and triangular numbers and the relationship between them.

generalise, mainly in words, patterns which arise in various situations, *for example, through spatial arrangement*;

follow sets of instructions to generate sequences and determine possible rules for generating a sequence;

Produce a sequence in which the third and each subsequent number is the sum of the previous two numbers.
Understand that 1, 2, 4 ... may be part of the sequence 1, 2, 4, 8, 16 ... or the sequence 1, 2, 4, 7, 11 ...
Use the difference method to explore sequences such as:

2	5	10	17	26	...
	3	5	7	9	...
		2	2	2	...

use symbolic notation to express rules of sequences (mainly linear and simple quadratic);

Express in symbols the rules for the following sequences:

1, 3, 5 ... [$2n - 1$]

1, 4, 9 ... [n^2]

$\frac{1}{2}, \frac{2}{3}, \frac{3}{4} \ldots \left[\frac{n}{(n+1)}\right]$.

Algebraic conventions and manipulations

Pupils should have opportunities to:

a understand key concepts and terms, *for example, substitute, simplify, like terms, expand, **factorise**, **subject**, expression, equation, rule, **generalisation**, sequence, **nth term**, index/indices, power, **reciprocal**, **inequation***;

b understand and use conventional notations of algebra, for example,

$1a$	is written as a,
$b + b + b$	is written as $3b$,
$3c + 4c$	is written as $7c$,
$7x - 2x + y$	is written as $5x + y$,
$a \times b \times 2$	is written as $2ab$,
$y \times y$	is written as y^2
$2x^2 + 3x^2$	is written as $5x^2$;
$a \div b$	is written as a/b;

c formulate, interpret and evaluate algebraic expressions;	If cakes cost 15p each then write $c = 15 \times n$ (or $15n$) where c pence is the total cost and n is the number of cakes.
manipulate simple expressions, simplifying, removing brackets and factorising as appropriate;	**Know that $(a+b)^2 = a^2 + 2ab + b^2$** **Common factor only such as $2x^2 - 4x = 2x(x-2)$**
use the rules of indices for integral values;	**Simplify expressions involving positive indices only, such as:** **$6x^6 \div 3x^4$, $2x^2 \times 3x^3$ and $(3x^2)^3$.**
Functions, formulae, equations and inequalities	
Pupils should have opportunities to:	
a appreciate the use of letters to represent variables;	
b use simple function machines where appropriate;	$2 \rightarrow \times 2 \rightarrow ?$ $? \rightarrow \div 7 \rightarrow 2$
understand and work with simple functions arising in a variety of situations; **express a function in words, in tabular form, graphically and symbolically;**	Use the fact that the perimeter $p = 2a + 2b$ where a and b are the dimensions of an appropriate shape. **Use the formula $F = \frac{GmM}{r^2}$** **to calculate one variable given the others.**
interpret graphs that describe real-life situations including conversion graphs;	
c **explore the properties of standard mathematical functions including linear,**	
simple quadratic, *for example, $f(x) = x^2 + c$ where c is an integer,*	**To include functions such as $y = x^2 - 2$.**
and simple reciprocal functions;	**To include functions such as $y = \frac{2}{x}$ where $x \neq 0$.**
make tables of such functions, sketch and interpret their graphs using graphical calculators and computers to understand their behaviour;	**To include drawing graphs of:** **$y = ax + b$** **$y = ax^2 + bx + c$** **$y = a^x$ where $a = 2, 3, 4$** **$y = \frac{a}{x}$ where $a \neq 0$ and $x \neq 0$.**
d appreciate the use of letters to represent unknowns;	
e understand, construct and evaluate formulae related to mathematics or other subjects or real-life situations;	
change the subject of formulae where the subject appears in one term only.	**Transform formulae such as $v = u + at$**
f formulate, use, solve **and draw** graphs of linear equations;	Solve a problem such as "If I double a number, then add 1 and the result is 49, what is the number?" **Solve equations, such as** **$\frac{1}{4}(x-3) - \frac{1}{3}(x-2) = 6$**
use algebraic and graphical methods to solve simultaneous linear equations in two unknowns;	**Solve:** **$x^2 + x = 10$ or** **$x^3 + x = 20$ by such a method.**
solve polynomial equations, *for example*, $x^2 + x = 5$, by 'trial and improvement' methods;	
g **solve inequalities on a number line;**	**To include:** **list the values of the integer n such that $-10 < 2n \leq 20$ or solve the inequality $2n - 3 \geq 7$ illustrating the solution on a number line.**
use straight line graphs to locate regions representing linear inequalities.	**$x < 10, y \geq 6, y < 2x + 3$**

Shape, Space and Measures

Exploration of shape

Pupils should have opportunities to:

a explore shape through drawing and practical work using a wide range of materials;	
recognise and describe 2-D and 3-D shapes, including squares, rectangles, triangles, hexagons, pentagons, circles, cubes, cuboids, cylinders, spheres, cones, triangular prisms, pyramids; recognise right-angled corners in 2-D and 3-D shapes;	
investigate tessellation of 2-D shapes, *for example, equal angles in diagrams and tesselations*;	Determine whether a tessellation of given shapes is possible.
b explore and investigate lines and angles, using appropriate language and notation including vertical, horizontal, perpendicular, parallel, acute, obtuse, right, reflex, vertically opposite, adjacent, alternate and corresponding angles;	
c classify and define types of triangles including scalene, right angled, equilateral and isosceles; classify and define types of quadrilaterals including square, rectangle, parallelogram, rhombus, kite and trapezium; use the properties of triangles and quadrilaterals;	
d know and use language associated with circles, including circumference, radius, diameter, **arc and chord**;	
e understand and apply Pythagoras' Theorem and apply sine, cosine and tangent to right angled triangles;	**Calculate a side of a right-angled triangle when the other two sides are known.**
f explore a range of regular and irregular 2-D and 3-D shapes; make 2-D and 3-D shapes from given information **including 2-D representation of 3-D objects;** use associated language including edge, face and vertex; draw nets; estimate, measure and calculate angles;	**Use exterior and interior angle properties of regular polygons.**
construct triangles and scale drawings using protractor, ruler and compasses, as appropriate;	Make triangles, quadrilaterals and circles using apparatus such as geoboards.
g understand the concepts of congruence **and mathematical similarity; use mathematical similarity;**	Group together congruent shapes from a range of triangles and quadrilaterals.
for similar shapes know that angles remain unchanged and corresponding sides are in the same ratio;	**Calculate the effect of enlargement on linear dimensions.**

Position and movement

Pupils should have opportunities to:

a understand the notion of angle in the context of turning; give and understand instructions for moving through 1/2, 1/4 and 3/4 turns and right angles;	Use LOGO to draw a square.
b locate position; use clockwise and anti-clockwise; use the 8 points of the compass; specify location by means of co-ordinates in the first and then the four quadrants;	Describe wind direction from a weather vane. Locate features on an ordnance survey map, given their grid references. Plot the vertices of a triangle (3, 2), (–1, 5), (–2, –6).
understand and use 3-figure bearings to define direction;	**Use three figure bearings as a practical application; a ship's or aircraft's bearing or location of a buoy.**
c recognise symmetry properties in a variety of shapes in two dimensions; recognise line symmetry; draw the axes of symmetry; reflect shapes in a mirror line; recognise rotational symmetry, its order and centre; know and use symmetry properties of triangles, quadrilaterals and other polygons;	Find the centres and axes of symmetry in a variety of plane and solid shapes. Turn shapes using tracing paper. Reflection to include rectilinear figures only. Use LOGO to draw regular polygons.
recognise planes of symmetry in practical situations;	Study shapes and identify some planes of symmetry.

d understand transformation of shapes; reflect shapes in a line, *for example*, $x = 1$; rotate shapes about a given centre; translate shapes;	**Transformations will include enlargements, reflections, rotations and translations.** **Rotations will be limited to ± 90° and 180° about the origin.** **Reflections will be limited to reflections in lines parallel to the co-ordinate axes.**
enlarge a shape through a given centre of enlargement, initially by a whole number scale factor **and then a positive fractional** scale factor;	
use transformations to create and analyse spatial patterns;	
Measures	
Pupils should be given opportunities to:	
a understand and use metric units of length, area, capacity and 'weight'/mass; understand the relationship between units; convert from one metric unit to another;	Use two units, such as millilitres and litres, to measure the capacity of the same jug. Work out that 2.4 kg is equivalent to 2400 g.
b choose and use appropriate metric units and measuring instruments in a variety of situations, interpreting numbers on a range of measuring instruments;	
c make sensible estimates of length, area, capacity, 'weight'/mass and time;	Estimate the length of a car, the capacity of a teacup, the 'weight' of a school bag. Estimate the time taken to complete a task.
d understand and use compound measures including speed;	Work out average speed (distance/time).
e know Imperial measures still in common use including foot, yard, mile, pound and pint and their approximate metric equivalents;	Recall that 1 kg is about 2.2 lb, 8 km is approximately 5 miles, 1 litre is about 1.75 pints.
f read digital and analogue displays; use a calendar; understand and use the twelve and twenty four hour clock; use timetables involving the twenty four hour clock;	
interpret and display information on travel graphs;	**To include intersecting travel graphs.**
g understand and use scale in the context of maps and drawings, *for example, calculate the actual distance as the crow flies between two places on a map*;	Find the distance between two towns using a map.
h develop an understanding of the continuous nature of measure and the approximate nature of measurements;	
i understand the concept of perimeter; calculate the perimeters of squares, rectangles, triangles and other straight-edged figures and circles;	
j understand the concept of area and volume; find areas and volumes, *for example, by counting* **and dissection** *methods*; **progress to the derivation and use of standard formulae;** calculate the areas of squares, rectangles, triangles, **parallelograms, rhombuses, kites, trapezia and circles; calculate the surface areas of cubes and cuboids;**	Work out the surface area of a box.
calculate the volumes of cubes and cuboids, **cylinders and other simple right prisms;**	**Calculate the volume of a tent.**
k distinguish between formulae for length, area and volume by considering dimensions.	**Recognise that πd is a linear measurement and that πr^2 is an area measurement.** **Identify from a range of formulae those which denote (say) volume:** $4\pi r^2, \frac{4}{3}\pi r^3, \frac{1}{3}\pi r^2 h, r(\pi + 2)$.

HANDLING DATA

Collect and record data

Pupils should have opportunities to:

a formulate questions that can be considered using statistical methods and undertake purposeful enquiries based on data analysis;

b access and retrieve data from a variety of sources and understand the purpose for which the data is required; collect, organise and record data by using and designing recording sheets using tallying methods where appropriate; group data where appropriate initially with given class intervals **leading to choosing suitable class intervals; design and use an appropriate questionnaire to explore an issue;** use a given decision tree diagram to sort a collection of items;

Devise a simple habitat recorder for an ecological survey.
Investigate the number of children crossing the road to school in order to establish the need for a crossing patrol and the necessary hours of duty.
Conduct a survey of cars passing with one, two, three ... occupants.
Determine the best location for a pedestrian crossing.

Represent, analyse and interpret data

Pupils should have opportunities to:

a interpret and display information in a variety of ways, including:

- bar charts with **and without** a given scale;
- pictograms using whole symbols only to represent one or more than one item;
- frequency tables for ungrouped discrete data, **grouped discrete data and continuous data;**
- line graphs; understand that intermediate values may or may not have a meaning;
- **pie charts;**
- scatter graphs **including line of best fit by inspection.**

interpret information in **flow diagrams and** two-way tables;

Use a table of distances between towns to plan a journey.

b interrogate data in a database, which may be a computer database, initially using one criterion; use the facilities of the database to represent information graphically;

c extract and use information from tables and lists; answer straightforward questions, then draw more general inferences for a single distribution; calculate or estimate and use the mean and range of sets of discrete data; distinguish between and be able to find the mean, median and mode of discrete data;

find the mean and the modal class of grouped data;

Prepare tables; calculate the mean:

a Measurement of Heights:
Use 10 cm intervals from 120–200 cm class intervals defined as:

Interval	**Mid-Interval Point**
$120 < h \leq 130$ cm	**125 cm**
$130 < h \leq 140$ cm	**135 cm**
$140 < h \leq 150$ cm	**145 cm etc**

h = Height (centimetres)

b Examination marks:
Range 0–100, intervals of 10 marks

0–9	**midpoint**	**4.5**
10–19	**midpoint**	**14.5**
20–29	**midpoint**	**24.5**
30–39	**midpoint**	**34.5 etc**

consider the suitability of the mean, mode or median in different circumstances;

compare sets of data by making appropriate use of mean, mode, median and range;

Calculate the mean score of two teams which have played different numbers of games, over a season, to compare their performance.

Probability

Pupils should have opportunities to:

a understand possible outcomes of random trials or experiments; understand that there is a degree of uncertainty about the occurrence of some events and others are certain or impossible; place events in order of 'likelihood' and use appropriate words to identify chance;

know that when repeating the same experiment, different outcomes may result and that the possible outcomes may not be equally likely; understand and use 0 and 1 as the limits of the probability scale;

Know that you do not always get 5 heads in 10 tosses of a "fair" coin and that very occasionally there will be none.

know that, for equally likely outcomes, the probability of an event is the number of desirable outcomes divided by the number of possible outcomes;

Know that if there are six identical beads numbered 1, 1, 2, 2, 3, 4 the probability of selecting a bead labelled 1 is 2/6.

b recognise situations where probabilities can be based on equally likely outcomes and others where estimates must be based on sufficient experimental evidence and make these estimates; **understand and use relative frequency as an estimate of probability;**

c identify all the outcomes when dealing with a combination of two independent events, using diagrams or tables, and use these to find probabilities;

List all the outcomes when tossing 2 coins: HH, TT, TH, HT.
List all the outcomes when throwing 2 dice and show the total sums arising.

know that if there are several possible outcomes of an event (exhaustive and mutually exclusive), the total of these probabilities is 1; understand that the probability of something happening is 1 minus the probability of it not happening; understand and apply the addition of probabilities for mutually exclusive events.

Recognise that if the probability of a machine failing is 0.05 then the probability of it not failing is 0.95.
Know what the probability is of drawing a green ball from a bag of 50 balls of 4 different colours (5 green, 15 blue, 20 yellow and 10 red) and know the probability of not drawing a green ball.

d **understand that when dealing with two independent events, the probability of them both happening is less than the probability of either of them happening (unless the probability is 0 or 1).**

Know that the probability of getting two consecutive sunny days over a weekend is less than the probability of getting a sunny Saturday or Sunday.

HIGHER TIER

This table outlines, in the left hand column, the content of the Programme of Study for Key Stage 3/4 which is required for Higher Tier. The right hand column gives associated notes and additional exemplar material throughout. Content in bold is the content required for Higher Tier beyond the requirements for Intermediate Tier.

NUMBER

Understanding number and number notation

Pupils should have opportunities to:

a understand and use the language of number, *for example, whole, decimal, fraction, percentage, prime, square, cube, root, factor, multiple, positive and negative, integer, natural, sum, difference, product, numerator, denominator, equivalent;*	Find all primes between 0 and 100. $\sqrt{16}$, $\sqrt[3]{27}$
b read, write and order whole numbers;	
progress to work with numbers with up to three decimal places, initially in the context of measurement;	Read scales marked in hundreds and numbered in tenths (1.89 m). Know that 0.235 is 2 tenths and 3 hundredths and 5 thousandths or 235 thousandths. Understand that 0.24 is greater than 0.235. Know that 5000 is 5 thousands or 50 hundreds or 500 tens or 5000 ones.
understand the concept of place value in whole numbers and decimals and use this to multiply and divide numbers by 10, 100 and 1000;	Explain why the cost of 10 objects costing £23 each is £230.
c approximate numbers to the nearest 10 or 100;	
estimate within calculations, initially with numbers within 100 and extending to all whole numbers;	Estimate that 1472 – 383 is about 1100. Read a calculator display, approximating to three decimal places. Estimate that 278 ÷ 39 is about 7.
estimate and approximate to gain a feeling for the size of a solution to a problem, *for example, understand that 32.34 × 9.75 is approximately 30 × 10*; approximate to specified degrees of accuracy including a given number of decimal places and significant figures;	Recognise that $\frac{0.25 \times 83.4}{5.7}$ is about 3 or 4.
use 'trial and improvement' methods.	Find the side of a square whose area is 78 cm^2 in the following way: $9^2 = 81$, $8^2 = 64$, so the side is more than 8 cm, but less than 9 cm. As 8.5^2 is 72.25, the side is greater than 8.5 cm, etc.
in the context of a problem select an appropriate degree of accuracy;	
d understand and use the conventional way of recording money;	A result of a money problem, obtained using a calculator, of 26.3 should be recorded as £26.30.
e understand the four operations and the relationship between them;	
f understand and use fractions, decimals, percentages and ratios in context; understand the relationship between fractions, decimals, ratios and percentages, square and square root, cube and cube root;	Know that 7 books out of a total of 100 books represents 7%. Know that 3/5 = 6/10 = 60/100 = ... Know that 40% equals 2/5. Know that 2/5 = 4/10 = 0.4 = 40%.
g understand and use index notation;	
h distinguish between rational and irrational numbers.	**Know that $\sqrt{2}$ and π are irrational. Know the significance of recurring and non-recurring decimals in this context.**

Number operations and applications

Pupils should have opportunities to:

a consolidate knowledge of number facts, including multiplication to 10 × 10; use this knowledge to find facts that they cannot recall;	Calculate mentally that there are 63 days in 9 full weeks. 70 × 100 leading to 70 × 500 = 35,000; 800 ÷ 10 leading to 800 ÷ 20 = 40.
b add, subtract, multiply and divide initially with whole numbers and progressing to numbers with up to three decimal places; understand the effects of operations on numbers of any size;	Work out mentally how much heavier an object weighing 75 kg is than one weighing 48 kg. Work out, without a calculator, how much longer 834 mm is than 688 mm. Determine the gross weekly pay for a 37½ hour week at £2.865 per hour. Work out in a variety of ways how many chocolate bars can be bought for £5 if each costs 19p, and how much change there will be.
apply order of precedence, first without brackets and then with brackets; solve problems requiring application of order of precedence; check calculations including the use of inverse operations;	Distinguish correctly between $\frac{7.2}{9.8+12.7}$ and $\frac{7.2}{9.8}+12.7$
c calculate with fractions, mainly in context, including fractions of quantities and fractional change;	Work out the cost of a computer which is offered at 15% discount in a sale. Calculate 3/5 of £320; 15% of 170 m; 1/10 of 2 m; 37% of £234; $\frac{22}{7}\times\frac{3^2}{2}$.
initially using simple percentages, calculate percentages of quantities and percentage change;	
express one number as a percentage of another;	
understand and use repeated proportional change including the calculation of compound interest restricted to a maximum of three iterations;	
use unitary ratios and calculate with ratios in a variety of situations;	Use the approximation of 5 miles to 8 km to find the equivalent of 12 miles. Adapt a recipe for 6 people to one for 8 people. **State that lengths 8 cm and 12 cm in a drawing are in the ratio 2 : 3.** **Divide £10 between two people in the ratio 2 : 3.**
d understand and use directed numbers starting with interpreting negative numbers in familiar contexts, *for example, temperature;*	Explain below zero temperatures on a television weather chart. Understand the meaning of integers in familiar contexts only. Calculate the increase in temperature from –4°C (degrees of frost) to +10°C.
progress to addition, subtraction, multiplication and division of negative numbers in context;	Work out $s = ut + \frac{1}{2}at^2$ where u or a may have negative values.
e use square and cube numbers, and square and cube roots;	
express a positive number as a product of primes;	Express 147 as $3 \times 7 \times 7$ or 3×7^2. Find the Highest Common Factor (HCF) and Lowest Common Multiple (LCM) of two whole numbers. Know that 1 million = 10^6 and $22{,}731 = 2.2731 \times 10^4$. Use the x^y key on a calculator to find $(1.05)^4$.
calculate using integer indices; express numbers in standard index form using integer powers of 10; express all powers **and roots** in index notation;	**Evaluate $27^{2/3}$, $8^{-4/3}$.**
calculate with numbers in standard index form using integer powers of 10;	Calculate $\frac{3.2\times10^4}{1.6\times10^{-3}}$.

f calculate with money; solve problems in the context of finance, *for example, currency exchange rates, profit and loss, discount, loans, current and deposit accounts, cheques, statements, lodgements and withdrawals, credit cards, hire purchase, general bank accounts including overdrafts, interest rates and mortgages, mail order sales, insurance, taxation, wages, salaries, unemployment benefit*;

To include simple interest.

g multiply and divide mentally single-digit multiples of any power of 10, and realise that, with a number less than 1, multiplication has a decreasing effect and division has an increasing effect;

Work out mentally 80×0.2 and $600 \div 0.2$.

Algebra

Patterns, relationships, sequences and generalisations

Pupils should have opportunities to:

a explore, explain and generalise number patterns and predict subsequent numbers;

Understand the patterns in addition and multiplication tables, including symmetry of results and relationships between multiplication by 2, 4 and 8 etc.

generalise, mainly in words, patterns which arise in various situations, *for example*, through spatial arrangement;

Construct match stick squares, using an appropriate number of match sticks to make 1, 2, 3, 4 ... squares.
Recognise square and triangular numbers and the relationship between them.

follow sets of instructions to generate sequences and determine possible rules for generating a sequence;

Produce a sequence in which the third and each subsequent number is the sum of the previous two numbers.
Understand that 1, 2, 4 ... may be part of the sequence 1, 2, 4, 8, 16 ... or the sequence 1, 2, 4, 7, 11 ...
Use the difference method to explore sequences such as:

2	5	10	17	26	...
	3	5	7	9	...
		2	2	2	...

use symbolic notation to express rules of sequences (mainly linear and simple quadratic);

Express in symbols the rules for the following sequences:
1, 3, 5 ... $[2n-1]$
1, 4, 9 ... $[n^2]$
$\frac{1}{2}, \frac{2}{3}, \frac{3}{4} \ldots \left[\frac{n}{(n+1)}\right]$.

understand the role of counter example in the context of rules for sequences and in disproving hypotheses;

Find the number of regions created by joining points on the circumference of a circle;
check whether the pattern 2, 4, 8 ... continues by doubling and accept eventually that it does not.

Algebraic conventions and manipulations

Pupils should have opportunities to:

a understand key concepts and terms, *for example*, substitute, simplify, like terms, expand, factorise, subject, expression, equation, rule, generalisation, sequence, nth term, index/indices, power, reciprocal, inequation;

b understand and use conventional notations of algebra, *for example*,

$1a$	is written as a,
$b+b+b$	is written as $3b$,
$3c+4c$	is written as $7c$,
$7x-2x+y$	is written as $5x+y$,
$a \times b \times 2$	is written as $2ab$,
$y \times y$	is written as y^2,
$2x^2+3x^2$	is written as $5x^2$,
$a \div b$	is written as a/b;

c formulate, interpret and evaluate algebraic expressions;

If cakes cost 15p each then write $c = 15 \times n$ (or $15n$) where c pence is the total cost and n is the number of cakes.

manipulate simple expressions, simplifying, removing brackets and factorising as appropriate; **use these techniques with a range of more complex expressions;**

Know that $(a + b)^2$ is the same as $a^2 + 2ab + b^2$.
Simplify expressions such as:
$6x^6 \div 3x^4$, $2x^2 \times 3x^3$ and $(3x^2)^3$.
simplifying fractions, such as
$\frac{6x^2y}{8xy^3} = \frac{3x}{4y^2}$.
To include:
factorising, such as
$a^2x + ax^2 = ax(a + x)$
$2x^2 - 18 = 2(x - 3)(x + 3)$
$6x^2 + 5x - 4 = (2x - 1)(3x + 4)$
$xy - 3x + 2y - 6 = (x + 2)(y - 3)$
squaring, such as
$(a + b)^2 = a^2 + 2ab + b^2$
multiplying fractions, such as
$\frac{a}{b} \times \frac{c}{d} = \frac{ac}{bd}$
adding fractions, such as
$\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$

use the rules of indices for integral **and fractional** values;

Use
$x^0 = 1, y^{-3} = \frac{1}{y^3}, x^2/x^3 = \frac{1}{x} = x^{-1}$.

Functions, formulae, equations and inequalities

Pupils should have opportunities to:

a appreciate the use of letters to represent variables;

b use simple function machines where appropriate;

$2 \rightarrow \times 2 \rightarrow ?$
$? \rightarrow \div 7 \rightarrow 2$

understand and work with simple functions arising in a variety of situations; express a function in words, in tabular form, graphically and symbolically;

Use the fact that the perimeter $p = 2a + 2b$ where a and b are the dimensions of an appropriate shape.
Use the formula $F = \frac{GmM}{r^2}$
to calculate one variable given the others.

interpret graphs that describe real-life situations including conversion graphs;

c explore the properties of standard mathematical functions including linear;

simple quadratic, *for example*, $f(x) = x^2 + c$ *where* c *is an integer*;

To include functions such as
$y = x^2 - 2$.

and simple reciprocal functions;

To include functions such as
$y = \frac{2}{x}$ where $x \neq 0$.

make tables of such functions, sketch and interpret their graphs using graphical calculators and computers to understand their behaviour;

To include drawing graphs of:
$y = ax + b$
$y = ax^2 + bx + c$
$y = a^x$ where $a = 2, 3, 4$
$y = \frac{a}{x}$ where $a \neq 0$ and $x \neq 0$

interpret and use m **and** c **in** $y = mx + c$;

Derive a linear relationship from a straight line graph.

know the forms of graphs of quadratic and reciprocal functions; use growth and decay rates and display these graphically;

Know about rates of economic growth and decline and the half-life of radioactive elements.

	interpret graphically the effect of transformations of functions, including $y = f(x + a)$, $y = f(ax)$ and $y = f(x) + a$ applied to $y = f(x)$;	**Given the graph of $y = x^2$, sketch $y = x^2 + 6$ and $y = (x + 2)^2$.**
d	appreciate the use of letters to represent unknowns;	
e	understand, construct and evaluate formulae related to mathematics or other subjects or real-life situations;	
	change the subject of formulae where the subject appears in one term only, **progressing to cases where the subject appears in more than one term;**	Transform formulae such as $v = u + at$
f	formulate, use, solve and draw graphs of linear equations;	
	use algebraic and graphical methods to solve simultaneous linear equations in two unknowns;	Solve a problem such as "If I double a number, then add 1 and the result is 49, what is the number?"
	solve polynomial equations, *for example*, $x^2 + x = 5$, by 'trial and improvement' **or graphical** methods;	Solve equations, such as $\frac{1}{4}(x-3) - \frac{1}{3}(x-2) = 6$
		Solve: $x^2 + x = 10$ or $x^3 + x = 20$ by such a method.
		Use the graph of $y = x^2 + 5x$ to solve $x^2 + 5x = 7$.
		Use the graph of $y = x^2 + 5x$ and $y = x^3$ to solve $x^3 = x^2 + 5x$.
	use factors, the quadratic formula or a graphical method to solve quadratic equations, selecting the most appropriate method for the problem concerned;	
g	solve inequalities on a number line;	To include: list the values of the integer n such that $-10 < 2n \leq 20$ or solve the inequality $2n - 3 \geq 7$ illustrating the solution on a number line.
		Solve $x \leq 3x - 5$ where x is a real number.
	use straight line graphs to locate regions representing linear inequalities;	$x < 10, y \geq 6, y < 2x + 3$
	and use this method to solve simple linear programming problems;	**Determine the most cost effective diet which satisfies specific nutritional requirements.**
h	**understand and use direct proportion, inverse proportion and inverse square law;**	**The current, 1 amps, in a circuit is inversely proportional to the resistance, r ohms. The current is 2 amps when the resistance is 250 ohms. Find 1 when R = 200.**

Shape, Space and Measures

Exploration of shape

Pupils should have opportunities to:

a	explore shape through drawing and practical work using a wide range of materials;	
	recognise and describe 2-D and 3-D shapes, including squares, rectangles, triangles, hexagons, pentagons, circles, cubes, cuboids, cylinders, spheres, cones, triangular prisms, pyramids; recognise right-angled corners in 2-D and 3-D shapes;	
	investigate tessellation of 2-D shapes, *for example, equal angles in diagrams and tessellations*;	Determine whether a tessellation of given shapes is possible.
b	explore and investigate lines and angles, using appropriate language and notation including vertical, horizontal, perpendicular, parallel, acute, obtuse, right, reflex, vertically opposite, adjacent, alternate and corresponding angles;	
c	classify and define types of triangles including scalene, right angled, equilateral and isosceles; classify and define types of quadrilaterals including square, rectangle, parallelogram, rhombus, kite and trapezium; use the properties of triangles and quadrilaterals;	

d know and use language associated with circles, including circumference, radius, diameter, **sector, segment,** arc and chord; **know and use angle and tangent properties of circles;**	**To include:** **angle in a semicircle, angle at centre and at circumference, angles in same segment, cyclic quadrilaterals, angle between tangent and radius, tangent kite.** **The alternate segment theorem is excluded.**
e understand and apply Pythagoras' Theorem and apply sine, cosine and tangent to right angled triangles; **extend their understanding of trigonometry to angles of any size, the graphs of trigonometric functions and the application of trigonometry to the solution of problems in two dimensions;**	Calculate a side of a right-angled triangle when the other two sides are known.
f explore a range of regular and irregular 2-D and 3-D shapes; make 2-D and 3-D shapes from given information including 2-D representation of 3-D objects; use associated language including edge, face and vertex; draw nets; estimate, measure and calculate angles;	Use exterior and interior angle properties of regular polygons.
construct triangles and simple scale drawings using protractor, ruler and compasses, as appropriate;	Make triangles, quadrilaterals and circles using apparatus such as geoboards.
g understand the concepts of congruence and mathematical similarity; use mathematical similarity; for similar shapes know that angles remain unchanged and corresponding sides are in the same ratio; **understand and use the conditions for triangles to be congruent; understand and use the relationship between the surface areas of similar 3-D shapes and between volumes of similar 3-D shapes.**	Group together congruent shapes from a range of triangles and quadrilaterals. Calculate the effect of enlargement on linear dimensions.
Position and movement	
Pupils should have opportunities to:	
a understand the notion of angle in the context of turning; give and understand instructions for moving through 1/2, 1/4 and 3/4 turns and right angles;	Use LOGO to draw a square.
b locate position; use clockwise and anti-clockwise; use the 8 points of the compass; specify location by means of co-ordinates in the first and then the four quadrants;	Describe wind direction from a weather vane. Locate features on an ordnance survey map, given their grid references. Plot the vertices of a triangle (3, 2), (–1, 5), (–2, –6).
understand and use 3-figure bearings to define direction;	Use three figure bearings as a practical application; a ship's or aircraft's bearing or location of a buoy.
c recognise symmetry properties in a variety of shapes in two dimensions; recognise line symmetry; draw the axes of symmetry; reflect shapes in a mirror line; recognise rotational symmetry, its order and centre; know and use symmetry properties of triangles, quadrilaterals and other polygons; recognise planes of symmetry in practical situations;	Study shapes and identify some planes of symmetry. Find the centres, axes and planes of symmetry in a variety of plane and solid shapes. Turn shapes using tracing paper. Reflection to include rectilinear figures only. Use LOGO to draw regular polygons.
d understand transformation of shapes; reflect shapes in a line, *for example,* $x = 1$; rotate shapes about a given centre; translate shapes;	Transformations will include enlargements, reflections, rotations and translations. Rotations will be limited to ±90° and 180° about the origin. Reflections will be limited to reflections in lines parallel to the coordinate axes **and $y = \pm x$.**
enlarge a shape through a given centre of enlargement, initially by a whole number scale factor and then a positive fractional scale factor;	
use transformations to create and analyse spatial patterns;	
understand how transformations are related by combinations and inverses; use matrices to define transformations in 2-D;	**Find inverses of above transformations.** **The determinant as an area factor is excluded.**

Measures

Pupils should be given opportunities to:

a understand and use metric units of length, area, capacity and 'weight'/mass; understand the relationship between units; convert from one metric unit to another;	Use two units such as millilitres and litres to measure the capacity of the same jug. Work out that 2.4 kg is equivalent to 2400 g.
b choose and use appropriate metric units and measuring instruments in a variety of situations, interpreting numbers on a range of measuring instruments;	
c make sensible estimates of length, area, capacity, 'weight'/mass and time;	Estimate the length of a car, the capacity of a teacup, the 'weight' of a school bag. Estimate the time taken to complete a task.
d understand and use compound measures, including speed **and density**;	Work out average speed (distance/time), or density (mass/volume).
e know Imperial measures still in common use including foot, yard, mile, pound and pint and their approximate metric equivalents;	Recall that 1 kg is about 2.2 lb, 8 km is approximately 5 miles, 1 litre is about 1.75 pints.
f read digital and analogue displays; use a calendar; understand and use the twelve and twenty four hour clock; use timetables involving the twenty four hour clock; interpret and display information on travel graphs;	To include intersecting travel graphs.
g understand and use scale in maps and drawings, *for example, calculate the actual distance as the crow flies between two places on a map*;	
h develop an understanding of the continuous nature of measure and the approximate nature of measurement;	
understand and calculate the upper and lower bounds of the values of expressions involving numbers expressed to a given degree of accuracy;	**Know the difference between 4.60 and 4.6 as measurements; realise that a length l written as 9.7 cm correct to one decimal place means that $9.65 \leq l < 9.75$. Given the sides of a rectangle correct to the nearest unit, calculate the range of values within which the area lies.**
i understand the concept of perimeter; calculate the perimeters of squares, rectangles, other straight-edged figures and circles;	
calculate lengths of circular arcs and perimeter of composite shapes;	
j understand the concepts of area and volume; find areas and volumes, *for example*, by counting and dissection methods; progress to the derivation and use of standard formulae; calculate the areas of squares, rectangles, triangles, parallelograms, rhombuses, kites, trapezia, circles **and sectors;** calculate the surface areas of cubes and cuboids;	Find the approximate area of a leaf; work out the approximate volume of a small box . Work out the surface area of a box.
calculate areas of shapes whose perimeters include circular arcs; calculate surface areas of cylinders, cones and spheres;	
calculate the volumes of cubes, cuboids, cylinders and other simple right prisms; **calculate the volume of cones and spheres;**	Calculate the volume of a tent. **Formulae for the volume of a cone and a sphere will be given, remaining formulae should be known.**
k distinguish between formulae for length, area and volume by considering dimensions;	Recognise that πd is a linear measurement and that πr^2 is an area measurement. Identify from a range of formulae those which denote (say) volume: $4\pi r^2, \frac{4}{3}\pi r^3, \frac{1}{3}\pi r^2 h, r(\pi + 2)$.

Handling Data

Collect and record data

Pupils should have opportunities to:

a formulate questions that can be considered using statistical methods and undertake purposeful enquiries based on data analysis;

b access and retrieve data from a variety of sources and understand the purpose for which the data is required; collect, organise and record data by using and designing recording sheets, using tallying methods where appropriate, group data where appropriate initially with given class intervals leading to choosing suitable class intervals; design and use an appropriate questionnaire to explore an issue **taking possible bias into account**; use a given decision tree diagram to sort a collection of items;

Devise a simple habitat recorder for an ecological survey.
Investigate the number of children crossing the road to school in order to establish the need for a crossing patrol and the necessary hours of duty.
Conduct a survey of cars passing with one, two, three ... occupants.
Determine the best location for a pedestrian crossing.

Represent, analyse and interpret data

Pupils should have opportunities to:

a interpret and display information in a variety of ways, including:

- bar charts with and without a given scale;
- pictograms using whole symbols only to represent one or more than one item;
- frequency tables for ungrouped discrete data, grouped discrete data and continuous data;
- line graphs; understand that intermediate values may or may not have a meaning;
- pie charts;
- scatter graphs including line of best fit by inspection.

interpret information in flow diagrams and two-way tables;

Use a table of distances between towns to plan a journey.

b interrogate data in a database, which may be a computer database, initially using one criterion; use the facilities of the database to represent information graphically;

c extract and use information from tables and lists; answer straightforward questions, then draw more general inferences for a single distribution; calculate or estimate and use the mean and range of sets of discrete data; distinguish between and be able to find the mean, median and mode of discrete data;

find the mean and the modal class of grouped data;

Calculate the mean score of two football teams which have played different numbers of games, over a season, to compare their performance.

Prepare tables; calculate the mean:

a Measurement of Heights:
Use 10 cm intervals from 120–200 cm class intervals defined as:

Interval	Mid-Interval Point
$120 < h \leq 130$ cm	125 cm
$130 < h \leq 140$ cm	135 cm
$140 < h \leq 150$ cm	145 cm etc

h = Height (centimetres)

b Examination marks:
Range 0–100, intervals of 10 marks

0–9	midpoint	4.5
10–19	midpoint	14.5
20–29	midpoint	24.5
30–39	midpoint	34.5 etc

consider the suitability of the mean, mode or median in different circumstances;

compare sets of data by making appropriate use of mean, mode, median and range;

d construct cumulative frequency tables; construct a cumulative frequency curve using the upper boundary of the class interval; find the median, the upper quartile, the lower quartile and the interquartile range; describe the dispersion of data;

Probability

Pupils should have opportunities to:

a understand possible outcomes of random trials or experiments; understand that there is a degree of uncertainty about the occurrence of some events and others are certain or impossible; place events in order of 'likelihood' and use appropriate words to identify chance;

know that when repeating the same experiment, different outcomes may result and that the possible outcomes may not be equally likely; understand and use 0 and 1 as the limits of the probability scale;

Know that you do not always get 5 heads in 10 tosses of a 'fair' coin and that very occasionally there will be none.

know that, for equally likely outcomes, the probability of an event is the number of desirable outcomes divided by the number of possible outcomes;

Know that if there are six identical beads numbered 1, 1, 2, 2, 3, 4 the probability of selecting a bead labelled 1 is 2/6.

b recognise situations where probabilities can be based on equally likely outcomes and others where estimates must be based on sufficient experimental evidence and make these estimates; understand and use relative frequency as an estimate of probability;

c identify all the outcomes when dealing with a combination of two independent events using diagrams or tables and use these to find probabilities; know that if there are several possible outcomes of an event (exhaustive and mutually exclusive), the total of these probabilities is 1; understand that the probability of something happening is 1 minus the probability of it not happening; understand and apply the addition of probabilities for mutually exclusive events;

List all the outcomes when tossing 2 coins: HH, TT, TH, HT.
List all the outcomes when throwing 2 dice and show the total sums arising.
Recognise that if the probability of a machine failing is 0.05 then the probability of it not failing is 0.95.
Know what the probability is of drawing a green ball from a bag of 50 balls of 4 different colours (5 green, 15 blue, 20 yellow and 10 red) and know the probability of not drawing a green ball.

d understand that when dealing with two independent events, the probability of them both happening is less than the probability of either of them happening (unless the probability is 0 or 1);

calculate the probability of a combined event given the probability of two independent events and illustrate combined probabilities of several events using tabulation or a tree diagram;

produce a tree diagram to illustrate the combined probability of several events which are not independent.

Know that the probability of getting two consecutive sunny days over a weekend is less than the probability of getting a sunny Saturday or Sunday.

Given that there are 2 sets of traffic lights on the way to school and the probability of getting straight through the lights without having to stop are 0.6 and 0.4 respectively, find the probability of a cyclist having to stop at one set of lights, using a tree diagram or otherwise.

Draw a tree diagram or use a tabulation to define all of the possible outcomes, eg tossing a coin 3 times. An operation has a 60% success rate the first time it is attempted. If it is unsuccessful it can be repeated, but with a success rate of only 30%. The probability of success the third time is so low that surgeons are unwilling to operate. What is the probability that the operation will fail twice.

MOTOR VEHICLE AND ROAD USER STUDIES

Candidates in this examination will be assessed in the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 As most of the candidates will eventually become vehicle owners the overall aim of the syllabus is to develop better informed and more responsible road users. It is also envisaged that it may form the basis for further study.

1.2 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

2 AIMS

The specific aims set out below describe the educational purpose of following a course in Motor Vehicle and Road User Studies suitable for candidates of both sexes and of the ability range appropriate to the GCSE examination. Some of these aims are reflected in assessment objectives, others are not because they cannot readily be translated into measurable objectives.

The aims of the syllabus are to:

2.1 stimulate an interest in and an appreciation of the motor vehicle;

2.2 develop an understanding of the legal liabilities of being a road user;

2.3 develop a knowledge and understanding of the responsibilities of vehicle ownership;

2.4 promote a positive and understanding attitude to the use of the road and other road users;

2.5 develop an awareness of the interaction of the road user, environment and vehicle;

2.6 develop a respect for the safety of road users;

2.7 enable candidates to act decisively and positively at the scene of an accident;

2.8 encourage proficiency in the knowledge and skills required in the use of a powered vehicle;

2.9 develop an understanding of the mathematical, scientific and technological principles related to motor vehicles;

2.10 develop a knowledge and understanding of routine vehicle maintenance;

2.11 develop a range of manipulative and communicative skills appropriate to the subject.

3 ASSESSMENT OBJECTIVES

The assessment objectives listed below reflect those aspects of the aims as appear to be measurable.

Candidates will be expected to:

3.1 demonstrate knowledge and understanding in relation to the specified syllabus content;

3.2 demonstrate an ability to use this knowledge in a variety of forms such as verbal, numerical and graphical form;

3.3 demonstrate an ability to use and explain, within the context of Motor Vehicle and Road User Studies, appropriate terminology, concepts and to perform numerical calculations;

3.4 interpret, evaluate and apply data in a variety of forms and draw logical conclusions;

3.5 demonstrate skills of vehicle control (moped) and road craft.

4 CLASSIFICATION OF ASSESSMENT OBJECTIVES

4.1 The assessment objectives have been organised within three broad groups:

4.1.1 those testing recall and understanding (3.1);

4.1.2 those testing skills of moped riding control (3.5);

4.1.3 those testing other skills; application, analysis, interpretation, evaluation, organisation and application of data (3.2, 3.3, 3.4).

4.2 The approximate percentage weightings given to each of these assessment objective groups for those taking the Foundation Tier:

4.2.1	recall and understanding (Objective 3.1)	50%
4.2.2	other skills: application, analysis, interpretation, evaluation. (Objective 3.2, 3.3, 3.4)	30%
4.2.3	moped riding skills (Objective 3.5)	20%

4.3 The approximate percentage weightings given to each of the assessment objective groups for those taking Higher Tier will be:

4.3.1	recall and understanding (Objective 3.1)	30%
4.3.2	other skills: application, analysis, interpretation, evaluation. (Objectives 3.2, 3.3, 3.4)	50%
4.3.2	moped riding skills (Objective 3.5)	20%

5 SCHEME OF ASSESSMENT

5.1 The differentiated scheme of assessment will consist of two tiers. Candidates taking Foundation Tier will be considered for an award on the Grade range C–G inclusive. Candidates wishing to be considered for an award

Table 5.5.1 Foundation Tier

		Paper A	Investigative Study Coursework	Practical Riding Coursework	
3.1	Recall of knowledge	45	5	—	50
3.2–3.4	Other skills	15	15	—	30
3.5	Moped riding skills	—	—	20	20
	TOTAL	60	20	20	100

Table 5.5.2 Higher Tier

		Paper B	Investigative Study Coursework	Practical Riding Coursework	
3.1	Recall of knowledge	25	5	—	30
3.2–3.4	Other skills	35	15	—	50
3.5	Moped riding skills	—	—	20	20
	TOTAL	60	20	20	100

on the range of Grades, A*–D (E), will take Higher Tier. An allowed grade E will be awarded to those candidates entered for the higher tier who narrowly fail to achieve grade D.

5.2 Coursework will consist of two components: practical riding activities and an Investigative Study. For all candidates the Investigative Study will be weighted at 20% and the Practical at 20%.

5.3 Foundation tier will cover all of the assessment objectives and sample the whole range of syllabus content. The standard of the papers will be such as to give all candidates the opportunity to show what they know, understand and can do.

5.4 Higher Tier will cover all of the assessment objectives and sample the whole range of syllabus content. Questions on the examination paper will place a greater emphasis on the skills of application, analysis, interpretation and evaluation.

5.5 The relationship between assessment objectives and examination components.

5.5.1 For candidates taking both tiers the allocation of marks will be as follows:

Paper	60%
Investigative Study	20%
Practical Riding	20%

Tables 5.5.1 and 5.5.2 show the approximate relationship between the grouped assessment objectives and the examination components.

5.6 Examination Components

The components of the scheme of assessment will be as follows:

5.6.1 *Foundation Tier* (1½ hours)

This paper will consist of compulsory questions arranged in two sections:

Section A: a number of objective questions. Candidates will be advised to spend 30 minutes on this section.

Section B: a number of short answer and structured questions. Candidates will be advised to spend 60 minutes on this section.

5.6.2 *Higher Tier* (2 hours)

This paper will consist of compulsory questions arranged in two sections:

Section A: a number of short answer questions. Candidates will be advised to spend 45 minutes on this section.

Section B: a number of structured questions and free-response questions. Candidates will be advised to spend 75 minutes on this section.

5.6.3 *Coursework*

Coursework will consist of two components both of which will be internally assessed by the candidate's teacher and externally moderated by the Council.

The practical riding activities component of coursework will require candidates to demonstrate skills of vehicle control (moped) and road craft arising during the course.

The investigative study must be concerned with road user behaviour related to a traffic situation from an identifiable area of the syllabus.

A memorandum containing further details and guidance on teacher marking for each of the coursework components follows this syllabus and it is essential that these memoranda are carefully studied before engaging in the assessment of coursework.

5.7 Definition of Question types

5.7.1 *Objective Question*

A question on which credit can be given without the need for judgement on the part of the examiner.

5.7.2 *Short-answer Question*

An essentially free-standing question for which a complete answer can be given in one well-constructed sentence or its equivalent (for example, a simple diagram or a short calculation).

5.7.3 *Structured Question*

A question containing connected parts in which the candidate is given guidance as to the kind of responses required, the length of answers expected and the way the available credit is allocated. Structured questions are normally organised so that

success on one part does not depend on success on a preceding part.

5.7.4 *Free-response Question*

A question in which a candidate is asked to explain, discuss or work in other ways with material in the absence of a prescribed or suggested pattern of response.

6 SYLLABUS CONTENT

Introduction

6.1 It will be assumed that candidates have a working knowledge of the following mathematical concepts and processes:

Topic	Further Details
Number	Whole numbers (odd, even, multiple, factor and square). Vulgar and decimal fractions and percentages.
Approximation	Estimation; approximation to obtain reasonable answers; limits of accuracy appropriate to given data.
Computation	The four rules of number (including simple fractions). Efficient use of electronic calculator with checks of accuracy for the four rules of number.
Proportion and variation	Ratios expressed with whole numbers. Direct proportion. Solidus or index notation for units of measurement, eg m/s or ms^{-1}.
Measures	Measures of mass, length, area, capacity, speed, time.
Application	Use of tables and charts. Reading of clocks and dials. Average speed.
Graphs	Cartesian co-ordinates. Interpretation and use of graphs in practical situations including travel graphs. Gradient.
Formulae	The use of letters for generalised numbers. Substitution of numbers for letters in formulae. Change of subject.
Statistics	Collection, classification and tabulation of statistical data: bar charts; pie charts; pictograms. Calculation of arithmetic means. Reading, interpreting and drawing simple inferences from tables and statistical diagrams.

6.2 It will be assumed that candidates have a background knowledge of the following scientific concepts:

Force, friction, pressure, acceleration, levers, energy.

6.3 Metric measures will normally be used but candidates will be expected to be familiar with imperial units in common use eg mph, mpg.

6.4 The syllabus content is presented in SIX sections:

6.4.1 Vehicle control and road user behaviour
6.4.2 Legal requirements
6.4.3 Road transport and its effect on society
6.4.4 Motoring mathematics
6.4.5 Accident procedure
6.4.6 Motor vehicle technology

Syllabus Content

6.4.1 *Vehicle Control And Road User Behaviour*

Topic	Further details
• Moped riding: practical skills	This section should be read in conjunction with the Council's memorandum on the assessment of practical riding activities. Understanding the controls. Daily and weekly checks. Wheeling the machine. Starting procedures and moving off under power. Observation and signals. Turning left and right. Procedure at junctions and cross-roads. Passing stationary vehicle. Stopping and parking. Controlled braking. Slow manoeuvres.
• Driving and riding under adverse conditions	Protective clothing and necessity to be conspicuous. The distinctive properties of both reflective and fluorescent materials. Materials with a combination of both qualities. Suggested protective aids for all categories of road user. Rain. Problems for the pedestrian and vehicle user. Wet clothing, hoods, umbrellas, slippery roads and footpaths, misted windows. Longer stopping distances, drying out brakes. Use of headlights. Aquaplaning. Understanding of the term and the conditions likely to induce it – worn tyres, heavy rain, surface water, excessive speed. Driving at night. Lighting-up time. The checking of all lights, both front and rear. The need for focus and alignment of main and dipped beams. Procedure when following or meeting other vehicles after dark. Headlight flashing. Parking at night. Fog. Effect on both seeing and hearing. Fog as a major cause of motorway accidents. Changes in density. Recommended precautions in foggy conditions (Fog Code). Correct use of front and rear fog lamps.

	Snow. Poor visibility. Separation distance. Cleaning of wheel arches. Keeping windscreen and windows clear.
	Ice. Braking distance, understanding of the term Black Ice. Special problems for motorcyclists in icy conditions. De-icing equipment.
	Strong winds. Crosswinds on motorways and dual carriageways. Special problems for caravans or high sided vehicles. Roof racks. Dangers when overtaking.
	Low sun, restricted visibility, shadows.
• Physical and mental fitness of the driver	Impairment of driving skills. Influence of alcohol, drugs. Impairment of the decision-making process. Adverse effect on body balance. A knowledge that some prescribed drugs may have an adverse effect on driving (specific names of drugs not required). The interaction of prescribed drugs and alcohol. Removal from the bloodstream. Penalties on indictment.
	Age. Problems for the elderly as road-users. Effects of age on the senses. Slower reactions.
	Disability. Special consideration for disabled pedestrians and drivers, guide dogs, wheel-chairs, alterations to vehicular transport.
	Fatigue. Long journeys – day and night. Route planning. Regular stops and refreshment. Good ventilation. Monotony of motorway driving.
	Stress and depression. The effects of emotional disturbance on road-user behaviour. Pre-menstrual tension. Anger, aggression and frustration as accident causation factors.
	Vision. Standard required for driving licence. Loss of visual efficiency. Eye-testing. Colour blindness. Tunnel and peripheral vision. Tinted lenses. Headlight glare.
• Causes and prevention of road accidents	Interpretation of accident statistics.
	Main causation factors and risk areas: (a) traffic conditions related to time of day; (b) type of vehicle; (c) age of driver/casualty; (d) weather conditions; (e) type of manoeuvre undertaken; (f) type of junction.
	Methods used to reduce accidents: (a) education, training and publicity; (b) enforcement and introduction of relevant laws; (c) engineering: the design of safer roads: the introduction of vehicle safety features – primary safety and secondary safety.
• The Highway Code	The need for laws, rules and disciplined behaviour. Observation of actual road user behaviour, in relation to that recommended.
	Road signs, shape, colour and meaning: (a) signs which give orders; (b) warning signs; (c) signs which give information.
	Road markings and reflecting road studs.
	Signals (a) light signals, primary and secondary; (b) signals given by authorised persons; (c) signals given by drivers and riders.
6.4.2 *Legal Requirements*	
• Motor insurance	Legal requirements in respect of motoring insurance for the road user.
	The basic working principles used by insurance companies in meeting this legal obligation.
	The different types of insurance cover available: (a) Road Traffic Act Only; (b) Third Party; (c) Third Party, Fire and Theft; (d) Comprehensive.

	The procedure for obtaining insurance. Factors affecting the cost of insurance: make, performance, engine capacity, vehicle security and the age of vehicle; age/experience of driver, driving record, area of residence, type of use; type of cover. Insurance action to be taken in the event of an accident. Terminology used by insurance companies. Broker, agent, proposer, proposal form, utmost good faith, underwriter, declined risk, policy, premium, certificate, cover note, policyholder, excess, indemnity, personal liability, green card, renewal notice, no claims discount, protected bonus.
• Documentation	The provisional driving licence. Minimum age requirements for different types of vehicles. The driving test. Obtaining a full licence. The "R" plate restriction as used in Northern Ireland. Vehicle excise licence, tax book (reference Great Britain and Northern Ireland legislation), vehicle registration document. The insurance certificate, policy, cover note. Vehicle test certificate (reference Great Britain and Northern Ireland legislation): when required and how obtained, what is tested? Passenger carrying vehicle (PCV) and large goods vehicle (LGV) driving licences. Seat belt exemptions.
• The vehicle	Tyres. Legal requirements, tyre sizes. Seat belts. Types. Compulsory wearing. Exemptions. Rear seat belts. Child safety seats and harness. Helmets. Jet-style/open face, full face. Specifications laid down by the British Standards Institute (BSI). Materials used in the manufacture of helmets. The necessity for efficient wipers, washers, horns, lighting, steering and brakes.

6.4.3 *Road Transport And Its Effect On Society*

• Development of the modern road system	The development of modern roads, eg Autostrada, Autobahns and Motorways. Traffic management – one-way-streets, parking restrictions, pedestrianisation. Leisure routes – tourist industry.
• Road transport	Development of the internal-combustion engine. Motorcars pre-1914; horseless carriage. Motorcars post-1914; mass-production. Motoring laws: (a) The Highways and Locomotives Act (The Red Flag Act), 1865; (b) Motor Car Act 1903; (c) The Road Traffic Act (1930); (d) The Road Safety Act (Breathalyser Act), 1967; (e) The Road Traffic Act (NI) 1955; (f) The Road Traffic (NI) Order 1981; (g) The Road Traffic (Seat Belts) (NI) Order 1982; (h) The Motor Vehicles (Wearing of Rear Seat Belts By Children) Regulations (NI) 1989; (i) The Road Traffic (Amendment) (NI) Order 1991; (j) The Motor Vehicles (Wearing of Rear Seat Belts By Adults) Regulations (NI) 1991. See Appendix A for details of the above motoring laws.
• Social and environmental effects	Pollution: (a) exhaust gases: carbon monoxide, oxides of nitrogen, sulphur dioxide, lead; (b) noise: damage to hearing, annoyance to hospital patients and others living near busy roads; (c) efforts to reduce motor vehicle pollution through legislative and other means, eg unleaded fuel, improved technology.

	Conflicts in road planning and land-use: demands for road improvements v land-use; the effects of the motor industry on alternative transport systems.

6.4.4 *Motoring Mathematics*

(simple calculations may be set in each of the following sub-sections)

• Buying a vehicle	Making the proper choice: warranties, straight sale, trade-in, new/second-hand, buying from a garage or privately.
	Ready cash: advantages and disadvantages.
	The use of credit facilities, bank loans, finance companies, leasing.
	The cheapest methods of borrowing: monthly repayment, annual percentage rate (APR), total costs.
• Standing costs	Driving licence: initial/replacement fee.
	Road tax: six monthly/twelve monthly costs, savings stamps.
	Insurance including payment by instalments.
	Depreciation: correlation of depreciation and age of vehicle.
	Vehicle test: when required, cost of preparation, cost of test.
• Running costs	Petrol: monthly accounts, credit cards, sales inducements.
	Oil: purchase, replenishment, replacement.
	Servicing and repairs: garage costs, do-it-yourself (DIY).
	Replacements: tyres, brakepads/brake shoes, exhausts.
• Additional costs	Clothing, interest on capital investment, garaging, car parking etc.
• Comparative costs of various modes of transport	Cars, buses, trains, bicycles, mopeds, motorcycles.
• Miscellaneous	Fuel consumption; stopping distances; miles per gallon/ kilometres per litre; average speeds; travel graphs.

6.4.5 *Accident Procedures*

• Precautions	First Aid Kit.
	Reflective warning triangle, reflective vest.
	Fire extinguisher.
	Torch.
• Involvement in an accident	Legal obligations: reporting details of the accident. Witnessing an accident.
• Post-accident procedure	Protection of accident scene.
	Summoning emergency services.
	Safety of vehicles.
	Treatment of injuries.
• The principles of First Aid	Order of priorities; breathing, bleeding, consciousness.
	Wounds classified as incised, lacerated, punctured, contused and their treatment.
	Symptoms and treatment of shock.
	Treatment of unconscious casualty; the recovery position.
	Mouth to mouth resuscitation.

6.4.6 *Motor Vehicle Technology*

• Principal components of passenger cars and motor-cycles	Chassis/frame, body shell, power unit, transmission, suspension, steering, brakes and electrical equipment.
• Power units	Operating principles of reciprocating internal combustion engines in terms of conversion of linear motion to rotary motion, spark-ignition (SI) four-stroke cycle and the spark-ignition two-stroke cycle and compression ignition four-stroke cycle (diesel).
	The main parts common to most reciprocating engines and their purpose: piston, piston rings, piston pin/gudgeon pin, connecting rod, crankpin, crank and crankshaft, flywheel, cylinder head, inlet and exhaust valves, cylinder, cylinder block and sump.
• Engine lubrication system	The two main purposes of oil in an engine lubrication system as a means to (a) reduce friction and (b) reduce wear.
	Viscosity, SAE rating, oil additives.

Basic maintenance checks:

(i) Check engine oil level weekly or before long journey.

(ii) Check security of oil filler cap and dipstick.

- Fuel system

The purpose of the fuel tank, fuel pump, fuel filter, connecting fuel lines, inlet manifold and air filter.

The three main purposes of a carburettor as a means to (a) provide a combustible air and fuel mixture, (b) control the engine power output and (c) provide a cold starting device.

Basic maintenance checks and safety precautions.

Fuel injection.

Check air filter, check leaks, avoid naked lights.

- Exhaust system

The purpose of the exhaust manifold, pipe, silencer box(es) and tailpipe to discharge waste gases to the rear and reduce the level of noise.

Basic maintenance, checks and safety precautions:

(i) check system for gas leakage and corrosion;

(ii) check exhaust system mountings for security and correct fitment.

- Electrical system

The main charging system components and their purpose: battery alternator.

The main ignition system components and their purpose: ignition switch, coil, distributor, capacitor, contact breaker, distributor rotor, distributor cap, high tension leads and spark plugs; electronic ignition.

The main starting system components and their purpose: starting motor and solenoid.

Basic maintenance checks and safety precautions:

(i) electrical connections;

(ii) battery terminals;

(iii) security of battery;

(iv) battery electrolyte level, where applicable;

(v) drive belt;

(vi) distributor cap and spark plug insulators.

- Cooling system

The purpose of air and water cooling systems.

The main parts of a pump-assisted pressurised liquid cooling system, water jacket, thermostat, top hose, radiator, radiator cap, radiator tubes and fins, expansion/header tank, bottom hose, water pump, water pump pulley, radiator fan (mechanically and electrically driven), anti-freeze.

Basic maintenance, checks and safety precautions:

(i) water-pump drive belt;

(ii) water hoses;

(iii) radiator coolant level;

(iv) anti-freeze strength;

- Transmission system

The purpose and general principles of a dry friction clutch, pressure plate and splined gearbox primary shaft.

The purpose and general principles of a manual gearbox.

The purpose of the chain/belt/driveshaft/propellor shaft and universal joints in the transmission system.

The purpose of the differential (NB mechanical details not required).

The reasons for transmission lubrication.

Candidates may be expected to make simple gear-ratio calculations.

- Braking system

The basic principle of a braking system: the need for independent hydraulic foot brake and mechanical hand brake, anti-lock braking system (ABS).

Drum and disc brakes and their different characteristics.

The main parts of a typical brake layout and their purpose: brake pedal, brake master cylinder, servo brake pipes, drum-type brakes, brake shoe, brake drum, slave/wheel cylinder, disc, disc caliper, disc pad, hand brake.

Basic maintenance, checks and safety precautions:

(i) of foot brake,

(ii) of hand brake,

(iii) level of fluid in reservoir.

• Steering and suspension systems	The purpose and basic principles of the rack and pinion steering system. The purpose and basic principles of coil spring, leaf spring and torsion bar suspension systems, Macpherson strut. Purpose of a damper. Basic maintenance, checks and safety precautions: (i) tyres, for signs of abnormal wear; (ii) wheels and tyres, for signs of damage; (iii) dampers, for efficiency by "bounce test"; (iv) tightness of wheel nuts; (v) tyre pressures in accordance with manufacturers' recommendations; (vi) wheel balance and alignment.

7 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall.

Grade F

Candidates will normally have demonstrated:

(i) some ability to recall knowledge from areas of the syllabus;

(ii) familiarity with vocabulary central to the course and ability to make simple calculations;

(iii) some ability to apply data to the solution of simple problems;

(iv) some ability to communicate effectively;

(v) some ability in riding a moped to a basic standard of safety;

(vi) some ability to select and apply commonly used methods, techniques and procedures.

Grade C

Candidates will normally have demonstrated:

(i) ability to recall and use knowledge from the whole range of the syllabus;

(ii) familiarity with the vocabulary and theory appropriate to the syllabus and ability to use numerical methods;

(iii) ability to organise and apply data to a variety of problems;

(iv) ability to communicate effectively in writing;

(v) high degree of ability in riding a moped to a high standard of safety;

(vi) ability to select and apply appropriate methods, techniques and procedures;

(vii) some ability to analyse and discuss data in a variety of forms;

(viii) some ability to interpret, evaluate and apply data in a variety of forms.

Grade A

Candidates will normally have demonstrated:

(i) high degree of ability to recall and use knowledge from the whole range of the syllabus;

(ii) familiarity with and high degree of ability to use vocabulary and theory appropriate to the syllabus and ability to use numerical methods;

(iii) high degree of ability to organise and apply data to a variety of problems;

(iv) high degree of ability to communicate effectively in writing;

(v) high degree of ability in riding a moped to a high standard of safety;

(vi) high degree of ability to select and apply appropriate methods, techniques and procedures;

(vii) ability to analyse and discuss data in a variety of forms;

(viii) ability to interpret, evaluate and draw conclusions from data in a variety of forms.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF COURSEWORK I

Investigative Study

1 INTRODUCTION

1.1 The scheme of assessment in Motor Vehicle and Road User Studies carries a 40% weighting for coursework which is comprised of:

1.1.1 Investigative Study (20%)

1.1.2 Practical Riding Activities (20%)

2 BACKGROUND

2.1 The investigative study has been designed to give students the opportunity to demonstrate what they know, understand and can do in the context of investigating Road User Behaviour.

2.2 It is intended that the investigative study should provide opportunities for the students to develop and use the following skills and abilities:

2.2.1 making and recording accurate observations;

2.2.2 research skills, including the ability to organise the systematic collection and ordering of pertinent information; familiarity with and use of a wide range of sources; the ability to distinguish sources of different status in weighing evidence – for example, primary and secondary sources;

2.2.3 interactive skills (responding appropriately to the consequences of an earlier action); such interaction may be with people and/or information sources (including information technology);

2.2.4 the ability to co-operate with others in an activity;

2.2.5 the ability to design, conduct and evaluate a simple survey to test some hypothesis or illuminate some issue;

2.2.6 the determination and ability to sustain a chosen study from conception to realisation.

3 NATURE OF THE INVESTIGATIVE STUDY

3.1 The study should involve the student in study/ research and give scope for originality and should involve about thirty hours spent on all elements of the task. It is estimated that the syllabus can be covered in approximately 150 hours. Since the investigative study carries a 20% weighting it seems reasonable to conclude that approximately 30 hours should be devoted to it.

3.2 It is suggested that each assignment should follow the format outlined below:

Title;

Aim;

Summary of the Study;

Introduction;

Investigation and collection of data;

Presentation of results and conclusions.

Details on aspects of this format are as follows:

3.2.1 Each study should have a clear and appropriate title.

3.2.2 The aim of the study should be specified.

3.2.3 The study should be related to a *traffic situation* and should permit individual research outside the classroom. Coursework should not be limited to tasks which can be completed by desk research alone and should, where possible, provide opportunity for students to work in groups, although each individual should present a unique piece of work to minimise the difficulties inherent in validation and moderation.

Work can gain in authenticity by stemming from the student's first-hand inquiry based, preferably, upon the local community with its own particular traffic character. Setting a task in a familiar and real context can help a student understand what Motor Vehicle and Road User Studies is about and allow him or her to make a good start to the work. For students of all abilities, the opportunity to clarify the terms of reference and discuss any assumptions which have to be made, corresponds more closely to the way action is initiated in the real world.

3.2.4 The work must be submitted in written, typewritten or word-processed form. Quotations should be properly marked and their source clearly acknowledged.

4 THE ROLE OF THE TEACHER

4.1 Teachers should see themselves as a resource and as such will be expected to give students guidance in the planning of the study so as to ensure that:

4.1.1 the study clearly arises from an identifiable element of the syllabus involving road user behaviour;

4.1.2 it relates classwork to a traffic situation. This need not be confined to a single situation but may be concerned with a more general issue;

4.1.3 it has an appropriate title for the task undertaken and a clear aim and method of approach;

4.1.4 it is a reasonable task for the individual student to undertake and can be completed effectively in the time available;

4.1.5 it can be appropriately marked using the assessment criteria;

4.1.6 except in as far as the student receives appropriate guidance from the teacher, it is the unaided work of the candidate;

4.2 Teachers will be required to sign a declaration to certify that to the best of their knowledge all the work submitted for assessment is the candidate's own. Candidates must sign a similar declaration.

5 CRITERIA FOR ASSESSMENT

The following criteria must be used in identifying performance in each of the objectives.

Two bands of response are identified in relation to each objective.

Teachers should identify the band most appropriate to the candidate's work for each objective and award marks within the appropriate band.

A final mark out of 40 should be submitted to the Council on the appropriate Candidate Record Sheet.

Objective 3.1

Demonstrate knowledge and understanding in relation to the chosen topic.

Band 1 0–5 marks

Candidate is able to present some relevant material which relates to the topic. There may be some selection of pertinent material. Evidence of understanding will be limited and will tend to be inferential in relation to material used.

Band 2 6–10 marks

Candidate will present a selection of relevant material. The selection of material will be appropriate to the topic. There will be clear evidence of understanding the topic and connected issues.

Objective 3.2

Ability to use relevant material in a variety of forms.

Band 1 0–5 marks

Candidate will attempt to present at least some information in a form other than prose. The form may be appropriate to the general context and will provide some relevant information.

Band 2 6–10 marks

Candidate will present information in a variety of forms such as pictorial, tables, graphs. The information will be appropriate to the context and will provide focused information.

Objective 3.3

Demonstrate ability to use and explain appropriate terminology and concepts and to perform numerical calculations, where appropriate.

Band 1 0–5 marks

Some use of technical vocabulary and concepts relevant to the topic. There will be some attempt to explain concepts where appropriate.

Band 2 6–10 marks

Candidate's use of technical vocabulary and concept is precisely appropriate. Explanation where required is detailed.

Objective 3.4

Interpret, evaluate and apply data in a variety of forms and draw logical conclusions.

Band 1 0–5 marks

There will be some attempt to interpret material and to evaluate its relevance. Conclusions will not be explicitly defined but there may be some attempt to make recommendations or comments in line with the stated aim.

Band 2 6–10 marks

Candidate will show clear evidence of ability to interpret material and, by evaluation, will recognise relevance. Conclusions will be coherent and logical. There will be recommendations or comments in line with stated aim.

6 RECORDING FORMAL ASSESSMENTS

6.1 Each study must be marked against the criteria listed in paragraph 5 and the mark awarded to each criterion recorded in the appropriate box of the Candidate's Record Sheet which will be supplied by the Council. Coursework marks for each candidate must be submitted by 1 May in the year of the examination.

6.2 All of the Candidate Record Sheets must be sent in to the Council with the Coursework samples.

6.3 Any calculations required to bring the raw marks into line with the overall 20% weighting for the Investigative Study will be undertaken by the Council.

7 MODERATION OF THE ASSESSMENT

7.1 Before embarking upon the assessment of candidates' assignments, teachers will be invited to attend consortia meetings organised by the Council at which they will be given detailed information regarding the assessment of assignments and the various administrative procedures by Assistant Coursework Moderators appointed by the Council.

7.2 In May the Council will collect samples of Coursework from centres and distribute these samples to the Assistant Coursework Moderators.

7.3 The Assistant Coursework Moderators will scrutinise the Coursework submitted and will assess it against the criteria contained in the coursework memorandum and the standards established and agreed at consortia meetings.

7.4 The Assistant Coursework Moderators will meet in June and working under the direction of the Coursework Moderator will make recommendations regarding the teacher's assessments. These recommendations will be reviewed by independent moderators not involved in the original assessment and the coursework marks finalised.

7.5 In the Autumn term following the examination each centre will be furnished with a statement summarising the outcome of the moderation of the coursework samples.

8 NOTES FOR GUIDANCE

Most traffic studies are classroom based. However, much benefit can be derived from taking the class outside and making a study of actual traffic situations and road user behaviour. The findings can then be compared with the recommended procedures contained within the Highway Code.

8.1 Preparation

8.1.1 Ensure that teachers and students are covered by insurance. Inform your Principal of your intentions.

8.1.2 Consider if it is necessary to inform the local police.

8.1.3 Select an area where the students are able to conduct the study safely and without undue hindrance to other pedestrians.

8.1.4 Ensure that adequate supervision is available, including fluorescent/reflective overjackets.

8.1.5 Carry out a preliminary site investigation and prepare a fully detailed map of the situation. Include all major features such as road markings, road signs, bollards, traffic lights, street lights, guardrails, other roads and unsafely parked vehicles. This map should be used as the basis for further in-depth study.

8.2 Suggested Areas for Study

8.2.1 The problems for pedestrians in town centres.

8.2.2 A study of traffic problems at a road junction or roundabout.

8.2.3 Pedestrian and driver behaviour at zebra or light-controlled crossings.

8.2.4 Adherence to existing speed limits.

8.2.5 The use and advantages of reflective/fluorescent clothing.

8.2.6 Seat belt wearing by drivers and passengers.

8.2.7 The use of the green cross code by both adults and children.

8.2.8 Traffic congestion and associated problems at the entrance to your school.

8.2.9 Driver behaviour on motorways.

8.3 Suggested Approaches

8.3.1 Contact Traffic Police, and DOE (NI) Roads Services to obtain local accident records.

8.3.2 Conduct surveys of both vehicle and pedestrian activity. If possible compare the situation with that in a neighbouring area.

8.3.3 Compile a written report detailing the problems.

8.3.4 Prepare a visual display of maps, photographs and survey results which may be in the form of graphs, etc.

8.3.5 Use audio equipment to conduct interviews with local people. These may be either drivers or pedestrians who use the area regularly or with local shopkeepers who have wide experience of the situation.

8.3.6 Make a short video film to illustrate your findings of the main problems highlighted in the written and tape recorded reports.

8.3.7 Contact the Department of the Environment (NI) Local Road Service Division who may be able to provide information concerning engineering developments in the area.

8.3.8 Make suggestions for improvements under the possible headings of:

(i) Engineering

(ii) Enforcement

(iii) Education

8.3.9 Discuss the viability of any suggested remedial measures.

8.3.10 If a study of motorway traffic is to be undertaken, observe the situation from a bridge and investigate the following:

(i) How drivers overtake-

(a) Do they signal and move out in good time?

(b) Do they stay in the right-hand lane too long?

(c) Do they return to their own lane too sharply after an overtaking manoeuvre?

(ii) Do drivers leave sufficient distance between vehicles?

(iii) Are speed limits for the different categories of vehicle generally obeyed?

(iv) Are large loads properly secured?

MEMORANDUM ON THE INTERNAL ASSESSMENT OF COURSEWORK II

Practical Riding Activities

1 INTRODUCTION

1.1 The scheme of assessment in Motor Vehicle and Road User Studies carries a 40% weighting for coursework which is comprised of:

1.1.1 Practical Riding Activities (20%);

1.1.2 Investigative Study (20%).

2 BACKGROUND

2.1 This memorandum should be read in conjunction with (a) the syllabus, particularly section 6.4.1, and (b) *The Use of Mopeds in Traffic Education Courses*, issued by the Department of the Environment for Northern Ireland Road Safety Education Branch.

2.2 The overall aim of the syllabus is to develop better informed and more responsible road users. The practical riding activities component of the course-work is designed to make a contribution to that aim by requiring candidates to demonstrate skills of vehicle control (moped) and road craft achieved during the course.

2.3 It is estimated that the syllabus can be covered by a course of approximately 150 hours. Since the practical riding component carries a 20% weighting it seems reasonable to conclude that approximately 30 hours should be devoted to it.

2.4 Teachers are free to decide how best to allocate this time in relation to the constraints or otherwise of the school timetable. Thus some teachers may be limited to 60 × 30 minute periods whereas others may be able to arrange a smaller number of larger blocks of periods, eg 15 × 2 hours.

2.5 Each candidate will be formally assessed by his/her teacher on all the skills, listed in paragraph 3, in a single test to be conducted some time during a week specified by the Council. The assessment will be externally moderated by a visiting moderator from the Council.

2.6 Suggested layouts for conducting the practical test may be obtained from the Council.

3 ELEMENTS TO BE ASSESSED

3.1 The following elements are to be assessed on a single occasion in accordance with the criteria listed in paragraph 4 of this document.

	Maximum Mark
(a) The daily check	7
(b) Starting the machine	8
(c) Moving away from kerb	4
(d) Right turn at a stop sign	13
(e) Continuous left turn	6
(f) Passing a stationary vehicle	9
(g) Stopping and dismounting	5
(h) Skill test	8
(i) Figure of eight	6
(j) Controlled braking	4
(k) Safety awareness and quality of control	10
Total	80

3.2 The various elements may be undertaken in any order and additional manoeuvres may be involved to suit any road layout. However any additional manoeuvres will not count towards the formal assessment.

4 ASSESSMENT CRITERIA

(a) The daily check (max. 7 marks)

Criterion	*Mark*
Fuel—a visual/audible check made of fuel tank contents. (If separate oil reservoir fitted the dip stick should be used to check the amount of oil in reservoir).	1
Brakes—check adjustment and action of the brake levers. Examine cables for signs of wear.	1
Tyres—check pressure and condition	1
Lights and horn—check operation	2
Steering and suspension—check movement of steering is free.	2

Comment

Full marks only to be awarded when candidate completes a check without any prompting from teacher.

(b) Starting the Machine (max. 8 marks)

Criterion	*Mark*
Rider and machine in appropriate position	1
Fuel turned on	1
Both hands on handlebars	1
Front brake held on	1
Activate engine	1
Close throttle	1
Apply rear brake	1
Check stand clear of ground	1

(c) Moving away from Kerb (max. 4 marks)

If the machine is not running the normal starting procedure should apply OR part (b), starting the machine may be assessed at this point.

Criterion	*Mark*
Sit on machine with right foot on pedal and left foot on ground	1
Rear observation	1
Right arm signal	1
Lifesaver over right shoulder	1

Comment

Full marks for signals and observations should only be awarded when the candidate performs them in a competent manner as per the Highway Code.

(d) Right turn at a Stop Sign (max. 13 marks)

Criterion	*Mark*
Road position	1
Rear observation	1
Right arm signal	1
Rear observation	1
Move to centre of road	1
Adjust speed	1
Stop at stop line	1
Look right, left and right again	2
Rear observation	1
Right signal	1
Lifesaver over right shoulder	1
Complete turn without cutting corner	1

(e) Continuous Left Turn (max. 6 marks)

Criterion	*Mark*
Road position	1
Rear observation	1
Left arm signal	1
Adjust speed	1
Lifesaver over left shoulder	1
Complete turn without swinging out	1

(f) Passing a Stationary Vehicle (max. 9 marks)

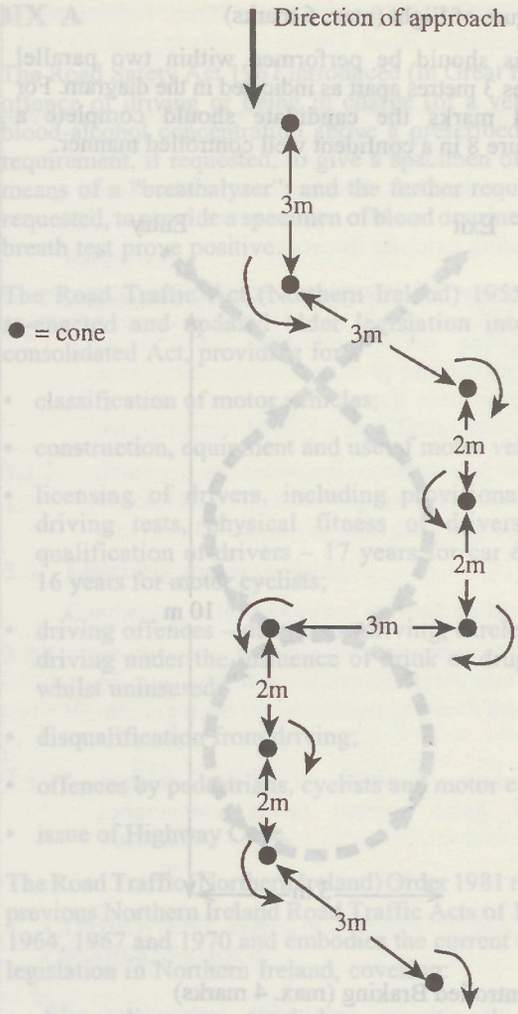
Criterion	*Mark*
Road position	1
Rear observation	1
Right arm signal	1
Lifesaver over right shoulder	1
Move out to pass obstruction	1
Road position	1
Lifesaver over left shoulder	1
Return to normal road position without cutting in	2

(g) Stopping and Dismounting (max. 5 marks)

Criterion	*Mark*
Rear observation	1
Slowing down signal	1
Pull alongside kerb	1
Stop engine	1
Dismount on left of machine	1

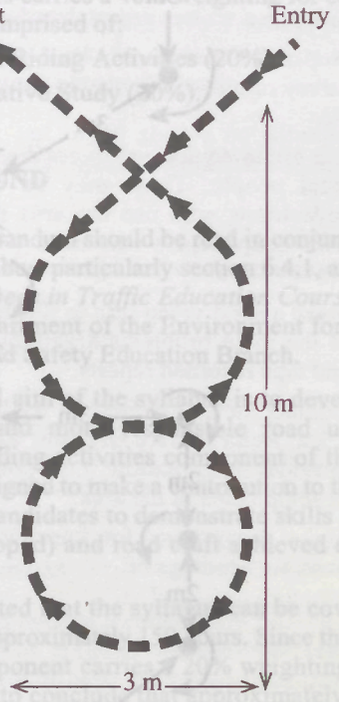
(h) Skill Test (max. 8 marks)

1 mark for each of the manoeuvres (illustrated by curved arrows) correctly performed.



(i) Figure of Eight (max. 6 marks)

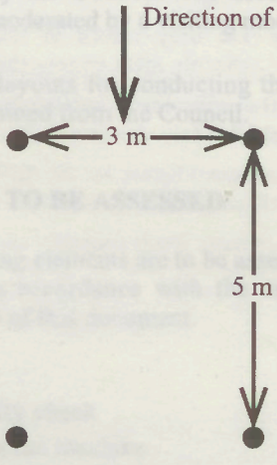
This should be performed within two parallel lines 3 metres apart as indicated in the diagram. For full marks the candidate should complete a figure 8 in a confident well controlled manner.



(j) Controlled Braking (max. 4 marks)

4 cones should be set up as shown. The candidate should travel at approximately 15 mph and bring the machine to a controlled stop within the rectangle formed by the cones.

For full marks, at no time should the wheels lock or the machine deviate from a straight course.



(k) Safety awareness and quality of control. (max. 10 marks)

Band 1 (1–3 marks)

The candidate displays a basic standard of safety awareness and vehicle control.

Band 2 (4–6 marks)

The candidate displays a satisfactory standard of safety awareness and vehicle control.

Band 3 (7–10 marks)

The candidate displays a high standard of safety awareness and vehicle control.

5 RECORDING FORMAL ASSESSMENT

5.1 Each candidate must be marked against the criteria listed in paragraph 4 and the total mark for each of the 10 elements recorded in the appropriate box of the "Internal Assessment of Practical Riding Activities" Form which will be supplied by the Council.

5.2 Any calculations required to bring the raw marks into line with the overall 20% weighting of this coursework component will be undertaken by the Council.

6 MODERATION OF THE ASSESSMENT

6.1 Teachers will conduct the practical riding tests in Motor Vehicle and Road User Studies during a period which will be specified in the timetable.

6.2 Candidates cannot be formally assessed before the moderator's visit. The moderator will be present while the teacher assesses the practical test of at least *six* candidates; where possible the first six candidates chosen to take the test should cover a range of ability.

6.3 The moderator will remain with the teacher, observing his/her marking of the riding tests, until the moderator is satisfied that the marking scheme is being applied correctly by the teacher.

6.4 Following the completion of all of the tests, the centre will return all of the Candidates' Record Sheets, and the Computer Mark Sheet to the Council.

APPENDIX A

The Locomotives Act 1865 (The Red Flag Act):

(a) required three persons to drive or conduct every locomotive propelled by steam or any other power (except animal power), and that one of those persons should walk at least 60 yards in front of the locomotive and carry a red flag to warn riders and drivers of horses of the locomotive's approach. The locomotive was required to stop to allow horses and carriages to pass. When the locomotive was on a road, the whistle was not to be sounded, nor steam let off.

(b) set the speed limit for a locomotive on the public highway at 4 mph and at 2 mph through a city, town or village.

The Locomotives on Highways Act 1896 exempted light locomotives from the restrictions of the 1865 Act. Light locomotives were vehicles under 3 tons in weight unladen and propelled by mechanical power, including petroleum. They were required to carry a bell or other instrument to give audible warning of approach. The speed limit for light locomotives on the public highway was 14 mph.

The Motor Car Act 1903:

(a) adopted the term "motor car" in place of "light locomotive", though both had the same meaning;

(b) required a motor car to be registered with a county council or borough, and each car was required to have a registration plate (number plate). A registration fee was payable;

(c) required a driver of a motor car to be licensed by a county council or borough and to pay a licence fee. A licence was valid for 12 months. The qualifying age for a motor car licence was 17 years and for a motor cycle licence 14 years. A licence fee was payable;

(d) introduced provisions for suspension, disqualification and endorsement of driving licences;

(e) Raised the speed limit on the public highway to 20 mph.

The Road Traffic Act 1930 repealed the Acts of 1865, 1896 and 1903 and introduced comprehensive provisions (in Great Britain) relating to:

- classification of motor vehicles;
- construction, weight and equipment of motor vehicles;
- licensing of drivers, including provisional licences, driving tests and physical fitness of drivers;
- speed limits, including abolition of speed limit for motor cars;
- driving offences – dangerous, reckless and careless driving and driving under the influence of drink or drugs;
- limitation of hours of continuous driving;
- compulsory third-party insurance;
- issue of Highway Code;
- licensing of public service vehicles and drivers;
- fitness of public service vehicles;
- conduct of drivers, conductors and passengers on public service vehicles.

The Road Safety Act 1967 introduced (in Great Britain) the offence of driving or being in charge (of a vehicle) with blood-alcohol concentration above a prescribed limit; the requirement, if requested, to give a specimen of breath by means of a "breathalyser"; and the further requirement, if requested, to provide a specimen of blood or urine should the breath test prove positive.

The Road Traffic Act (Northern Ireland) 1955 repealed, re-enacted and updated older legislation into a single consolidated Act, providing for:

- classification of motor vehicles;
- construction, equipment and use of motor vehicles;
- licensing of drivers, including provisional licences, driving tests, physical fitness of drivers and age qualification of drivers – 17 years for car drivers and 16 years for motor cyclists;
- driving offences – dangerous driving, careless driving, driving under the influence of drink or drugs, driving whilst uninsured;
- disqualification from driving;
- offences by pedestrians, cyclists and motor cyclists;
- issue of Highway Code.

The Road Traffic (Northern Ireland) Order 1981 repealed the previous Northern Ireland Road Traffic Acts of 1926, 1955, 1964, 1967 and 1970 and embodies the current road traffic legislation in Northern Ireland, covering:

- driver licensing (including vocational licensing), driving tests, driving offences, drink driving (including obligatory disqualification);
- construction, equipment and use of motor vehicles;
- lighting of vehicles;
- speed of vehicles;
- inspection of vehicles (MOT);
- compulsory insurance;
- Highway Code and road safety;
- seat belts;
- approved driving instructors.

The Road Traffic (Seat Belts) (NI) Order 1982 amended the Road Traffic (NI) Order 1981 so as to empower the Department of the Environment to make regulations requiring the wearing of seat belts by adults in the front or rear seats of motor vehicles and by children in the front seats. Regulations requiring adults and children to wear belts in front seats became operative on 31 January 1983. Regulations requiring adults to wear belts in rear seats became operative on 1 July 1991.

The Motor Vehicles (Wearing of Rear Seat Belts by Children) (NI) Order 1989 amended the Road Traffic (NI) Order 1981 so as to require children to wear belts in the rear of a motor vehicle. Regulations became operative on 1 September 1989.

The Road Traffic (Amendment) (Northern Ireland) Order 1991 amended the Road Traffic (Northern Ireland) Order 1981 by:

- replacing Part II with a new Part II containing general provisions with respect to driver licensing;
- abolishing special licences for driving heavy goods vehicles and public service vehicles, but not invalidating existing licences;
- inserting special provisions relating to licensing of drivers of large goods vehicles and passenger carrying vehicles;
- making provision for the licensing of taxi drivers (taxi drivers were previously licensed as public service vehicle drivers);
- making provision for compulsory training courses for motor cyclists (this part of the Order has not yet been brought into operation;
- making fresh provision with respect to offences arising out of driving or being in charge of a motor vehicle while under the influence of drink or drugs (including an obligatory minimum disqualification period of 12 months and requirement to re-sit a driving test, if convicted.

MUSIC

1 INTRODUCTION

1.1 This syllabus builds upon the knowledge, skills and understanding promoted by the programmes of study for music at Key Stages 1 to 3 of the Northern Ireland Curriculum. It reflects the key experiences of a musical education, making and responding to music. These experiences are placed within the context of listening, performing and composing activities.

1.2 The syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for music. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4 music.

1.3 A course based on this syllabus will help to facilitate the further study of music at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 AIMS

The aims, set out below, describe the educational purposes of following a course in music. Some of these aims are reflected in the assessment objectives, whilst others are not, because they cannot be readily assessed.

The aims of the syllabus are to:

2.1 foster candidates' musical sensitivity, creativity and aural perception through the acquisition of knowledge, understanding and skills, and the exercise of imagination;

2.2 promote candidates' cultural development and involvement in music as performers, composers and listeners through the study of a wide range of music, including that which reflects the richness of our cultural heritage;

2.3 support candidates' personal and social development through creating and performing music with others.

3 ASSESSMENT OBJECTIVES

The assessment objectives indicate the knowledge, skills and understanding which will be assessed. In order to allow for focus and emphasis, they are aligned to the particular examination component which provides the context for assessment.

3.1 **Composing**

Candidates will be assessed on their ability to:

3.1.1 create and develop musical ideas by composing music;

3.1.2 use musical elements and resources appropriately, by producing completed compositions within a given or chosen brief.

3.2 **Performing**

Candidates will be assessed on their ability to:

3.2.1 demonstrate technical control, expression and appropriate interpretation, by performing a solo part or piece (a solo part or piece is music which enables the performer to play a significant part);

3.2.2 demonstrate technical control and a sense of ensemble, by performing an individual part with others or by rehearsing and directing a group.

3.3 **Listening and appraising**

Candidates will be assessed on their ability to:

3.3.1 identify and compare the distinctive characteristics of music from a variety of styles and traditions, relating them to the context in which the music was created;

3.3.2 express and justify views by making critical judgements about music, using a musical vocabulary.

4 COMPONENT WEIGHTINGS AND METHOD OF ASSESSMENT

The assessment objectives which relate to each component will be broadly equally weighted. The percentage weighting and method of assessment for each component is indicated below.

Component	Weighting	Assessment
Composing (coursework)	30%	Teacher assessment with moderation by the Council
Performing	30%	Terminal assessment conducted by the Council's visiting assessors
Listening and appraising	40%	Terminal assessment by aural perception examination, externally marked

5 CONTENT

The following content is defined in relation to each examination component. It should be noted, however, that all musical activity should develop increased understanding and control of the following musical elements: pitch, duration, dynamics, tempo, timbre, texture, structure and style. Learning within any particular context should support and inform candidates' knowledge and understanding across all components.

5.1 **Composing**

5.1.1 Candidates should have opportunities to undertake a range of composing activities, arising from a given

or chosen brief. These may include pastiche, experimental work, improvisation and making arrangements of existing music.

5.1.2 It is envisaged that, over the period of the course, candidates will compose a number of pieces for voice(s) and/or conventional/electronic instruments. Candidates may also have opportunities to compose through the creative use of sampling, sequencing and multi-tracking techniques.

5.1.3 Candidates should use an appropriate means of preserving their compositions.

5.2 **Performing**

Candidates should have opportunities to undertake a variety of individual, ensemble and/or rehearsing and directing activities throughout the course, in order to develop technical and expressive performing skills, knowledge and understanding.

5.3 **Listening and appraising**

5.3.1 Candidates' listening and appraising skills will be promoted through their composing and performing activities. Additionally, candidates will be expected to listen to a wide range of music and to develop some understanding of continuity and change in music, both from a historical and a cultural perspective.

5.3.2 Candidates should have opportunities to:

- relate sound to symbol;
- translate sound into notation;
- develop sufficient knowledge and understanding of staff notation to follow a simple score of up to two staves, including:
  - treble and bass clefs
  - note and rest values
  - simple and compound time signatures
  - accidentals
  - common musical terms and signs;
- respond critically to the general mood, character and performance of music, using a musical vocabulary.

5.3.3 Candidates should have opportunities to recognise and identify musical detail, in relation to:

- pitch and tonality;
- metre and rhythm;
- phrasing, articulation and cadences;
- dynamics;
- instrumental and vocal timbres;
- unison, homophonic and polyphonic textures;
- devices such as, sequence, imitation, canon, syncopation, augmentation, diminution, pedal points, ostinato/riff;
- structures/forms, such as, binary, ternary, variation, rondo, sonata form, concerto, symphony, fugue, recitative and aria, chorale, 12 bar blues, verse and chorus.

5.3.4 Candidates should develop knowledge and understanding of musical styles, idioms and conventions, within the historical continuum, including Renaissance, Baroque, Classical, Romantic, Traditional, and the broad spectrum of the 20th century (including "art" music, folk music, blues, jazz, and rock/pop idioms).

5.3.5 Candidates should undertake aural study of a number of set works and/or extracts which provide the focus for developing a more in-depth knowledge of instrumental/vocal timbres/textures and stylistic features associated with a particular composer, period or musical genre. Approximately half the set works will be changed on a yearly basis.

JS Bach	*Orchestral Suite No 3 in D*: Air,
Haydn	*Symphony No 94 in G* (The Surprise): 2nd movement,
Beethoven	*Symphony No 5 in C minor*: 1st movement,
Glinka	Overture: *Russlan and Ludmilla,*
Grofe	*Grand Canyon Suite*: On the Trail, Cloudburst,
Lloyd-Webber	*Phantom of the Opera*: Think of me, All I ask of You, ("Highlights from Phantom of the Opera", Polydor 831 563–2)
Traditional	*Sharon Shannon*: The Blackbird (track two), The Marguerita Suite (track eight). (Solid/Grapevine records ROCDG 8)

6 SCHEME OF ASSESSMENT

A single tier of entry, which gives access to the full range of grades, A* to G, is provided. The scheme of assessment within the three assessment areas of Composing, Performing and Listening and Appraising is set out below.

6.1 **Composing: 30%**

6.1.1 Composing is a coursework activity and the assessment will be carried out by the teacher using the criteria set out in paragraph 6.1.6. Moderation by inspection will be carried out by the Council.

6.1.2 Composing will automatically provide a differentiated form of assessment, since candidates should undertake or be given tasks, according to their ability. It will be possible to assess the outcomes in terms of positive achievement.

6.1.3 Candidates may fulfil the requirements for the composing component through the creative use of music technology. In addition to meeting composing

criteria (i)–(iii), such candidates may elect to be given credit for their ability to use sequencing and multi-track recording techniques as an alternative in criterion (iv).

6.1.4 Candidates are required to submit folios of compositions for assessment purposes at the end of the course. Folios may consist of notated scores and/or annotated tapes with a performance time of 4–6 minutes.

6.1.5 Annotation sheets, giving details of given or chosen stimuli and the process of development for submitted compositions, must be completed by candidates and included within folios. Annotation sheets will be supplied by the Council.

6.1.6 Composition folios will be assessed in relation to the following criteria and percentage weightings. Criteria (i)–(iii) will be applied to individual pieces within the folio. Criterion (iv) will be applied to the folio as a whole.

(i) Organisation and development of musical ideas	12%
(ii) Sense of completeness	9%
(iii) Use of timbre and texture	6%
(iv) Variety within the folio	
or	
Application of music technology	3%

Further details on the assessment of the Composing component are provided in the Memorandum on the Internal Assessment of Coursework.

6.2 **Performing: 30%**

6.2.1 Assessment of the performing component will be carried out by the Council's Visiting Assessors and supervised by the Assistant Chief Examiner, Performing.

6.2.2 Performing will automatically provide a differentiated form of assessment, since candidates will be guided by their teachers as to the standard of technical difficulty and interpretative demands of the programmes they offer. The choice of musical style and medium for performance will be the candidate's own. All styles and performance media are acceptable. Candidates who wish to present performances using music technology resources, such as pre-recorded backing tracks or MIDI techniques, may do so.

6.2.3 Candidates will be required to:

(i) perform individually

and

(ii) perform as a member of an ensemble

or

rehearse and direct a group of performers.

An individual performance is one in which the candidate performs as an accompanied/unaccompanied soloist or has the opportunity to play a significant solo part within the context of a group performance.

6.2.4 Candidates should present individual performance programmes of up to five minutes duration. Although there is no minimum time requirement, teachers should ensure that the candidate's programme has sufficient content to enable the Council's Assessor to make a judgement based on the criteria set out in paragraph 6.2.10. Teachers should also ensure that, when necessary, candidates have access to appropriate accompaniment.

6.2.5 Candidates should present ensemble performance programmes of up to five minutes duration. Although there is no minimum time requirement, teachers should ensure that the candidate's ensemble programme has sufficient content to enable the Council's Assessor to make a judgement based on the criteria set out in paragraph 6.2.11. Where music technology resources are employed within the context of ensemble performance, it will be important to ensure that the interactive skills of ensemble performance can be demonstrated.

6.2.6 In ensemble performance, the candidate's part should be sufficiently independent to ensure that the Council's assessor can make a valid judgement of the candidate's ensemble skills. It is not necessary for all members of the ensemble to be examination candidates.

6.2.7 A candidate may meet the requirements for individual and ensemble performances by presenting two different accompanied performances. Care should be taken, however, in the choice of music for the ensemble performance, to ensure that the candidate will not be disadvantaged in meeting the criteria for ensemble performance.

6.2.8 Candidates who choose to rehearse and direct a group should conduct a rehearsal lasting between 10 and 15 minutes. The chosen music may be distributed to members of the group, but should not be rehearsed in advance of the assessor's visit. Candidates are required to present, either in oral or written format:

- an overview of intentions for the complete piece of music;
- a plan for the rehearsal which is being assessed.

Rehearsing and directing a group will be assessed according to the criteria stated in paragraph 6.2.12.

6.2.9 With guidance from their teachers, candidates will choose their options and performance media. Schools are required to provide the Council with information regarding candidates' choice of options and performance media by **31 January** in the year of the examination.

6.2.10 **Criteria for Individual Performance: 15%**

Individual performances will be assessed in relation to the following criteria and percentage weightings. Criterion (i) relates to the technical demands of the candidate's chosen music. Criteria (ii) and (iii) relate to the candidate's response to the expressive characteristics of the music.

(i) Technical control of the instrument or voice 6%

(ii) Expressive interpretation of the music in relation to:

(a) tempo and dynamics 3%

(b) phrasing, tone and articulation 3%

(iii) Sense of style and communication 3%

Further details and information which may be helpful to teachers in guiding candidates towards appropriate choice of music are provided in sections 4 and 7 of the Mark Schemes and Guidance on Performing.

6.2.11 **Criteria for ensemble performance: 15%**

Ensemble performances will be assessed in relation to the following criteria and percentage weightings. Criterion (i) relates to the technical demands of the candidate's chosen ensemble piece. Criteria (ii) and (iii) relate to the candidate's response to the expressive characteristics of the ensemble piece and to the other members of the group.

(i) Control of the technical demands of the ensemble piece 6%

(ii) Sense of ensemble in relation to:

(a) balance between parts 3%

(b) pitch/intonation and phrasing 3%

(iii) Response to other members of the ensemble 3%

Further details and information which may be helpful to teachers in guiding candidates towards appropriate choice of music are provided in section 5 of the Mark Schemes and Guidance on Performing.

6.2.12 **Criteria for Rehearsing and Directing: 15%**

Rehearsing and Directing will be assessed in relation to the following criteria and percentage weightings.

(i) Planning 3%

(ii) Content 6%

(iii) Communication 6%

Further details and information which may be helpful to teachers in guiding candidates who choose this option are provided in section 6 of the Mark Schemes and Guidance on Performing.

6.3 **Listening and appraising: 40%**

6.3.1 Assessment of listening and appraising will be carried out by two equally weighted, written papers, each with an accompanying cassette. Each paper will last approximately one hour.

Paper 1 will assess, through their aural perception, the breadth of candidates' general musical knowledge and understanding. The paper will include a variety of musical extracts, representing a range of styles, periods and idioms.

Paper 2 will assess, through their aural perception, candidates' more detailed knowledge and understanding of the set works and the style characteristics of their composers.

6.3.2 The papers will contain a variety of question types and provide opportunities for a range of responses, including combinations of multiple choice, short answer, structured/free and extended paragraph responses.

6.3.3 Differentiation within the single tier of entry for this component will be achieved through inclines of difficulty within and between questions. Some questions will require knowledge of staff notation.

6.3.4 The two papers will be administered by teachers during two timetabled sessions, separated by a break of 15 minutes. Detailed instructions on the conduct of the listening and appraising papers will be issued to schools before the date of the examination.

7 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define the content. The grade awarded will depend, in practice, upon the overall extent to which the candidate has met the assessment objectives. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates compose music which shows some organisation of musical ideas and use of appropriate resources. They perform simple pieces at an appropriate speed, with some fluency and control of the resources used. They maintain an individual part within an ensemble or when directing a group, selecting an appropriate tempo, and giving clear instructions when to start and finish. They describe musical features using a simple musical vocabulary, and show some justification of opinions expressed.

Grade C

Candidates compose music which develops musical ideas, uses conventions, including simple harmony, and explores the potential of musical structures and resources. They compose music which fulfils a given or chosen brief. They perform music with control, making expressive use of phrasing and dynamics appropriate to the style and intended mood of the music. When performing with others, they fit their own part within the group performance, knowing when to take the lead and when to support. When directing a group, they bring several parts together and suggest improvements during rehearsal. They assess music critically, identifying musical characteristics, and change and continuity in musical styles and traditions. They justify opinions and preferences, using a musical vocabulary and show knowledge of conventions used in different times and places.

Grade A

Candidates compose music which shows coherent and imaginative development of musical ideas and consistency of style. They exploit musical structures, resources and conventions, and produce compositions which fulfil a given or chosen brief. They perform music with a sense of style and command of the resources used. When performing with others, they demonstrate a sense of ensemble, making appropriate gradations of speed and dynamics as a member of a group. When directing a group, they co-ordinate several parts, making use of balance and expression to interpret the mood and style of the music. They assess music critically and identify specific times and places through a knowledge of musical conventions. They show a knowledge of how and why musical traditions change or stay the same across time and place, including the contribution of composers and performers. They articulate opinions and preferences, using an accurate and extensive musical vocabulary.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF COURSEWORK

COMPOSING

1 INTRODUCTION

The composing component of the course provides opportunities for candidates to manipulate, experiment with and organise the elements of music to create something which is original for the candidate. A greater knowledge and understanding of how music "works" can be fostered through the creative processes which are an essential part of composing activities.

2 AIMS AND ASSESSMENT OBJECTIVES

The composing component contributes to each of the aims stated in paragraph 2 of the syllabus. It also provides the context for assessment objectives 3.1.1 and 3.1.2 in paragraph 3 of the syllabus.

3 COMPOSING AS A COURSEWORK ACTIVITY

3.1 It is envisaged that, throughout the course, candidates will be involved in composing activities resulting from a range of given and chosen stimuli. Towards the end of the course they will select the piece(s) which they wish to submit for assessment purposes.

3.2 Differentiation will occur naturally in the composing component since candidates will be given or will choose tasks which are appropriate to their individual abilities. There is also opportunity for differentiation by outcome where various levels of response may arise from a common stimulus.

3.3 Composing may be carried out as group activity, but it will be necessary for the teacher to identify and assess the contribution made by individual candidates within the group.

3.4 Compositions must be submitted in the form of a written score with annotation, **or** annotated tape, **or** both. Where taped performance and a written score are provided, care should be taken to ensure their correspondence. When discrepency exists between a score and taped performance, the taped performance will take precedence. Where graphic scores are submitted they must include a key and a taped realisation of the score. Where no score is available, a taped performance with detailed annotation must be submitted.

3.5 An annotation for an arrangement should indicate clearly the extent to which use was made of the source material. The original material on which the arrangement was based must be provided, within the candidate's folio, for moderation purposes.

3.6 Annotation sheets, which candidates should complete for each composition in the submitted folio, will be supplied by the Council. Candidates who use the resources made available by music technology are required to include, as part of their annotation, details of the equipment and/or programs they have used.

3.7 All Candidates' Record Sheets must indicate the performance time of submitted folios. This should be between four and six minutes, excluding any spoken commentary. Where a candidate has failed to produce a folio of four minutes duration, the teacher should assess the submitted work in the normal way, but forward that folio with its accompanying annotation and Candidate Record Sheet **in addition** to the samples requested for moderation.

4 ASSESSMENT

4.1 Since composing is a coursework activity, the candidate's teacher is regarded as the person best placed to make the initial assessment. In order to ensure comparability of standards, the Council will operate a system of moderation by inspection.

4.2 The composing element has a weighting of 30%, with a total mark allocation of 120 marks, which will be allocated according to the following criteria.

(i)	Organisation and development of musical ideas	(24 marks)
(ii)	Sense of completeness	(18 marks)
(iii)	Use of timbre and texture	(12 marks)
(iv)	Variety within the folio **or** Application of music technology	(12 marks)

4.3 Criteria (i)–(iii) will be applied to individual pieces within the folio. Criterion (iv) will be applied to the folio as a whole.

4.4 Compositions will be assessed in relation to the standard which could normally be expected from a sixteen year old candidate. Help by the teacher should not give the work a more sophisticated quality than the candidate would be capable of achieving. When making assessments, teachers must take into consideration the degree of assistance given to the candidate.

4.5 Teachers should use the following information to assist them in their assessment.

(i) Organisation and development of musical ideas (24 marks)

1–8 marks	9–16 marks	17–24 marks
– some attempt to organise musical ideas which are stated but remain undeveloped, either because the demands of the task are limiting, or the demands are greater, but not met	– some sense of organisation and ability to develop musical ideas through the effective use of common structural and expressive devices	– flair and imagination in the development, exploitation and refinement of musical ideas

(ii) Sense of completeness (18 marks)

1–6 marks	7–12 marks	13–18 marks
– a basic understanding of balance and style, for example, in a short melody	– the ability to maintain a chosen style within simple structures	– fluent and imaginative manipulation of structure and style

(iii) Use of timbre and texture (12 marks)

1–4 marks	5–8 marks	9–12 marks
– some attempt to match musical content with the selected medium	– purposeful use of timbral resources, with some attempt to introduce variety of texture	– purposeful, idiomatic and imaginative use of timbral and textural resources

(iv) Variety within the folio (12 marks)

1–4 marks	5–8 marks	9–12 marks
– some attempt to create variety of genre within the folio, or contrast in a longer piece	– some variety of timbre and genre within the folio, or the ability to create some variety in a longer piece	– variety of styles and/or genres within the folio, or the ability to create variety while maintaining unity in a longer piece

or

(iv) Application of music technology (12 marks)

1–4 marks	5–8 marks	9–12 marks
some control of: – sequencing, for example, quantisation – multi-track recording techniques, for example, use of more than 2 tracks, balance between tracks	control of: – sequencing techniques, for example, changes in dynamics and/or tempo – multi-track recording techniques, for example, balance, noise reduction, stereo image	flair and imagination in the use of: – sequencing techniques, for example, pitch bend/ modulation, program change – multi-track recording techniques, for example, use of effects, bouncing tracks, equalisation (EQ)

4.6 Where a folio consists of **one extended piece**, the total marks for criteria (i)–(iii) should be doubled, before adding the mark awarded under criterion (iv), for example,

8 + 13 + 7 = 28 (criteria i–iii)

28 × 2 = 56

56 + 6 (criterion iv) = 62 marks for the folio.

4.7 Where a folio consists of **two pieces**, the total marks for criteria (i)–(iii) in each piece should be added together, before adding the mark awarded under criterion (iv), for example,

Piece 1 Piece 2

(6 + 7 + 5) + (7 + 8 + 6) = 18 + 21 = 39 (criteria i–iii)

39 + 7 (criterion iv) = 46 marks for the folio.

4.8 Where a folio consists of **three pieces**, the total marks for criteria (i)–(iii) in each piece should be added together and multiplied by $\frac{2}{3}$, before adding the mark awarded under criterion (iv), for example,

Piece 1 Piece 2 Piece 3

(16 + 11 + 9) + (17 + 13 + 11) + (13 + 9 + 9)
= 36 + 41 + 31 = 108 (criteria i–iii)

108 × $\frac{2}{3}$ = 72

72 + 11 (criterion iv) = 83 marks for the folio.

4.9 Where a folio consists of **four pieces**, the total marks for criteria (i)–(iii) in each piece should be added together and then divided by 2, before adding the mark awarded under criterion (iv).

4.10 Where a folio consists of **five pieces**, the total marks for criteria (i)–(iii) in each piece should be added together and multiplied by $\frac{2}{3}$, before adding the mark awarded under criterion (iv).

4.11 Where a folio consists of **six pieces**, the total marks for criteria (i)–(iii) in each piece should be added together and then divided by 3, before adding the mark awarded under criterion (iv).

4.12 Teachers are required to record the marks awarded for each criterion and the total marks for the folio on the Candidate Record Sheet, copies of which will be supplied by the Council. Teachers are also required to sign the Candidate Record Sheet and to outline details of any assistance which may have been given to the candidate. This information is essential to the moderation process.

4.13 The total mark for each candidate must be submitted to the Council by **1 May** in the year of the examination. The Candidate Record Sheets for **all** candidates must be sent to the Council at the same time as the coursework samples requested for moderation.

5 AUTHENTICATION

Candidates are required to sign a statement of authentication on the annotation sheet for each piece submitted for assessment. It is the responsibility of the teacher to accept for marking, only pieces of coursework which (s)he knows to have been done by the candidate concerned.

6 MODERATION OF ASSESSMENT

6.1 Information regarding the assessment of coursework and the various administrative procedures will be distributed to centres on an annual basis.

6.2 In May, the Council will collect samples of coursework from centres and distribute them to the Assistant Coursework Moderators who will scrutinise the assessments against the criteria stated in paragraph 4.5, and make initial recommendations regarding the quality of that assessment. Where problems occur, the Assistant Coursework Moderator may request additional samples.

6.3 The full moderating team will meet in June and, under the supervision of the Coursework Moderator, will carry out a further scrutiny of all coursework samples, before agreeing final recommendations regarding teachers' assessments. In cases of discrepancy between the recommendations of the initial moderator and the second moderators, the Coursework Moderator will scrutinise the sample and make the final decision.

6.4 Where adjustments to teachers' assessments have been made, schools will be sent the final moderated marks and details as to why adjustments were made, in the Autumn term following the examination. Schools will be given the opportunity to discuss their application of the criteria, or other relevant issues, with a member of the moderating team.

6.5 The Council reserves the right to request that the work of all candidates be made available for moderation.

MARK SCHEMES AND GUIDANCE ON PERFORMING

1 INTRODUCTION

This section is intended to provide teachers with information which will form the basis for assessing the performing component of the examination. It provides guidance which may be useful in determining the performance levels of candidates. It may also help teachers guide candidates towards appropriate choices of music for their performance programmes.

2 AIMS AND ASSESSMENT OBJECTIVES

The performing component contributes to each of the aims stated in paragraph 2 of the syllabus. It also provides the context for assessment objectives 3.2.1 and 3.2.2 in paragraph 3 of the syllabus.

3 ASSESSING PERFORMANCE

3.1 It is envisaged that candidates' performing skills will be developed throughout the course and that, for the final assessment of performance, candidates will choose a programme of music that will enable them to demonstrate the full extent of their performing skills and understanding.

3.2 The performing element has a weighting of 30%, with a total mark allocation of 120 marks, divided equally between individual performance **and** ensemble performance **or** rehearsing and directing.

4 MARK SCHEME FOR INDIVIDUAL PERFORMANCE

Candidates' individual performances will be marked out of a total of 60 marks which are allocated according to the criteria, in the following manner.

(i) Technical control of the instrument or voice (24 marks)

(ii) Expressive interpretation of the music in relation to:

(a) tempo and dynamics (12 marks)

(b) phrasing, tone and articulation (12 marks)

(iii) Sense of style and communication (12 marks)

Criterion (i) relates to the technical demands of the candidate's chosen music. Supplementary guidance on technical factors which might indicate levels of difficulty in relation to voice and individual instruments is provided in Section 7.

Criteria (ii) and (iii) relate to the candidate's response to the expressive characteristics of the music.

(i) Technical control of the instrument or voice (24 marks)

The candidate is likely to demonstrate technical control by performing music which includes some, but not necessarily all, of the features identified within each mark range.

1–8 marks	9–16 marks	17–24 marks
accuracy in controlling: – a restricted range – a moderate tempo – simple rhythms and melodic passages – a restricted dynamic range – basic articulation requirements, such as slurring	accuracy in controlling: – a more extended range – faster/slower tempi or gradations of tempo – more difficult rhythms and/or melodic passages – dynamic gradation – more refined articulation, such as staccato and/or legato	accuracy in controlling: – a range which is consistent with the normal repertoire – fast/slow/contrasting tempi and/or passage work – more complex rhythmic and/or melodic passage work – a wide dynamic range or nuance within a narrow range – ornamentation and/or chromaticism

(ii) Expressive interpretation of the music in relation to:

(a) tempo and dynamics (12 marks)

1–4 marks	5–8 marks	9–12 marks
limited ability to: – select or maintain a tempo which reflects the composer's direction, or is appropriate for the genre – interpret the basic dynamic requirements of the music	some ability to: – maintain a tempo which reflects the composer's direction, or is appropriate for the genre – select or interpret a dynamic range which is mostly consistent with the mood of the music	the ability to: – choose and/or maintain a correct tempo – select or interpret a dynamic range which effectively colours the music

(b) phrasing, tone and articulation (12 marks)

1–4 marks	5–8 marks	9–12 marks
the ability to: – begin to convey musical meaning through a basic sense of phrasing – produce a mostly acceptable tone and use appropriate articulation to convey expressive intent	the ability to: – convey musical meaning through an adequate sense of phrasing – produce an acceptable quality and consistency of tone and use appropriate articulation to realise expressive content	the ability to: – realise musical meaning through a well-developed sense of phrasing – select sufficient variety of tone and articulation to explore, interpret and realise the expressive potential of the music

(iii) Sense of style and communication (12 marks)

1–4 marks	5–8 marks	9–12 marks
– a limited understanding of the stylistic features of the music – limited awareness of the communicative dimension in performance	– some ability to select and maintain a style which is consistent with the music – some sense of commitment and ability to relate to the listener	– an understanding of stylistic convention and nuance in the music – a strong sense of purpose and ability to convey a personal response which realises the composer's intentions

5 MARK SCHEME FOR ENSEMBLE PERFORMANCE

Candidates' ensemble performances will be marked out of a total of 60 marks which are allocated according to the criteria, in the following manner.

(i) Control of the technical demands of the ensemble piece (24 marks)

(ii) Sense of ensemble in relation to:

(a) balance between parts (12 marks)

(b) pitch/intonation and phrasing (12 marks)

(iii) Response to other members of the ensemble (12 marks)

Criterion (i) relates to the technical demands of the candidate's chosen ensemble piece.

Criteria (ii) and (iii) relate to the candidate's response to the expressive characteristics of the ensemble piece and to the other members of the group.

(i) Control of the technical demands of the ensemble piece (24 marks)

The candidate is likely to demonstrate control by participating in a performance of ensemble music which includes some, but not necessarily all, of the features identified within each mark range.

1–8 marks	9–16 marks	17–24 marks
accurate contribution to:	accurate contribution to:	accurate contribution to:
– a moderate tempo	– faster/slower tempi	– fast/slow/contrasting tempi and/or ensemble gradations of tempo
– simple rhythms and melodic passages	– more difficult rhythms and/or melodic passages	– more complex rhythmic and/or melodic passage work
– mutually supportive parts and straightforward entries	– parts which have some independence and/or some difficult entries	– parts which are mostly independent and/or entries which are more difficult
– simple, mutually supportive dynamic requirements	– more difficult or independent dynamic requirements	– more complex dynamic requirements such as ensemble dynamic gradations or nuance
– simple, straightforward articulation requirements, such as slurring	– more difficult or independent articulation requirements such as staccato and/or legato playing	– more complex articulation requirements such as ensemble passage work at a fast/slow tempo

(ii) Sense of ensemble in relation to:

(a) balance between parts (12 marks)

1–4 marks	5–8 marks	9–12 marks
– a limited sense of the need for dynamic balance between parts	– some success in achieving dynamic balance and in demonstrating awareness of the ensemble texture	– good dynamic balance, and a well-developed sense of the ensemble texture and the candidate's role within it

(b) pitch/intonation and phrasing (12 marks)

1–4 marks	5–8 marks	9–12 marks
– reasonable accuracy of pitch and/or intonation	– mostly accurate pitch and/or intonation	– accurate pitch and/or intonation throughout the piece
– a limited sense of phrasing in candidate's own part and little awareness of it relates to the piece as a whole	– an adequate sense of phrasing in candidate's own part and awareness of how it relates to the piece as a whole	– a well-developed sense of phrasing in candidate's own part and good understanding of how it relates to the piece as a whole

(iii) Response to other members of the ensemble (12 marks)

1–4 marks	5–8 marks	9–12 marks
– little perception of what is happening in other parts, and limited ability to make adjustments during the performance	– adequate perception of what is happening in other parts, and some attempt to make appropriate adjustments during performance	– sensitivity to what is happening in other parts, and a prompt response to adjustments needed during performance
– limited ability to take the initiative	– some ability to take the lead and support as necessary	– confidence in taking the lead and supporting as necessary

6 MARK SCHEME FOR REHEARSING AND DIRECTING

Candidates' rehearsals presented for assessment will be marked out of a total of 60 marks which are allocated according to the criteria, in the following manner.

(i) Planning (12 marks)

(ii) Content (24 marks)

(iii) Communication (24 marks)

The distribution of marks within each criterion will be allocated according to the scale indicated below.

(i) Planning – the candidate's ability to:

(a) match the technical demands of the music to the ability of the group (4 marks)

(b) identify aspects of the music which might require special attention (4 marks)

(c) outline an appropriate aim for the rehearsal (4 marks)

(ii) Content – the candidate's ability to:

(a) recognise errors and correct them (12 marks)

(b) realise the composer's intentions (12 marks)

(iii) Communication – the candidate's ability to:

(a) engage and sustain the attention of the group (8 marks)

(b) demonstrate points of technique or interpretation (8 marks)

(c) create an enjoyable and effective learning environment for the group (8 marks)

7 TECHNICAL GUIDANCE FOR VOICE AND INSTRUMENTS

The following guidance may be used to supplement the information given in the mark scheme for the performing component. **It should be noted that the points outlined under Lower, Middle and Higher are not essential requirements. They are indicators which should be read in conjunction with the mark ranges specified for technical control of the voice or instrument in individual performance.**

7.1 Voice

Lower	Middle	Higher
– a range of at least one octave	– a range of up to a tenth	– a range of at least a tenth
– mostly accurate pitch in conjunct movement and simple intervals	– accurate pitch in simple intervals, including the octave, and an even tone across vowel sounds	– accurate pitch and intonation in more difficult intervals, such as diminished 5ths and 7ths, and a smooth transition between registers
– mostly clear diction	– clear diction	– excellent diction

7.2 Irish Traditional Instruments which may include the harp

Lower	Middle	Higher
– a range of pieces such as ballads and/or marches	– a more varied programme, including jigs and reels	– slow airs and more difficult jigs and reels
– simple ornamentation such as grace-notes and cuts	– more complex ornamentation, such as simple turns, slides and double grace-notes	– a wide range of appropriate ornamentation, such as rolls, cranns and triplet grace-notes

7.3 Scottish Bagpipe

Lower	Middle	Higher
– a range of pieces such as simple tunes and/or marches	– a more varied programme, including slow airs, reels and strathspeys	– a varied programme including more complex slow airs, reels, strathspeys and/or piobaireachd
– some ability to tune drones	– some ability to focus on the quality of tone by reasonably accurate tuning of drones and handling of reeds	– ability to focus on the quality of tone by tuning drones, understanding the function of the bridle and by setting the chanter reed
– some ability to co-ordinate breath, fingers and arm pressure	– competent control of breath, fingers and arm pressure to ensure appropriate phrasing	– fluent breath, finger and arm co-ordination to match technical requirements

7.4 Recorder

Lower	Middle	Higher
– a range of up to a tenth and keys such as, C/F maj (descant) and F/B♭ maj (treble)	– a range of up to a twelth and keys such as, G/D/B♭ maj (descant) and G/E♭, maj (treble)	– a range of up to a thirteenth and/or more difficult keys
– limited evenness of tone and simple tonguing to produce slurred and separate notes	– tonal balance between open and pinched notes, and competent tonguing to produce staccato and short legato phrases	– good tone with clear tonguing and ability to sustain more extended legato phrases

7.5 Piano

Lower	Middle	Higher
– single line texture in both hands with limited hand positions and little chordal or arpeggio work	– some independence of hands and control of simple chordal and/or arpeggio patterns	– independence of hands and ability to move fluently over the keyboard
	– some ability to make appropriate use of the pedals	– competent use of pedals

7.6 Electronic Keyboard

Basic	Middle	High
– limited manipulative control, for example, right hand playing within a sixth, accompanied by spaced out single finger chords in the left hand	– more extended right hand positions accompanied by a wider range of single finger chords in the left hand	– fluent use of the right hand with competent left hand use of a wide harmonic range, including more complex chords
	– the ability to synchronise melody and accompaniment with more frequent chord changes	– competent and effective use of the facilities available on the keyboard, for example, changing voices and accompaniment patterns during performance

7.7 Accordian (treble and bass keyboards/free bass keyboard/piano or button key)

Lower	Middle	Higher
– restricted use of treble and bass keyboards in keys such as C/G/F maj	– more extensive use of keyboards and/or a wider range of keys	– full use of keyboards and/or more difficult keys
– ability to co-ordinate hands	– some ability to use registers and the use of reeds to control pitch and tone (not appropriate to all instruments or pieces)	– competent use of registers to vary pitch, octaves and/or tone production when appropriate
	– a wider range of pitch and correct finger control (Free Bass instruments)	– control of registers to vary pitch/octaves over a wider range (Free Bass instruments)
– use of fundamental and major chord rows (Stradella Bass systems)	– more extended use of chord rows, for example counter-bass, minor and 7th chord rows (Stradella Bass systems)	– ability to use the full range of chords (Stradella Bass systems)
– bellows technique to produce adequate articulation of sound, simple phrasing and a restricted dynamic range, for example, from *mp–mf*	– bellows technique to produce more precise tone, some varied articulation and a wider dynamic range, for example, *p–f*	– bellows technique to produce quality tone, varied articulation, sustained phrasing and a wider dynamic range

7.8 Organ

Lower	Middle	Higher
– basic control of legato and staccato playing on one manual, with limited use of pedals	– simultaneous use of different manuals and more extensive use of pedals, according to the requirements of the piece	– independence of hands and feet, and the ability to move fluently between manuals and over the pedal board
– some use of the swell pedal	– ability to choose appropriate registrations	– ability to change registration during the flow of the piece

7.9 **Guitar**

Lower	Middle	Higher
– limited manipulative control, for example, open strings, simple chords	– more extended left hand positions to produce a wider range of chords and/or some ability to co-ordinate melodic patterns with appropriate accompaniment	– fluent use of the left hand to produce more complex chords, for example, augmented and diminished, and/or the ability to co-ordinate more complex melodic and accompaniment patterns
– limited ability to control volume and effects devices on electric/amplified instruments	– some use of volume and effects controls on electric/amplified instruments	– competent use of volume and effects controls on electric/amplified instruments
– simple strumming techniques	– a wider range of accompaniment techniques, for example, finger-picking	– competent and effective use of right hand techniques

7.10 **Drum-kit**

Lower	Middle	Higher
– ability to maintain a steady bass beat and superimpose complementary rhythms on two other pieces of the kit	– ability to co-ordinate three limbs to produce a range of complementary rhythms and timbres	– independent use of hands and feet, and the ability to move fluently between all pieces of the kit to create a wide range of complementary rhythms, timbres and textures

7.11 **Harp**

Lower	Middle	Higher
– a range of up to two octaves in keys such as C/G/D/F maj, A/E/D min (C tuning)	– a range of up to three octaves in keys such as B♭/ E♭ maj, G/C min (C tuning)	– a range of up to four octaves and/or a more extended use of keys
	– ability to make necessary blade/lever changes or use pedals to realise simple changes of key within or between pieces	– competent use of pedals to deal with chromaticism and changes of key within the piece
– some ability to articulate melody and simple accompaniment	– ability to articulate and co-ordinate melody with different styles of accompaniment	– fluent movement across strings with competent and clear articulation of a range of harp figurations

7.12 **Percussion**

Lower	Middle	Higher
– sufficient technique to play a simple melody on a diatonic instrument such as xylophone or glockenspiel	– some attempt to sustain, through use of tremelando or ability to dampen sound as necessary, across a wider pitch range on a chromatic instrument	– competent use of mallets across a wide pitch range to produce clear articulation and effects
– sufficient technique to play simple rhythms and rolls on a snare drum or single timpani	– ability to sustain more complex rhythms and rolls on a snare drum or ability to tune, play and dampen tonic/dominant timpani	– ability to sustain complex rhythms, rolls and effects on a snare drum or ability to tune and retune timpani as necessary during performance

7.13 **Strings**

Lower	Middle	Higher
Violin – use of first position and keys such as, G/D maj and D min – limited evenness of tone and simple techniques such as slur bowing and pizzicato	Violin – some ability to use third position and keys such as B♭ maj, A min – acceptable tone and controlled bowing to produce, for example, some legato playing	Violin – competent use of third position, some knowledge of second/ fourth positions and positions across strings and/or more difficult keys – good tone with some vibrato and a more refined bowing technique
Viola – use of first position and keys, such as C/G/D maj, C min – limited evenness of tone and simple techniques, such as slur bowing and pizzicato	Viola – some ability to use third position and keys, such as E♭ maj, D min – acceptable tone and controlled bowing to produce, for example, some legato playing	Viola – competent use of third position, some knowledge of second/ fourth positions and positions across strings and/or more difficult keys – good tone with some vibrato and a more refined bowing technique
Violoncello – very limited use of fourth position and keys, such as C/G/D maj, D min – limited evenness of tone and simple techniques, such as slur bowing and pizziczto	Violoncello – some use of half, third and fourth positions and keys, such as A/B♭/F maj, C min – acceptable tone, good co-ordination between left hand and bow and ability to produce simple spread chords	Violoncello – sensible use of positions, including second position and/or more difficult keys – a good tone with the introduction of vibrato and a more refined bowing technique such as articulated use of spread chords
Double Bass – simple keys, such as G/C maj (avoiding position change), A min – limited evenness of tone, slurred bowing and combinations of pizzicato/arco bowing	Double Bass – limited use of positions up to D above middle C and keys, such as F/B♭/D maj, B min – acceptable tonal variety and ability to produce staccato, broken slurs and simple double stopping	Double Bass – use of positions up to E above middle C and knowledge of position work across strings – a clear and even tone, with early signs of vibrato and a more refined bowing technique to include double stopping

7.14 **Woodwind**

Lower	Middle	Higher
Flute	Flute	Flute
– a range of up to one and a half octaves and keys, such as C/F/G maj and A min	– a range of up to two octaves and keys, such as D/F/G maj, D/E/G min	– a range extending into the third octave and/or more difficult keys
– limited evenness of tone and ability to produce slurred and separate notes	– tonal balance between the two octaves and ability to produce staccato and short legato phrases	– good even tone, clear tonguing and ability to sustain more extended legato phrases
Oboe	Oboe	Oboe
– a range of between one and one and a half octaves and keys, such as F/G/C maj and A/E min	– a range of a twelfth and keys, such as D/F maj, D/E/G min	– a range of up to two octaves and/or more difficult keys
– limited evenness of tone and ability to produce slurred and separate notes	– reasonable control of the reed and tonguing techniques, with some ability to balance tone into the second octave	– good even tone with clear tonguing and good legato technique
Clarinet/Saxophone	Clarinet/Saxophone	Clarinet/Saxophone
– use of the Chalumeau register and keys such as written F/G maj, D min	– a range of up to two octaves and keys such as written C maj, D/G min	– a range of up to three octaves and/or more difficult keys
– a range of up to an octave and keys such as written F/G maj, D/A min (saxophone)	– a range of up to a twelth and keys such as written C/D/E♭ maj, C/E min (saxophone)	– up to two octaves and/or more difficult keys (saxophone)
– limited evenness of tone and ability to produce slurred and separate notes	– reasonable control of the reed and tonguing techniques, with some ability to balance tone across the two octaves	– a warm, even tone with clear tonguing and good legato technique
Bassoon	Bassoon	Bassoon
– a range of up to a twelfth and keys such as C/F maj, A min	– a range of up to two octaves and keys such as D/E♭ maj, B/D/E min	– a range of up to three octaves and/or more difficult keys
– limited evenness of tone and ability to produce slurred and separate notes	– reasonable control of the reed and tonguing techniques, with some ability to balance tone across the two octaves	– good clear tone, reasonable finger dexterity and clear tonguing

7.15 **Brass**

Lower	Middle	Higher
French horn – a range of between a fifth and an octave in written C maj – limited evenness of tone and ability to tongue separate notes Trumpet/Cornet/Flügelhorn – a range of one octave and keys such as written C/D maj – limited evenness of tone and ability to tongue slurred and separate notes Trombone – a range of one octave and keys, such as B♭ maj (bass clef) or C maj (treble clef) – limited ability to co-ordinate changes of slide position and tongued notes Tuba – a range of up to one octave in the home key – some ability to sustain individual notes	French horn – secure pitching of notes, a range of up to a twelfth and keys such as written A/D maj, A/B min – more developed tone and some ability to produce both tongued and legato playing Trumpet/Cornet/Flügelhorn – a range of up to a twelfth and keys such as written B♭/C maj, A min – more developed tone, with some ability to balance tone into the second octave Trombone – a range of up to a twelfth and keys, such as A♭/B♭ maj, A/B♭ min (bass clef) or, B♭/C maj, B/C min (treble clef) – more control of changes in slide position and ability to co-ordinate breath, tongue and arm movement Tuba – a range of up to a twelfth in simple keys – more developed tone and ability to tongue individual notes	French horn – a range up to written top G (treble clef) and/or more difficult keys – general evenness of tone across the dynamic range and competent tongued and legato playing Trumpet/Cornet/Flügelhorn – a range up to top written B♭ (treble clef) and/or more difficult keys – good even tone across the dynamic range, good finger dexterity, and competent tongued and legato playing Trombone – a range up to top A♭ (bass clef) B♭ (treble clef) and/or more difficult keys – good even tone, accurate and fluent position changes and some evidence of a developing legato style Tuba – a range up to top D♭ (bass clef) B♭ (treble clef) and/or more difficult keys – good tone, and increased finger dexterity and ability to produce tongued and legato playing

PERSONAL AND SOCIAL EDUCATION (Modular)

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 The study of this modular course will enable students to develop their understanding of themselves as social beings and the inter-relationships within and between communities. Students will be enabled to relate knowledge to real-life situations and develop the skills associated with critical evaluation and decision-making.

1.2 The syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Social and Environmental Studies (Modular). It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.3 This syllabus and the methods of assessment are intended for the whole GCSE ability range. A course based on this syllabus will facilitate the needs of a wide variety of students, including those leaving school at 16, those going on to further education and/or training and mature students returning to education on a part-time or full-time basis.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This modular syllabus has been designed to be as free as possible from ethnic, gender, political, religious or other forms of bias.

2 GENERAL AIMS

The general aims set out below describe the educational purposes of following a modular course in Personal and Social Education. Students should be given opportunities to:

2.1 acquire knowledge and develop an understanding of the specific dimensions of the Personal and Social Education modules, thus enabling them to play an informed role within society;

2.2 develop an understanding of the inter-relationships of individuals, different communities and cultures within society;

2.3 develop the ability to evaluate critically different types of information associated with various aspects of and perspectives on society;

2.4 develop the skills necessary for independent thinking and informed decision-making in relation to personal and social issues;

2.5 develop relevant linguistic, numerical, graphical and analytical skills.

3 ASSESSMENT OBJECTIVES

The assessment objectives describe the abilities which can be measured and recorded. Some of the aims are reflected in the assessment objectives, others are not because they cannot readily be assessed for examination purposes.

The candidates will be assessed on their ability to:

3.1 recall and understand knowledge within the context of the individual and society;

3.2 collect, select and analyse information using a variety of skills and techniques;

3.3 apply their knowledge to interpret and evaluate information, draw conclusions and make judgements.

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment consists of the assessment of each of **four** modules.

4.2 Each module will be weighted at 25% of the total.

4.3 In each module a scheme of assessment will be available for each of the following GCSE ability ranges:

Foundation Tier: Grades C–G

Higher Tier: Grades A*–D(E)

Candidates must choose one tier of entry for each module. Candidates who enter for the Higher Tier in a module and fail to demonstrate Grade D qualities but demonstrate qualities associated with a Grade E performance will have that performance recorded.

4.4 There will be two timetabled assessment sessions each year, in January and May/June.

4.5 Each candidate will be informed about his/her performance in a module following the assessment session.

4.6 The performance in each module will be banked and after completion of the fourth module, added together to give a final grade. Candidates may have their performance in the modules assessed over a four year period.

4.7 Candidates and centres must note that each module will be assessed at GCSE standard and that no concessions will be made to any candidate on the grounds that the module has been assessed early in the course.

5 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates will recall some knowledge and demonstrate basic understanding of key elements of the syllabus content. They will apply this knowledge and understanding using some subject specific vocabulary, concepts and processes to describe and identify some of the key inter-relationships studied. They will select, present and analyse information from a limited range of sources. They will demonstrate some ability to make judgements which are supported by some evidence.

Grade C

Candidates will recall relevant knowledge and demonstrate a sound understanding of most elements of the syllabus content. They will apply this knowledge and understanding using subject specific vocabulary, concepts and processes relevant to describe and explain the inter-relationships studied. They will demonstrate an understanding of the effect of attitudes and values in decision-making. They will select, organise, present and analyse information from a variety of sources. They will make reasoned judgements and present plausible conclusions which are supported by evidence.

Grade A

Candidates will recall accurate relevant knowledge and demonstrate a thorough understanding of the syllabus content. They will apply this knowledge and understanding in a precise manner using subject specific vocabulary, concepts and processes relevant to explain and evaluate the inter-relationships studied. They will evaluate the significance and effects of attitudes and values in decision-making. They will select, organise, present and analyse effectively information from a variety of sources. Having evaluated the evidence available, they will make reasoned judgements and present substantiated conclusions.

6 CONTENT

6.1 A modular course in Personal and Social Education consists of **four** modules chosen from the list below.

- Family Life and Parenting
- Individual Health and Safety
- Information Technology or Personal Career Planning
- Money Management
- Opportunities for Working Life
- Rights and Responsibilities in the Community
- RSA Sports and Recreation or RSA Travel and Tourism

6.2 Choosing the modules to combine into a full course.

6.2.1 In a full course consisting of four modules the total maximum weightings for each form of assessment are indicated below.

End of module tests maximum 80%

Coursework maximum 45%

The table below indicates the weightings on each form of assessment for each module (where a module represents 25% of the total assessment for the full course).

Module	End of Module Test	Coursework
Family Life and Parenting	25%	–
Individual Health and Safety	15%	10%
Information Technology	–	25%
Personal Career Planning	–	25%
Money Management	15%	10%
Opportunities for Working Life	25%	–
Rights and Responsibilities in the Community	15%	10%
RSA Sports and Recreation	12½%	12½%
RSA Travel and Tourism	12½%	12½%

6.2.2 In their combination of modules candidates may include **one** of Information Technology and Personal Career Planning together with (i) two modules assessed through a combination of coursework and end of module tests and (ii) one module assessed through an end of module test.

6.2.3 Candidates aiming to achieve a grade from the range C–G may choose to include one of the listed RSA Initial Awards as one of their four modules.

If one RSA Initial Award is included care must be taken to ensure that the total maximum coursework weighting for the full course is within the limit stated in paragraph 6.2.1 above.

6.2.4 If the module "Opportunities for Working Life" is taken as one of the four modules contributing to Personal and Social Education, it may **not** be taken in the combination leading to an award in Social and Environmental Studies.

6.2.5 Further guidance is provided in the attached appendix.

6.3 Each module will require 35 hours of contact time.

6.4 Details of each module are set out in separate booklets.

APPENDIX

Guidelines on the choice of modules to conmbine into a full course for a GCSE in Personal and Social Education.

1 The principles for choosing modules are set out in paragraph 6.2 of the GCSE syllabus. These principles are used to define the following three acceptable sets of combinations.

2 **SET A**

Comprising of (i) one module assessed through an end of module test (ii) one module assessed through coursework and (iii) two modules assessed through end of module tests plus coursework.

This combination would consist of

- **one** of
  - Family Life and Parenting
  - Opportunities for Working Life
- **one** of
  - Information Technology
  - Personal Career Planning
- **two** of
  - Individual Health and Society
  - Money Management
  - Rights and Responsibilities in the Community

3 **SET B**

Comprising of (i) one module assessed through an end of module test and (ii) three modules assessed through a combination of end of module tests and coursework.

The combination would consist of

- **one** of
  - Family Life and Parenting
  - Opportunities for Working Life
- **three** from the following
  - Individual Health and Safety
  - Money Management
  - Rights and Responsibilities in the Community
  - RSA Sports and Recreation **or** RSA Travel and Tourism

4 **SET C**

Comprising of (i) two modules assessed through end of module tests and (ii) two modules assessed through a combination of end of module tests and coursework.

The combination would consist of

- Family Life and Parenting
- Opportunities for Working Life
- plus **two** from the following
  - Individual Health and Safety
  - Money Management
  - Rights and Responsibilities in the Community
  - RSA Sports and Recreation **or** RSA Travel and Tourism

5 As stated in paragraph 6.2.4 (in the syllabus) the module "Opportunities for Working Life" may be used in either Personal and Social Education or Social and Environmental Studies but not in both.

6 Candidates wishing to use one of the two stated RSA Initial Awards in their combination must enter for the Initial Award through RSA Examainations Board. The centre must inform the Council at the beginning of the course (at the time of registering the candidates) of their intention to use an RSA Initial Award as one of their contributory modules. The necessary information on performance in the Initial Award will be forwarded by the RSA Examinations. Board to the Council. RSA Examinations Board will inform the centre of the candidates' performances in the Initial Award and will issue associated statements and certificates.

7 Each module can be taken as a self-standing enrichment module (ie not taken with other modules to form a full course).

Family Life and Parenting

A contributory module to GCSE Personal and Social Education

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 This module will provide students with an opportunity to develop an understanding of various inter-relationships, responsibilities and pressures associated with family life and parenting. It should help them to cope with the increasing pressures which young people face in our modern complex society.

1.2 The study of this module will help to provide a sound foundation for the core skills of communication, numeracy and problem-solving as well as providing a means for promoting inter-personal skills, the ability to work co-operatively and turning young people into effective citizens.

1.3 The module is designed to cater for the full range of ability of students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours. It may be taken as a free standing module or as part of a modular course.

2 AIMS

The aims set out below describe the educational purposes of following this course:

2.1 to enhance personal and social competences;

2.2 to develop the abilities, knowledge and understanding necessary to evaluate information and ideas as presented in literary, pictorial, numeric, graphical and statistical forms;

2.3 to develop an awareness of the importance of making balanced and informed judgements;

2.4 appreciate how different roles can give rise to different perspectives on the same issues, problems and events.

3 ASSESSMENT OBJECTIVES

The assessment objectives reflect those aims which can be readily assessed for examination purposes.

Candidates will be expected to demonstrate the ability to:

3.1 recall and understand relevant knowledge;

3.2 select and analyse economic information presented in a variety of forms;

3.3 interpret and evaluate information, draw conclusions and make judgements.

4 SCHEME OF ASSESSMENT

4.1 This module will be assessed through the use of an end of module test of 1½ hours duration. The test will consist of between four and six structured questions. All questions will be compulsory.

4.2 The approximate allocation of weightings to the assessment objectives is indicated below.

Assessment Objective	Weighting
(3.1) Recall and Understanding	40%
(3.2) Select and analyse information	30%
(3.3) Interpret, evaluate, draw conclusions and make judgements	30%

4.3 Differentiation will be achieved through the use of tiered papers.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve Grades C–G in the overall certification.

5 CONTENT

The content is presented in a two-column format. The left-hand column identifies the foci within each theme while the right-hand column indicates the level of detail required.

Theme 1 – The Family

FOCUS	ELABORATION
The different types of family structure	Nuclear; extended; single parent; mixed marriage/ religion/race.
How a family functions	Importance of family as a caring unit; contribution of family to socialisation process.
The different roles and relationships within family structures	Sibling relationships; parental relationships; grandparent relationships.
The impact of the elderly on the family	The needs of the elderly, the needs of other family members, the contribution of the elderly to the family.

Theme 2 – The Effect of the Infant on the Family

FOCUS	ELABORATION
The impact of baby before and after birth	Baby's needs, mother's needs – physical and psychological; physical and psychological needs of the family.
Needs of the pre-school/primary school child	Stimulation – physical and emotional; education – care and protection.
The importance of addressing the needs of the child	Discipline; interaction; socialisation; developing independence; emotional and intellectual development.
The impact on the family of addressing needs of the developing child	Demands on different types of family structure – social conditions, economic considerations.

Theme 3 – Adolescence

FOCUS	ELABORATION
Adolescent development	Physical development; emotional development; new relationships; attitudes to family, school.
The impact of adolescent behaviour on the family	Potential differences in perspective; peer group pressure.
The contribution of the adolescent to the family	Shared responsibilities and obligations.

Theme 4 – Parenting

FOCUS	ELABORATION
Parental responsibilities	Parent as carer; parent as role model; legal responsibilities.
The influences and pressures on parents	Economic and social; personal relationships.
Influence of parenting on parent and child	Transference of attitudes, eg expectations, sex stereotyping, aggression, responsibility.

Individual Health and Safety

A contributory module to GCSE Personal and Social Education

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 This module will enable students to develop an understanding of the ways in which they can create a healthy personal lifestyle.

1.2 The module is designed to cater for the full range of ability students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours. It may be taken as a free-standing module or as part of a modular course.

2 AIMS

The aims set out below describe the educational purposes of following this course:

2.1 develop the abilities, knowledge and understanding necessary to evaluate information and ideas as presented in literary, numerical, graphical and statistical forms;

2.2 develop an awareness of the importance of making balanced and informed judgements and, where necessary, taking action on issues and problems.

3 ASSESSMENT OBJECTIVES

The assessment objectives reflect those aims which can be readily assessed for examination purposes.

Candidates will be expected to demonstrate the ability to:

3.1 recall and understand knowledge of the complex nature of environment;

3.2 select and analyse information;

3.3 interpret and evaluate information, draw conclusions and make judgements;

3.4 present information in a form appropriate to a given content.

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment will consist of:

End of Module test: 60%

Coursework: 40%

End of Module Test – Duration 1 hour

The test will consist of three structured questions. All questions will be compulsory. The resource material used in each question may take a variety of forms, eg written, graphical, statistical, pictorial.

Coursework

Each candidate will be required to undertake an Individual Study. Further detailed guidance is offered in the Memorandum on the Internal Assessment of the Individual Study. The coursework will be internally assessed by the teachers and externally moderated by the Council.

4.2 The approximate allocation of weightings to the assessment objectives in each component of assessment are indicated below.

Assessment Objectives	Approximate Weighting End of Module Test	Coursework
(3.1) Recall and understanding	24%	8%
(3.2) Collect, select, analyse	18%	12%
(3.3) Interpret, evaluate, draw conclusions, make judgements	18%	12%
(3.4) Presentation	–	8%
Total:	60%	40%

4.3 Differentiation will be achieved through the use of tiered papers in the end of module tests.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve grades C–G in the overall certification.

Differentiation in the coursework will be achieved by task and through outcome.

5 CONTENT

The content is presented in a two-column format. The left-hand column identifies the foci within each theme while the right-hand column indicates the level of detail required.

Theme 1 – Diet and Lifestyle

FOCUS	ELABORATION
Main nutrition messages	What are the messages? Why are they promoted?
Cultural influences on diet	Trends in Northern Ireland. Mediterranean/Chinese/Indian diet.
The relationship between diet and health	Eating disorders; heart disease; weight related problems.
Assessing diet in light of nutrition messages	Dietary profile – intake of fat, sugar, salt, fibre. Practical ways of improving diet.

Theme 2 – Drugs

FOCUS	ELABORATION
Classification of drugs	Prescribed, legal and illegal, uncontrolled (eg caffeine).
Use of drugs	Correct use resulting in positive, physical and psychological effects. The need for responsible attitudes.
Drug and substance misuse	Addiction; physical and psychological dependency; side effects.
Smoking	Smoking related diseases; passive smoking.
Alcohol	Alcohol related diseases; alcohol related problems in the home and at work.

Theme 3 – Exercise and Lifestyle

FOCUS	ELABORATION
The relationship between exercise and health	Physical benefits; psychological benefits.
Selection of forms of exercise appropriate to particular needs	Exercise for overall beneficial effects for teenager, office worker, elderly.
Factors influencing choice of exercise.	Interest, state of health, safe levels of participation, facilities.

Theme 4 – A Safe Home Environment

FOCUS	ELABORATION
The symbols designed to warn of potential hazards	In relation to officially approved items and their identification, eg British Standards.
Potential hazards in the home and garden	Food hygiene, household and garden chemicals, fire, electricity, physical dangers (eg loose carpets, sharp knives).
Accident prevention and safe practices	Basic safety precautions in relation to hazards listed; role of ROSPA emergency strategies.
Basic First Aid	Burns/scalds, fractures, falls, control of bleeding, electric shocks, choking, resuscitation.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF THE INDIVIDUAL STUDY INDIVIDUAL HEALTH AND SAFETY

1 INTRODUCTION

The Individual Study carries 40% of the marks for this module.

2 UNDERTAKING THE INDIVIDUAL STUDY

2.1 It is not required that each candidate in a centre should undertake a distinctive study. Candidates in a centre may undertake studies relating to a common theme or themes. However it is essential that each candidate produce an individual study for which an individual assessment can be made.

2.2 This study should be capable of being completed through one piece of work of between 1000–1200 words. It should be supported by other means eg visual, graphical, photographic. Candidates who greatly exceed the word limit will be unlikely to satisfy the requirements of the highest levels of performance.

2.3 The Individual Study undertaken by individual candidates should clearly reflect knowledge from one or more of the Themes. Examples of topics which might be investigated include:

- assessing hazards in own home, drawing up an improvement plan (including strategies for dealing with emergencies);
- assessing the recreational facilities in the local area and their level of usage.

2.4 Where appropriate, a wide range of methods may be used to support the presentation of the investigation in addition to the written form. These may include the use of:

a Information Technology, eg use of a simple database if appropriate;

b Visual Presentation, eg art/sketch; still photography; video camera or camcorder;

c Oral Accounts, eg taped interviews.

3 CRITERIA FOR ASSESSMENT

Candidates should be able to:

	Marks Allocated	Related Assessment Objectives
(a) define the topic chosen, provide a background context and indicate what they hope to find out	(8)	3.2 and 3.1
(b) specify methods of enquiry and outline the procedures in carrying out the study	(8)	3.2 and 3.1
(c) describe findings in graphical, numerical, visual and written forms as appropriate	(8)	3.4
(d) interpret findings and draw conclusions in the context of the investigation	(12)	3.3 and 3.1
(e) evaluate methods of enquiry and findings in light of stated expectations	(4)	3.3
Total Marks:	**40**	

4 ELABORATION OF THE CRITERIA

The following guidance is offered as to what is expected in each of the elements which comprise the Individual Study. Marks should be awarded in relationship to the extent to which candidates meet the assessment criteria.

(a) Candidates should be able to define the topic chosen, provide a background context and indicate what they hope to find out.

Candidates should be capable of clearly describing and showing the limits of the chosen topic or investigation. Candidates should provide some context/introduction to the topic which may include personal experience and observations from their own lives and those of others, as well as knowledge gained from investigating primary sources and the other experiences gained from the course through reading and discussion. Stemming from this context should come one or a series of statements, outlining what the probable outcomes may be.

(b) Candidates should be able to specify the methods of enquiry and outline the procedures used in carrying out the study.

Candidates will be required to outline:

- **the research method.** For example, if a questionnaire was conducted, candidates should state on whom the survey was carried out (including numbers in the study, relevant biographical material, eg age, sex) how the person was chosen, whether groups were interviewed in another area, the timing of the study;
- **simple reasons** should also be included indicating why this particular form of research was used and how the items in the interview/ questionnaire relate to the probable outcomes;
- **the procedure/way** in which the study was carried out in such detail as to allow the reader to carry out a similar study and assess its appropriateness to the enquiry.

(c) Candidates should be able to describe their findings through a range of graphical, numerical, visual and written forms as appropriate.

In order to ensure continuity and progression throughout the study, findings should be presented in a form which in general corresponds to the order of stated probable outcomes.

(d) Candidates should be able to interpret findings and draw conclusions in the context of the investigation.

Interpretation of findings will require the candidate to:

- identify any essential features and patterns arising out of the study;
- account for, if possible, any patterns which emerge, support or do not support the expected outcomes;
- comment on the significance of these.

Note: (c) and (d) above may be combined in such a way that descriptive statements can be linked with interpretative comment; alternatively candidates may present (c) and (d) separately.

(e) Candidates should be able to evaluate findings in light of stated expectations.

Candidates should state clearly how their conclusions relate to the initial expectations stated indicating where expectations were or were not met and indicate possible reasons.

5 CRITERIA FOR AWARD OF MARKS IN THE INDIVIDUAL STUDY

The criteria for the award of marks in the individual study is outlined below. Three bands of performance have been identified in each element of the individual study. Teachers should identify the band most appropriate to the candidate's work and award marks within the range allocated.

(a) Define the topic chosen, provide a background context and indicate expectation of findings.
TOTAL 8 MARKS

BAND	MARKS	TOPIC	CONTEXT	POSSIBLE OUTCOMES
Band 1	1–2	• limited attempt to define topic • unable to limit scope of enquiry	• few relevant factors • weakly developed and expressed rationale	• vague relationship suggested regarding possible outcomes of topic
Band 2	3–5	• topic broadly stated • greater attempt to limit scope of enquiry	• clear factors • fairly coherent rationale	• adequate link expressed between topic and possible outcomes
Band 3	6–8	• topic well defined • limitations of enquiry are clearly expressed	• well developed factors • coherent rationale	• clear and explicit link between topic and possible outcomes • logical and coherent framework for testing possible outcomes

(b) Specify methods of enquiry and outline the procedures used.
TOTAL 8 MARKS

BAND	MARKS	METHODS	REASONS	PROCEDURES
Band 1	1–2	• some attempt to outline methods	• briefly outlined • as means of gaining knowledge, method is weak	• some attempt to identify relevant features • some attempt to sequence research
Band 2	3–5	• adequate outline of methods	• satisfactorily detailed • fairly appropriate for topic under investigation	• many relevant features noted • adequate attempt to sequence research • procedure clear and provides some guidance for replication
Band 3	6–8	• well-presented methods which are presented coherently	• clearly detailed • most appropriate for topic being researched	• all or most relevant features defined • clear and detailed sequencing of research • unambiguous basis for replication

(c) Describe findings using an appropriate range of methods to include graphical, numerical, visual and written.
TOTAL 8 MARKS

BAND	MARKS	DESCRIPTION OF FINDINGS	RANGE OF METHODS	TITLING/LABELLING
Band 1	1–2	• description lacks organisation and clarity	• mostly limited to extensive narrative	• limited and vague annotation
Band 2	3–5	• research method clearly documented • clear and logically organised	• demonstrates the ability to use a range of methods	• adequate annotation which is relevant to topic
Band 3	6–8	• findings logically presented • aware of important factors and outcomes	• wide range of carefully selected and relevant methods employed	• excellent, clear, relevant annotation enhancing the assignment

(d) Interpretation of findings and ability to draw conclusions.
TOTAL 12 MARKS

BAND	MARKS	EXPLANATION FOR FINDINGS	SIGNIFICANCE	CONCLUSIONS
Band 1	1–3	• some attempt to provide explanation	• limited attempt to interpret findings in a logical manner	• some attempt to review, synthesise or draw conclusions
Band 2	4–8	• satisfactory explanation • clear and coherent understanding of the extent to which they support/conflict with outcomes	• significance of identified features broadly stated	• clear attempt to review and synthesise findings • conclusions logical and relate to expected outcomes
Band 3	9–12	• clear, detailed and convincing account of features • extent to which they may support or conflict with stated outcomes is fully and logically expressed	• precise, clear understanding of outcomes	• concise, logical review and synthesis of findings and explanations

(e) Evaluate findings in light of stated outcomes.
TOTAL 4 MARKS

BAND	MARKS	EVALUATION
Band 1	1	• Able to identify a few strengths/weaknesses which have influenced study
Band 2	2–3	• awareness of strengths/weaknesses of research but not fully developed
Band 3	4	• clear awareness of strengths and weaknesses of method of enquiry and impact on data

TOTAL = 40 MARKS

Information Technology

A contributory module to GCSE Personal and Social Education

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 A study of this module provides students with the opportunity to explore the presentation of information in attractive and accessible ways through the use of some media and tools controlled by a computer. The focus is therefore on Multimedia Information Technology.

The media include text, sound, and graphics (comprising still pictures, animation and video). The tools include both software and hardware. The software used can range from simple integrated packages and stack based systems to full authoring packages, while the hardware might include scanners, CD-ROM, PhotoCD and analogue or digital video cameras.

1.2 The requirements of this syllabus are designed so that any post-primary educational establishment which can meet students' basic entitlements for IT at Key Stage 4 will be able to resource the course. No specialised hardware or software beyond that normally found in secondary schools is required, although more specialised tools might widen the range of possible activities.

1.3 The Scheme of Assessment consists of coursework leading to the preparation of a Multimedia Information Technology presentation.

2 AIMS

The aims set out below describe the educational purposes of following this course:

2.1 to stimulate and encourage an interest in and enjoyment of the use of multimedia IT systems and presentations;

2.2 to develop the ability to use multimedia IT tools to communicate and present ideas and concepts;

2.3 to offer a broad and balanced perspective of the capabilities and limitations of multimedia tools in presenting information.

3 ASSESSMENT OBJECTIVES

Assessment objectives define a range of assessable qualities and skills which can be demonstrated at appropriate levels by the full range of candidates.

Candidates will be expected to demonstrate an ability to:

3.1 recall and understand knowledge relevant to the presentation;

3.2 locate and select information relevant to the chosen topic;

3.3 structure their information in a logical manner;

3.4 present information using multimedia IT;

3.5 evaluate both the suitability of the available multimedia tools, and the effectiveness of the use of these tools, in presenting their chosen topic.

4 WEIGHTING OF ASSESSMENT OBJECTIVES

The allocation of weighting to the assessment objectives is indicated below.

Assessment Objective		Weighting
3.1	Recall and Understanding	10
3.2	Locate and select information	15
3.3	Structure information	30
3.4	Present information	35
3.5	Evaluation	10

5 SCHEME OF ASSESSMENT

This module will be assessed through the use of coursework. The coursework will be internally assessed and externally moderated by the Council. Further guidance regarding the requirements and assessment of coursework is contained in the Coursework Memorandum.

6 DIFFERENTIATION

Differentiation will be achieved by task and outcome.

7 CONTENT

The content is presented in a two-column format. The left-hand column indicates the basic concepts and skills to be acquired, while the right-hand column indicates the level of detail required. The content builds on knowledge of computer systems which candidates should have gained in Key Stage 3.

7.1 Basic concepts and skills	Detail
a) Basic file operations	display disc directories; create, copy and delete files; format a disc; load applications software.
b) Basic terminology	explain the meaning of the following terms: hardware; software; storyboard; animation interactive; editing; authoring software.

c) System specification meaning and relevance	explain simply the of the terms ROM, RAM, processor speed.

7.2 **Multimedia systems**

a) Component parts of a multimedia system and file storage.	explain the functions of input, process, output
b) Input/Output/Storage devices, Scanner, Video camera, CD-ROM, CD-I, CD-TV, PhotoCD, digital camera, voice and sound input/output	describe the characteristics of current input, output and storage devices and media; evaluate the suitability of each for use in multimedia applications.

Note: It is recognised that candidates are unlikely to have access to the full range of devices listed but they should have an awareness of the aspects indicated.

7.3 Design of multimedia presentations	describe the stages involved in designing a multimedia presentation.
a) Research	explain the need for good research techniques and the use of a wide range of sources.
b) Design	outline the structure of their information in a manner that displays the links between different parts of the material.
c) Refinement	describe the need for refinement and modification of the design to take account of the constraints and limitations of the multimedia IT tools available.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF THE INDIVIDUAL STUDY INFORMATION TECHNOLOGY

1 INTRODUCTION

1.1 Coursework assessment will be carried out by the teacher, subject to moderation by the Council using visiting moderators. Documentation will be forwarded to the Council in advance in accordance with the Council's instructions.

1.2 Although it is recognised that much of the coursework may be carried out by candidates working in small groups, the contribution of each candidate to each of the assessment criteria must be clearly distinguished. It is not sufficient for the tasks to be divided among the group; the teacher must ensure that each candidate has access to each of the criteria and that their work is assessed independently from other members of the group.

2 NATURE OF COURSEWORK

2.1 Candidates should individually or, as part of a small group, choose a topic on which to base a presentation. There is no restriction on the topic chosen, except that the teacher should ensure that it is one which is suitable to provide access to all the assessment criteria laid out below. If the Multimedia IT module is being taken in combination with other modules in the Modular bank, teachers may want to encourage their candidates to choose topics relating to or arising from one of those modules.

2.2 Each candidate must produce documentation for the presentation and may either produce an individual presentation or contribute to a small group presentation. A group may not contain more than three candidates.

2.3 The research and design stages of the coursework must be documented by the candidate and assessed by the teacher, as laid out in the detailed assessment criteria below. The realisation of the design using multimedia IT tools will also be assessed. A brief User Guide containing operating instructions should be provided by each candidate, along with a brief review of the suitability of the available tools, and an appraisal of the use of these tools in the presentation.

2.4 In Assessment Criteria 4.1 Research (laid out below), the term "source" should be interpreted in a broad sense. Sources of material for the presentation may include text documents, pictures, pre-recorded sounds or videos. They may include material derived from a CD-ROM system, for example. If appropriate to the chosen topic, material may also be produced by the candidate, such as the results of field work or data collection, video recorded by the candidate, or the output of an art or animation package.

2.5 Teachers should bear in mind at all times that the assessment is to be independent of the actual technology used. It is not the tools which are being assessed (except by the candidate in his/her own review of the tools), but rather the use that the candidate makes of those tools which are available.

3 ASSESSMENT CRITERIA

Coursework will be assessed using the following assessment criteria.

Criteria	Marks	Related Assessment Objective
1 Research	15	3.2
2 Design	30	3.3
3 Realisation	35	3.4
4 User Guide	10	3.1
5 Review	10	3.5

4 ASSESSMENT CRITERIA AND LEVELS OF PERFORMANCE

Three levels of performance have been indicated for each criteria. Teachers should identify the level most appropriate to describe the candidate's work and award a mark within that level.

4.1 Research (15 marks)

Expected content:

Introduction and background information;

Objectives of the system to include target audience;

Sources of information.

Level	Indicators	Mark Range
good	Extensive research of a complex topic, the exact objectives of the project have been stated, full investigation of a range of sources. Consideration of the requirements of the target audience.	11–15
average	Some research of a complex topic, or detailed research of a simple topic. Some objectives stated. A reasonable investigation using two or more sources. Some consideration of the target audience.	6–10
poor	Little evidence of good research using a single source. Little consideration of the target audience.	1–5

Money Management

A contributory module to GCSE Personal and Social Education

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 A study of this module will enable students to develop an awareness of efficient management of personal financial resources.

1.2 The module is designed to cater for the full range of ability of students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours. It may be taken as a free-standing module or as part of a modular course.

2 AIMS

The aims set out below describe the educational purposes of following this course:

2.1 to develop the abilities, knowledge and understanding to evaluate economic information and ideas as presented in the literary, numerical, graphical and statistical forms;

2.2 to develop an awareness of the importance of making balanced and informed judgements and, where necessary, taking action on issues, problems and events where there is a personal finance dimension.

3 ASSESSMENT OBJECTIVES

The assessment objectives reflect those aims which can be readily assessed for examination purposes.

Candidates will be expected to demonstrate the ability to:

3.1 recall and understand relevant knowledge;

3.2 collect, select and analyse information from a variety of sources;

3.3 interpret and evaluate information, draw conclusions and make judgements;

3.4 present information in a form(s) appropriate to the context.

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment will consist of:

End of Module test 60%

Coursework 40%

End of Module Test – Duration 1 hour

The test will consist of three structured questions. All questions will be compulsory. The resource material used in each question may take a variety of forms eg written, graphical, statistical, pictorial.

Coursework

Each candidate will be required to undertake an Individual Study. The topic chosen must be related to the context of the module. Further detailed guidance is offered in the Memorandum on the Internal Assessment of the Individual Study. The coursework will be internally assessed by the teachers and externally moderated by the Council.

4.2 The approximate allocation of weightings to the assessment objectives in each component of assessment is indicated below.

Assessment Objectives	Approximate Weighting End of Module Test	Coursework
(3.1) Recall and understanding	24%	8%
(3.2) Collect, select, analyse	18%	12%
(3.3) Interpret, evaluate, draw conclusions, make judgements	18%	12%
(3.4) Presentation	–	8%
Total:	**60%**	**40%**

4.3 Differentiation will be achieved through the use of tiered papers in the end of module test.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve grades C–G in the overall certification.

Differentiation in the coursework will be achieved by task and through outcome.

5 CONTENT

The content is presented in a two-column format. The left-hand column identifies the focii within each theme while the right-hand column indicates the level of detail required.

Theme 1 – Sources of Income

FOCUS	ELABORATION
Sources of income	State benefits: grants; income support; unemployment benefit; family credit; sickness benefit; old age pension; child benefit. Earned income: wages; salaries; commission; self employment. Unearned income: interest on savings; dividends from shares; gifts; inheritance.
The circumstances in which benefits may be obtained	Unemployment, single parent circumstances.
Appropriate sources of finance to meet the needs of a particular situation	Examine sources of finance available to someone beginning a course at college.

Theme 2 – Deductions and Bills

FOCUS	ELABORATION
Compulsory deductions from income	National Insurance; Income Tax; Capital Gains Tax.
Voluntary deductions from income	Union fees; save as you earn; pension schemes.
How a tax code is determined	Personal allowance; married allowance.
Interpretation of a pay slip	Gross Income – Deductions = Net Income
Household bills	Bills for heating, electricity, telephone, rent.

Theme 3 – Savings and Borrowing

FOCUS	ELABORATION
The financial institutions for saving and borrowing money	Banks; post office; building society; finance house; credit union.
Advantages and disadvantages of different ways of borrowing money	Personal loan; secured loan; mortgage; hire purchase; credit card; charge card.
Advantages and disadvantages of different ways of saving money	Non-interest; range of interest accounts offered by the financial institutions.
The range of methods of paying bills	Cheque; money; switch card; standing order; direct debit; credit transfer.
Interpreting and using statements and terms issued by the financial institutions including credit and budget card settlements	Deposits; withdrawals; cheques drawn; standing orders; direct debits; overdraft; fees; interest; credit limit; minimum payment.

Theme 4 – Budgeting

FOCUS	ELABORATION
The relationship between income and spending	Balancing spending with income; the need for budgeting. The difference between individual needs and individual wants, necessities and luxuries, influence of advertising.
Different methods of budgeting for bills	Regular payment; Standing Orders; Direct Debits; telephone or electricity stamps.
The implications of unplanned spending within a budget	Deficit in income; credit trap.
Drawing up a budget	Personal; household.
Make comparisons in relation to value for money	Rent vs. buy; Second-hand vs. new; Free credit.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF THE INDIVIDUAL STUDY MONEY MANAGEMENT

1 INTRODUCTION

The Individual Study carries 40% of the marks for this module.

2 UNDERTAKING THE INDIVIDUAL STUDY

2.1 Each candidate in a centre is not required to undertake a distinctive study. Candidates in a centre may undertake studies relating to a common theme or themes. In such cases however it is essential that each candidate should produce an individual study for which an individual assessment can be made.

2.2 This study should be capable of being completed through one piece of work of between 1000–1200 words. Candidates who greatly exceed the word limit will be unlikely to satisfy the requirements of the highest levels of performance.

2.3 Where appropriate, a wide range of methods may be used to support the presentation of the investigation in addition to the written form. These may include the use of:

a Information Technology, eg use of a simple database;

b Visual Presentation, eg art/sketch; still photography; video camera or camcorder;

c Oral Accounts, eg taped interviews.

2.4 The Individual Study undertaken by individual candidates should clearly reflect knowledge from one or more of the Themes.

Examples of topics which might be investigated include:

- the costs involved for parents in keeping a teenager at home;
- the costs of different methods of purchasing a large item (eg stereo system).

3 CRITERIA FOR ASSESSMENT

Candidates should be able to:

	Marks Allocated	Related Assessment Objectives
(a) define the topic chosen, provide a background context and indicate what they hope to find out	(8)	3.2 and 3.1
(b) specify methods of enquiry and outline the procedures in carrying out the study	(8)	3.2 and 3.1
(c) describe findings in graphical, numerical, visual and written forms as appropriate	(8)	3.4.
(d) interpret findings and draw conclusions in the context of the investigation	(12)	3.3 and 3.1
(e) evaluate methods of enquiry and findings in light of stated expectations	(4)	3.3
Total Marks:	**40**	

4 ELABORATION OF THE CRITERIA

The following guidance is offered as to what is expected in each of the elements which comprise the Individual Study. Marks should be awarded in relationship to the extent to which candidates meet the assessment criteria.

(a) Candidates should be able to define the topic chosen, provide a background context and indicate what they hope to find out.

Candidates should be capable of clearly describing and showing the limits of the chosen topic or investigation. The candidates should provide some context/introduction to the topic which may include personal experience and observations from their own lives and those of others, as well as knowledge gained from investigating primary sources and the other experiences gained from the course through reading and discussion. Stemming from this context should come one or a series of statements, outlining what the probable outcomes may be.

(b) Candidates should be able to specify the methods of enquiry and outline the procedures used in carrying out the study.

Candidates will be required to outline:

- **the research method.** For example, if a questionnaire was conducted, candidates should state on whom the survey was carried out (including numbers in the study, relevant biographical material, eg age, sex) how the person was chosen, whether groups were interviewed in another area, the timing of the study;
- **simple reasons** should also be included indicating why this particular form of research was used and how the items in the interview/ questionnaire relate to the probable outcomes;
- **the procedure/way** in which the study was carried out in such detail as to allow the reader to carry out a similar study and assess its appropriateness to the enquiry.

(c) Candidates should be able to describe their findings through a range of graphical, numerical, visual and written forms as appropriate.

In order to ensure continuity and progression throughout the study findings should be presented in a form which in general corresponds to the order of stated probable outcomes.

(d) Candidates should be able to interpret findings and draw conclusions in the context of the investigation.

Interpretation of findings will require the candidates to:

- identify any essential features and patterns arising out of the study;
- account for, if possible, any patterns which emerge, support or do not support the expected outcomes;
- comment on the significance of these.

Note: (c) and (d) above may be combined in such a way that descriptive statements can be linked with interpretative comment; alternatively candidates may present (c) and (d) separately.

(e) Candidates should be able to evaluate findings in light of stated expectations.

Candidates should state clearly how their conclusions relate to the initial expectations stated indicating where expectations were or were not met and indicate possible reasons.

5 CRITERIA FOR AWARD OF MARKS IN THE INDIVIDUAL STUDY

The criteria for the award of marks in the individual study is outlined below. Three bands of performance have been identified in each element of the individual study. Teachers should identify the band most appropriate to the candidate's work and award marks within the range allocated.

(a) Define the topic chosen, provide a background context and indicate expectation of findings.
TOTAL 8 MARKS

BAND	MARKS	TOPIC	CONTEXT	POSSIBLE OUTCOMES
Band 1	1–2	• limited attempt to define topic • unable to limit scope of enquiry	• few relevant factors • weakly developed and expressed rationale	• vague relationship suggested regarding possible outcomes of topic
Band 2	3–5	• topic broadly stated • greater attempt to limit scope of enquiry	• clear factors • fairly coherent rationale	• adequate link expressed between topic and possible outcomes
Band 3	6–8	• topic well defined • limitations of enquiry are clearly expressed	• well developed factors • coherent rationale	• clear and explicit link between topic and possible outcomes • logical and coherent framework for testing possible outcomes

(b) Specify methods of enquiry and outline the procedures used.
TOTAL 8 MARKS

BAND	MARKS	METHODS	REASONS	PROCEDURES
Band 1	1–2	• some attempt to outline methods	• briefly outlined • as means of gaining knowledge, method is weak	• some attempt to identify relevant features • some attempt to sequence research
Band 2	3–5	• adequate outline of methods	• satisfactorily detailed • fairly appropriate for topic under investigation	• many relevant features noted • adequate attempt to sequence research • procedure clear and provides some guidance for replication
Band 3	6–8	• well-presented methods which are presented coherently	• clearly detailed • most appropriate for topic being researched	• all or most relevant features defined • clear and detailed sequencing of research • unambiguous basis for replication

(c) Describe findings using an appropriate range of methods to include graphical, numerical, visual and written.
TOTAL 8 MARKS

BAND	MARKS	DESCRIPTION OF FINDINGS	RANGE OF METHODS	TITLING/LABELLING
Band 1	1–2	• description lacks organisation and clarity	• mostly limited to extensive narrative	• limited and vague annotation
Band 2	3–5	• research method clearly documented • clear and logically organised	• demonstrates the ability to use a range of methods	• adequate annotation which is relevant to topic
Band 3	6–8	• findings logically presented • aware of important factors and outcomes	• wide range of carefully selected and relevant methods employed	• excellent, clear, relevant annotation enhancing the assignment

(d) Interpretation of findings and ability to draw conclusions.
TOTAL 12 MARKS

BAND	MARKS	EXPLANATION FOR FINDINGS	SIGNIFICANCE	CONCLUSIONS
Band 1	1–3	• some attempt to provide explanation	• limited attempt to interpret findings in a logical manner	• some attempt to review, synthesise or draw conclusions
Band 2	4–8	• satisfactory explanation • clear and coherent understanding of the extent to which they support/conflict with outcomes	• significance of identified features broadly stated	• clear attempt to review and synthesise findings • conclusions logical and relate to expected outcomes
Band 3	9–12	• clear, detailed and convincing account of features • extent to which they may support or conflict with stated outcomes is fully and logically expressed	• precise, clear understanding of outcomes	• concise, logical review and synthesis of findings and explanations

(e) Evaluate findings in light of stated outcomes.
TOTAL 4 MARKS

BAND	MARKS	EVALUATION
Band 1	1	• Able to identify a few strengths/weaknesses which have influenced study
Band 2	2–3	• awareness of strengths/weaknesses of research but not fully developed
Band 3	4	• clear awareness of strengths and weaknesses of method of enquiry and impact on data

TOTAL = 40 MARKS

Opportunities for Working Life

A contributory module to GCSE Personal and Social Education

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 A study of this module will enable students to become aware of training and employment opportunities and enable them to work towards informed career choices. This module compliments the module entitled Personal Career Planning.

1.2 The module is designed to cater for the full range of ability of students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours. It may be taken as a free standing module or as part of a modular course.

1.3 If this module is used as one of the four modules contributing to Personal and Social Education it may not be used in the combination for Social and Environmental Studies.

2 AIMS

The aims set out below describe the educational purposes of following this course:

2.1 to develop the abilities, knowledge and understanding to evaluate economic information and ideas, as presented in the literary, numerical, graphical and statistical forms, which they are likely to encounter;

2.2 to develop the skills necessary to make informed career decisions;

2.3 to develop an awareness of the importance of making balanced and informed judgements, needed when taking action on issues, problems and events arising in the world of work.

3 ASSESSMENT OBJECTIVES

The assessment objectives reflect those aims which can be readily assessed for examination purposes.

Candidates will be expected to demonstrate the ability to:

3.1 recall and understand relevant knowledge;

3.2 select and analyse economic information presented in a variety of forms;

3.3 interpret and evaluate information, draw conclusions and make judgements.

4 SCHEME OF ASSESSMENT

4.1 This module will be assessed through the use of an end of module test of 1½ hour duration. The test will consist of four or five questions. All questions will be compulsory.

4.2 The approximate allocation of weightings to the assessment objectives is indicated below.

Assessment Objective	Weighting
(3.1) Recall and Understanding	40%
(3.2) Select and analyse information	30%
(3.3) Interpret, evaluate, draw conclusions and make judgements	30%

4.3 Differentiation will be achieved through the use of tiered papers.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve Grades C–G in the overall certification.

5 CONTENT

The content is presented in a two-column format. The left-hand column identifies the focii within each theme while the right-hand column indicates the level of detail required.

Theme 1 – Information Relevant to Making a Career Choice

FOCUS	ELABORATION
Sources of career information	Careers service; career literature; personal contacts; work experience.
Institutions providing advice, training and qualifications	Colleges of Further Education; Higher Education establishments; Government training agencies; private agencies; LEDU; local enterprise agencies.
Opportunities for further education and training	The benefits of further/higher education and training to individuals. Types of courses: vocational/academic full time/part time study; day release; block release; sandwich course; distance learning.
Employment	Professional, technical, semi-skilled, unskilled, self employed.
The availability of financial support	Grant; allowance; business sponsorship.

Theme 2 – Personal Qualities and Career

FOCUS	ELABORATION
Entrance requirements for a course/job	Requirements such as qualifications, abilities/skills, salary/cost.
Personal characteristics	Motivation; versatility; initiative; adaptability; self-confidence; responsibility; trustworthiness; dedication. The need for evaluation of relationship between characteristics and job/course requirements.
Skills and procedures involved in the application process	Interpretation of advertisements; use of telephone; filling in application forms; writing formal and informal letters; formatting and writing a Curriculum Vitae; self-presentation skills; team work skills.
Interview skills	Appearance, dress; etiquette; appropriate response techniques; self-promotion styles; acceptable speech/ grammar; preparation techniques and developing lines of thought.

Theme 3 – Individuals' Rights in the Workplace

FOCUS	ELABORATION
The importance of a contract of employment	Terms and conditions, pay statement, unfair dismissal, redundancy, equal pay and equal opportunity.
The necessity for standards	Health and Safety – employers' responsibility, employees' responsibility.
Trade Union Membership	Functions of trade unions, the employee's right of choice regarding membership.
Discrimination	Types: age, ethnic, religion, sex. Legislation regarding equal pay, equal opportunity and fair employment. The role of the Equal Opportunities Commission and the Fair Employment Agency.

Personal Career Planning

A contributory module to GCSE Personal and Social Education

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 The study of this module provides students with the opportunity to apply a personal career planning process to their own career choices. This process will enable the students to develop skills associated with action planning, a process which they will be able to use in many different contexts.

1.2 The headings used in this module for the process of personal career planning are similar to those used in the National Record of Achievement and thus will be familiar to students and teachers.

1.3 The module is designed to cater for the full range of ability of students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours of contact time. It may be taken as a free standing module or as part of a modular course.

2 AIMS

The aims of the module are to stimulate, encourage and develop within each candidate:

2.1 understanding of the stages within the personal career planning process as well as the confidence and sense of achievement which may be gained through the application of the process to their own career development;

2.2 and the skills required to utilise these effectively in the personal career planning process;

2.3 awareness of the options open to them in the context of a changing labour market and associated changing career patterns.

3 ASSESSMENT OBJECTIVES

The assessment objectives define a range of assessable competences which can be demonstrated at appropriate levels by the entire range of candidates.

Candidates must demonstrate the ability to:

3.1 understand the process of action planning and apply that process to career choices;

3.2 locate, extract, organise and analyse information relevant to specific career options;

3.3 evaluate information, draw conclusions and make judgements;

3.4 communicate ideas and information in a logical and appropriate form.

4 WEIGHTING OF ASSESSMENT OBJECTIVES

The weighting allocated to each assessment objective is as follows

Assessment Objectives	Weightings
3.1	25%
3.2	25%
3.3	25%
3.4	25%

5 SCHEME OF ASSESSMENT

The module will be examined through coursework which will take the form of a portfolio of evidence related to the formative and summative stages of personal career planning. Further details are provided in the coursework memorandum.

The work of candidates will be assessed by the teacher and externally moderated by the Council.

6 DIFFERENTIATION

Differentiation will be achieved by task and outcome.

7 CONTENT

This content provides a framework for the teaching of this module and a context within which candidates can prepare their coursework. Within the content three themes have been identified and within each theme a number of topics have been identified:

Theme 1 "Looking at ... Myself"

Topic (a) The Action Planning process introduced or revised

(b) Review of subject choices and academic strengths/weaknesses

(c) Experiences inside and outside school which can contribute to self-knowledge

(d) Sources of information for self-assessment including interest inventories and IT instruments

(e) Self-presentation in relation to applications and interviews

Theme 2 "Looking around ... the information I need"

Topic (a) Sources of career information

... in school (careers literature, computer programs, videos, visiting speakers, careers/ subject staff etc)

... in the family

... in the community (eg careers service, FE/ training institutions, employers, professional bodies, job advertisements)

(b) Evaluating careers information

(c) Using careers information

... compiling a job study

... preparation and follow-up relating to careers talks/visits and work experience/ shadowing.

Theme 3 "Looking ahead ... the options"

Topic (a) Post 16 in Education/Training

Jobskills
NVQ/GNVQ
Further Education
A Levels
Higher Education

(b) Employment – the changing pattern

(c) Self-employment

(d) Unemployment/unpaid employment

(e) Working in Europe.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF THE INDIVIDUAL STUDY PERSONAL CAREER PLANNING

1 CONTENTS OF THE PORTFOLIO

The portfolio must provide evidence that the candidate has worked through all the stages of the personal career planning process.

1.1 As part of the first stage of the personal career planning process candidates should provide evidence of engaging in **review** – identifying the interests, qualifications and competences they possess and indicating their career thinking. Evidence could include how the candidate has used information sources including peer assessment, assessment of teachers or employers on work experience/work shadowing placement or computer software to assist in the review process.

1.2 In the second stage of the process – **goal setting**, candidates should indicate the careers/occupational area in which they have an interest. Evidence could include an assessment of why a particular career/occupational area has been chosen indicating what the main influences have been. If a candidate has made his/her choice of a specific career on the basis of research they have undertaken or if the candidate has simply identified a broad occupational area and needs to engage in research in order to refine his/her career goals, evidence of that research could be included in the portfolio.

Evidence of research could take many forms but could include specific Job Studies providing information, eg about the main tasks in the job being researched, the qualifications/training and the personal qualities and skills required, the future prospects in the job and the effect of the job on lifestyle.

Evidence could also take the form of a personal account of an experience of the world of work, eg career visit, work experience/work shadowing placement. As well as providing information about the visit, candidates could be encouraged to provide evidence of insights gained, eg roles and responsibilities of those in the organisation/the qualifications and competencies required by the employees. Candidates should aim to provide evidence that some analysis of information has taken place and that this analysis has informed their career goal setting.

1.3 In the third stage of the process, candidates should provide evidence that they have engaged in **target-setting** through identification of the steps they need to take to achieve their career goals. At this stage it may be appropriate for candidates to compare the different routes available to a specific career option, to consider the short-term and long-term implications of the routes as well as the criteria that might be used to inform decision-making in relation to the alternatives.

1.4 In terms of the **action** stage of the process candidates will need to provide evidence that they have identified and prioritised the action(s) they need to take to enable the identified goals to be achieved. In some cases this could include evidence of action relating to preparation of applications for Training/Further Education opportunities – in other cases candidates may include accounts of interviews they have arranged, eg with Careers Officer or accounts of visits to FE/training institutions.

1.5 The culmination of all the activity involved in working through the action planning process is the creation of a **summative personal career plan** which sets out career goals, the education/training routes which seem to be appropriate for achieving these goals as well as the action the candidate has taken or plans to take to make a successful transition at 16+.

1.6 Candidates are encouraged to consider different modes of presentation, eg audio tapes, use of information technology.

2 CRITERIA FOR THE AWARD OF MARKS FOR CANDIDATES OF GCSE ABILITY RANGE

Bands of performance have been identified for each of the 4 assessment objectives related to coursework. Teachers should identify the band most appropriate to a candidate's work and award a mark within that band.

2.1 Objective 3.1

This objective focuses upon the knowledge and understanding the candidate has of the action planning process and its application to career choices.

Band 1 (1–3 marks)

The candidate demonstrates a limited understanding of the action planning process and the application to career choices is a simplistic one.

Band 2 (4–7 marks)

The candidate demonstrates a sound understanding of the action planning process and can apply the process to career choices in a relevant way.

Band 3 (8–10 marks)

The candidate demonstrates a comprehensive understanding of the action planning process and can apply the process to career choices in a perceptive way.

2.2 Objective 3.2

This objective focuses upon the location and selection of information. It is concerned with the ability of the candidate to identify sources of information, to select information that is relevant and use the information for a particular purpose in the context of the work being undertaken.

Band 1 (1–3 marks)

The candidate demonstrates the ability to use some information which is related to the assignment. More than one source has been used but the range of sources is limited. Information may be used without any attempt to select specific sections of the information relevant to the task.

Band 2 (4–7 marks)

The candidate demonstrates the ability to use an acceptable range of sources and the information used will, in general, be relevant to the piece of coursework. There is a clear attempt to select specific relevant sections of the information in an attempt to support the purpose of the task.

Band 3 (8–10 marks)

The candidate demonstrates the ability to use a wide range of information sources which are highly relevant to the piece of coursework. These sources are used selectively and to good effect in supporting the purpose of the task.

2.3 Objective 3.3

This objective focuses upon the understanding of the information obtained and the ability to use that information to make reasoned judgements and inform decision-making.

Band 1 (1–3 marks)

The candidate demonstrates limited ability to interpret the information used and information may be presented without any explanation for its inclusion. There is limited evidence of the use of the information to make judgements or inform decision-making.

Band 2 (4–7 marks)

The candidate demonstrates a clear attempt to explain and interpret the information that has been selected. There is good evidence of ability to use information to make judgements or inform decision-making.

Band 3 (8–10 marks)

The candidate demonstrates successfully how to explain and interpret a wide range of information. There is clear evidence of ability to make reasoned judgements as a result of the information gathered to formulate arguments and draw conclusions.

2.4 Objective 3.4

This objective focuses upon the way in which information is presented in each piece of coursework and consideration is given to the effectiveness of the mode of presentation.

Band 1 (1–3 marks)

The candidate demonstrates the ability to present information in a simplistic way using a limited range of techniques. There is some awareness of the appropriateness of the way information should be presented ie statistical information is presented in a tabular or graphic rather than written form.

Band 2 (4–7 marks)

The candidate demonstrates the ability to present information with some degree of competence and in a manner which engages interest or attention. Information is presented in appropriate forms and a number of techniques may be utilised although these may be limited in variety.

Band 3 (8–10 marks)

The candidate demonstrates the ability to present information in a well-ordered and coherent way using a wide range of techniques which are wholly appropriate to the task. There is clear evidence of originality in the presentation of the material.

Rights and Responsibilities in the Community

A contributory module to GCSE Personal and Social Education

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 A study of this module will provide students with the opportunity to understand the concept of community, individual relationships within the community and the regulation of those relationships.

1.2 This module compliments the module entitled "Law and Society". It is supported by the resource file "Law in Our Lives".

1.3 The module is designed to cater for the full range of ability students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours. It may be taken as a free standing module or as part of a modular course.

2 AIMS

The aims set out below describe the educational purposes of following this course:

2.1 to develop the abilities, knowledge and understanding to evaluate information and ideas as presented in the literary, numerical, graphical and statistical forms;

2.2 to develop an awareness of the importance of making balanced and informed judgements;

2.3 to develop an awareness of the inter-related nature of the roles they play as members of a community;

2.4 to appreciate how different roles can give rise to different perspectives on the same issues and problems.

3 ASSESSMENT OBJECTIVES

The assessment objectives reflect those aims which can be readily assessed for examination purposes.

Candidates will be expected to demonstrate the ability to:

3.1 recall and understand knowledge of the complex nature of environment;

3.2 collect, select and analyse information;

3.3 interpret and evaluate information, draw conclusions and make judgements;

3.4 present information in a form appropriate to a given content.

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment will consist of:

End of Module test 60%

Coursework 40%

End of Module Test – Duration 1 hour

The test will consist of three structured questions. All questions will be compulsory. The resource material used in each question may take a variety of forms, eg written, graphical, statistical, pictorial.

Coursework

Each candidate will be required to undertake an Individual Study. Further detailed guidance is offered in the Memorandum on the Internal Assessment of the Individual Study. The coursework will be internally assessed by the teachers and externally moderated by the Council.

4.2 The approximate allocation of weightings to the assessment objectives in each component of assessment is indicated below.

Assessment Objectives	Approximate Weighting End of Module Test	Coursework
(3.1) Recall and understanding	24%	8%
(3.2) Collect, select, analyse	18%	12%
(3.3) Interpret, evaluate, draw conclusions, make judgements	18%	12%
(3.4) Presentation	–	8%
Total:	**60%**	**40%**

4.3 Differentiation will be achieved through the use of tiered papers in the end of module tests.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve grades C–G in the overall GCSE certification.

Differentiation in the coursework will be achieved by task and through outcome.

5 CONTENT

The content is presented in a two-column format. The left-hand column identifies the focii within each theme while the right-hand column indicates the level of detail required.

Theme 1 – Community and the Individual

FOCUS	ELABORATION
What is meant by community?	A common purpose, belief or concern, a common relationship, a common location.
Characteristics of communities	Formal and informal: purpose and function: size. Types of communities (eg family, religion, race, country, European Union, social groups, action groups).
The individual's influences on the community	Positive (eg voluntary work, care of the environment, resources). Negative (eg vandalism, truancy, lack of concern) The individual and community's role in solving issues, eg self help, pressure groups.

Theme 2 – The Nature of Rules/Laws in the Context of Community

FOCUS	ELABORATION
The need for rules	Why have rules? Situations in which they are applied: family, school, sport, club, religion, local community.
The role of agents appointed to implement rules and laws	Office bearers (eg club secretary), teachers, policemen, magistrates, judges.
Why and how rules might be changed	Effectiveness, change of attitudes, technological developments in the context of sport, school, club.

Theme 3 – The Individual and the Law

FOCUS	ELABORATION
The difference between civil and criminal law	Individuals' relationships with each other; the individual relationships with the state and society.
Using the law to address issues within the community	Public order laws, council by-laws.
The law and an individual	Reasons for having legal documents (eg birth certificate, passport). Establishing the individual's rights: consumer law, marital law, equal rights and equal opportunities in employment.
The law and restricting certain behaviour at certain ages	Age related laws: drinking, driving, voting, marriage, age of responsibility, out of school working.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF THE INDIVIDUAL STUDY RIGHTS AND RESPONSIBILITIES IN THE COMMUNITY

1 INTRODUCTION

The Individual Study carries 40% of the marks for this module.

2 UNDERTAKING THE INDIVIDUAL STUDY

2.1 Each candidate in a centre is not required to undertake a distinctive study. Candidates in a centre may undertake studies relating to a common theme or themes. In such cases however it is essential that each candidate should produce an individual study for which an individual assessment can be made.

2.2 This study should be capable of being completed through one piece of work of between 1000–1200 words. Candidates who greatly exceed the word limit will be unlikely to satisfy the requirements of the highest levels of performance.

2.3 If appropriate a wide range of methods may be used to support the presentation of the investigation in addition to the written form. These may include the use of:

a Information Technology, eg use of a simple database if appropriate;

b Visual Presentation, eg art/sketch; still photography; video camera or camcorder;

c Oral Accounts, eg taped interviews.

2.4 The Individual Study undertaken by individual candidates should clearly reflect knowledge from one or more of the Themes.

Examples of topics which might be investigated are given below.

- Investigate a community centre – what services are provided, are they what the local community requires?
- Investigate the incidence of crimes such as vandalism, what are the views of the local community, what realistic solutions might be considered?

3 CRITERIA FOR ASSESSMENT

Candidates should be able to:

	Marks Allocated	Related Assessment Objectives
(a) define the topic chosen, provide a background context and indicate what they hope to find out	(8)	3.2 and 3.1
(b) specify methods of enquiry and outline the procedures in carrying out the study	(8)	3.2 and 3.1
(c) describe findings in graphical, numerical, visual and written forms as appropriate	(8)	3.4
(d) interpret findings and draw conclusions in the context of the investigation	(12)	3.3 and 3.1
(e) evaluate methods of enquiry and findings in light of stated expectations	(4)	3.3
Total Marks:	**40**	

4 ELABORATION OF THE CRITERIA

The following guidance is offered as to what is expected in each of the elements which comprise the Individual Study. Marks should be awarded in the relationship to the extent to which candidates meet the assessment criteria.

(a) Candidates should be able to define the topic chosen, provide a background context and indicate what they hope to find out.

The candidate should be capable of clearly describing and showing the limits of the chosen topic or investigation. The candidates should provide some context/introduction to the topic which may include personal experience and observations from their own lives and those of others, as well as knowledge gained from investigating primary sources and the other experiences gained from the course through reading and discussion. Stemming from this context should come one or a series of statements, outlining what the probable outcomes may be.

(b) Candidates should be able to specify the methods of enquiry and outline the procedures used in carrying out the study.

Candidates will be required to outline:

- **the research method.** For example, if a questionnaire was conducted, candidates should state on whom the survey was carried out (including numbers in the study, relevant biographical material, eg age, sex) how the person was chosen, whether groups were interviewed in another area, the timing of the study;
- **simple reasons** should also be included indicating why this particular form of research was used and how the items in the interview/ questionnaire relate to the probable outcomes;
- **the procedure/way** in which the study was carried out in such detail as to allow the reader to

carry out a similar study and assess its appropriateness to the enquiry.

(c) Candidates should be able to describe their findings through a range of graphical, numerical, visual and written forms as appropriate.

In order to ensure continuity and progression throughout the study findings should be presented in a form which in general corresponds to the order of stated probable outcomes.

(d) Candidates should be able to interpret findings and draw conclusions in the context of the investigation.

Interpretation of findings will require the candidate to:

- identify any essential features and patterns arising out of the study;
- account for, if possible, any patterns which emerge, support or do not support the expected outcomes;
- comment on the significance of these.

Note: (c) and (d) above may be combined in such a way that descriptive statements can be linked with interpretative comment; alternatively candidates may present (c) and (d) separately.

(e) Candidates should be able to evaluate findings in light of stated expectations.

Candidates should state clearly how their conclusions relate to the initial expectations stated indicating where expectations were or were not met and indicate possible reasons.

5 CRITERIA FOR AWARD OF MARKS IN THE INDIVIDUAL STUDY

The criteria for the award of marks in the individual study is outlined below. Three bands of performance have been identified in each element of the individual study. Teachers should identify the band most appropriate to the candidate's work and award marks within the range allocated.

(a) Define the topic chosen, provide a background context and indicate expectation of findings.
TOTAL 8 MARKS

BAND	MARKS	TOPIC	CONTEXT	POSSIBLE OUTCOMES
Band 1	1–2	• limited attempt to define topic • unable to limit scope of enquiry	• few relevant factors • weakly developed and expressed rationale	• vague relationship suggested regarding possible outcomes of topic
Band 2	3–5	• topic broadly stated • greater attempt to limit scope of enquiry	• clear factors • fairly coherent rationale	• adequate link expressed between topic and possible outcomes
Band 3	6–8	• topic well defined • limitations of enquiry are clearly expressed	• well developed factors • coherent rationale	• clear and explicit link between topic and possible outcomes • logical and coherent framework for testing possible outcomes

(b) Specify methods of enquiry and outline the procedures used.
TOTAL 8 MARKS

BAND	MARKS	METHODS	REASONS	PROCEDURES
Band 1	1–2	• some attempt to outline methods	• briefly outlined • as means of gaining knowledge, method is weak	• some attempt to identify relevant features • some attempt to sequence research
Band 2	3–5	• adequate outline of methods	• satisfactorily detailed • fairly appropriate for topic under investigation	• many relevant features noted • adequate attempt to sequence research • procedure clear and provides some guidance for replication
Band 3	6–8	• well-presented methods which are presented coherently	• clearly detailed • most appropriate for topic being researched	• all or most relevant features defined • clear and detailed sequencing of research • unambiguous basis for replication

(c) Describe findings using an appropriate range of methods to include graphical, numerical, visual and written.
TOTAL 8 MARKS

BAND	MARKS	DESCRIPTION OF FINDINGS	RANGE OF METHODS	TITLING/LABELLING
Band 1	1–2	• description lacks organisation and clarity	• mostly limited to extensive narrative	• limited and vague annotation
Band 2	3–5	• research method clearly documented • clear and logically organised	• demonstrates the ability to use a range of methods	• adequate annotation which is relevant to topic
Band 3	6–8	• findings logically presented • aware of important factors and outcomes	• wide range of carefully selected and relevant methods employed	• excellent, clear, relevant annotation enhancing the assignment

(d) Interpretation of findings and ability to draw conclusions.
TOTAL 12 MARKS

BAND	MARKS	EXPLANATION FOR FINDINGS	SIGNIFICANCE	CONCLUSIONS
Band 1	1–3	• some attempt to provide explanation	• limited attempt to interpret findings in a logical manner	• some attempt to review, synthesise or draw conclusions
Band 2	4–8	• satisfactory explanation • clear and coherent understanding of the extent to which they support/conflict with outcomes	• significance of identified features broadly stated	• clear attempt to review and synthesise findings • conclusions logical and relate to expected outcomes
Band 3	9–12	• clear, detailed and convincing account of features • extent to which they may support or conflict with stated outcomes is fully and logically expressed	• precise, clear understanding of outcomes	• concise, logical review and synthesis of findings and explanations

(e) Evaluate findings in light of stated outcomes.
TOTAL 4 MARKS

BAND	MARKS	EVALUATION
Band 1	1	• Able to identify a few strengths/weaknesses which have influenced study
Band 2	2–3	• awareness of strengths/weaknesses of research but not fully developed
Band 3	4	• clear awareness of strengths and weaknesses of method of enquiry and impact on data

TOTAL = 40 MARKS

PHYSICAL EDUCATION

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria and components of the examination to which the criteria will be applied will be issued annually.

1 INTRODUCTION

1.1 The intention throughout is that a course based on this syllabus should integrate the theoretical and practical aspects of the subject to ensure candidates understand the interrelated nature of knowledge and experience in influencing participation and performance in physical activity. The course is organised and presented to facilitate such integration.

1.2 The syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Physical Education. It also meets the requirements of the Northern Ireland Programme of study for Key Stage 4.

1.3. The course provides students with the opportunity to become informed and competent participants in physical activity through the knowledge and understanding of the principles pertaining to effective performance and the intrinsic value of physical activity within society.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 The syllabus has been designed to be as free as possible from ethnic, gender, religious, political and other forms of bias.

1.6 The syllabus is targeted at the full range of GCSE grades. (A*–G).

2 AIMS

2.1 The Aims set out below describe the education purposes of following a course in Physical Education. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

2.2 The aims of the syllabus are to provide opportunities for students to:

2.2.1 become more effective participants in physical activity;

2.2.2 observe, analyse, interpret and evaluate their own and others' performances and to suggest ways to improve their own and others' performance;

2.2.3 develop knowledge and understanding of the factors, principles, and methods pertaining to safe and effective performance and the promotion of a healthy lifestyle;

2.2.4 make informed choices and decisions with regard to planning for a healthy lifestyle and for peak performance;

2.2.5 develop knowledge and understanding of the factors which influence participation in, and provision for physical activity;

2.2.6 analyse, interpret and evaluate information and material relating to a healthy lifestyle, performance, and the factors influencing participation in, and provision for physical activity;

2.2.7 develop versatility and confidence in communication across a range of media and for a variety of purposes;

2.2.8 develop personal and interpersonal skills, personal qualities and values, positive attitudes and behaviour, through a variety of situations and challenges;

2.2.9 become aware of career opportunities relating to Physical Education, sport and the leisure industry.

3 ASSESSMENT OBJECTIVES

3.1 The assessment objectives indicate the skills and abilities which will be assessed.

3.2 Candidates will be assessed on their ability to:

3.2.1 perform safely and effectively in a number of selected activities, including their ability to interrelate planning, performing and evaluating whilst undertaking activity;

3.2.2 observe, analyse, interpret and evaluate their own and others' performances and to suggest ways to improve their own and others' performance;

3.2.3 recall and apply facts, terminology, concepts and principles to show understanding of the syllabus content;

3.2.4 analyse, interpret, and evaluate information and material relating to the syllabus content.

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment comprises the assessment of Practical Activities, internally assessed by the teacher and moderated by the Council and a Terminal Examination, set and marked externally by the Council.

4.2 The main principle underpinning the design of the Scheme of Assessment has been "fitness of purpose". The most appropriate assessment instrument has, therefore, been selected to assess the various Assessment Objectives.

4.3 Table 4.3 indicates the weightings of the various components of assessment.

Table 4.3

Terminal Examination	Paper 1	20%
	Paper 2	20%
Practical Activities	Performance	50%
	Evaluation and improvement of Performance	10%
	Total	100%

4.4 Table 4.4 indicates the relationship between the Assessment Components and the Assessment Objectives. The weightings given to each Assessment Objective may vary slightly from year to year but no one Assessment Objective will be given disproportionate emphasis.

Table 4.4

Assessment Objectives	Paper 1	Paper 2	Practical Activities	Assessment Objective Weighting
3.2.1			50%	50%
3.2.2			10%	10%
3.2.3	12–17%	10–15%		22–32%
3.2.4	3–8%	5–10%		8–18%
TOTALS	20%	20%	60%	100%

4.5 **Differentiation**

Differentiation will be achieved by outcome in the Terminal Examination. Differentiation will be achieved by task and outcome in the Practical Activities.

4.6 **Terminal Examination**

The Terminal Examination will comprise two written papers. Both papers will target the full range of GCSE grades.

4.6.1 Paper 1 (1 hour 30 minutes) will examine Assessment Objectives 3.2.3 and 3.2.4.

4.6.2 It will examine across the whole of the syllabus content.

4.6.3 It will contain short answer questions. All questions will be compulsory.

4.6.4 Paper 2 (1 hour 30 minutes) will examine Assessment Objectives 3.2.3 and 3.2.4.

4.6.5 It will examine the content of the three themes as detailed in the syllabus content.

4.6.6 It will contain multi-part questions. All questions will be compulsory.

4.6.7 Stimulus material will be used. The stimulus material may take a variety of forms, eg written, graphical, statistical and visual.

4.7 **Practical Activities**

4.7.1 The Practical Activities will assess Assessment Objectives 3.2.1 and 3.2.2.

4.7.2 A Practical Activities Memorandum containing details of teacher assessment and moderation procedures is included in this document. It is essential that teachers study carefully the Memorandum before engaging in the assessment of the Practical Activities.

5 AWARDING AND REPORTING

5.1 Candidates' results will be reported on an eight point scale: A*, A, B, C, D, E, F and G. A GCSE Certificate will be awarded to those candidates who achieve Grade G or higher. Candidates who fail to reach the minimum standard for Grade G will be recorded as "U" for "unclassified" and will not receive a certificate.

5.2 **Grade Descriptions**

Grade descriptions are provided to give general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspect of the examination may be balanced by better performance in others.

Grade F

Candidates demonstrate, through performance, some ability to interrelate planning, performing and evaluating whilst undertaking activity. They demonstrate a limited level of competence in their chosen physical activities.

Candidates analyse and improve some simple aspects of their own and others' performance.

Candidates know and understand some of the factors affecting performance; a limited number of health and safety aspects of physical activity, including a few advantages and risks associated with a range of training strategies and techniques; some of the reasons for participating in physical activity.

Grade C

Candidates demonstrate, through performance, a sound ability to interrelate planning, performing and evaluating whilst undertaking activity. They demonstrate competence in their chosen physical activities.

Candidates analyse and improve their own and others' performance with some success and understanding.

Candidates know and understand many of the factors affecting performance; many of the health and safety aspects of physical activity, including several advantages and risks associated with a range of training strategies and techniques; many of the reasons for participating in physical activity.

Grade A

Candidates demonstrate effectively, through performance, the ability to interrelate planning, performance and evaluating whilst undertaking activity. They demonstrate a high level of competence in all their chosen physical activities.

Candidates analyse and improve their own and others' performance accurately.

Candidates know and understand most of the factors affecting performance; the majority of the health and safety aspects of physical activity, including many of the advantages and risks associated with a range of training strategies and techniques; most of the reasons for participating in physical activity.

6 SYLLABUS CONTENT

The syllabus comprises three themes which are interrelated. These are set out in paragraphs 6.1 to 6.3.

Candidates should know and understand the content of the three themes. They should be able to use their knowledge and understanding to analyse, interpret and evaluate information and material relating to each of the three themes. They should be able to use their knowledge and understanding to plan effectively for each of the three themes.

6.1 Theme A – Preparation for and evaluation of lifestyle with regard to health

Section	Details of Study	Illustrative/Exemplar Comments
1 EXERCISE	(a) Why exercise?	(a) eg Changes in lifestyle
	(b) A health-related exercise programme.	(b)
	(i) The core components.	(i) eg Aerobic endurance; muscular strength and endurance and flexibility
	(ii) Applying the "FITT principle" to the core components.	(ii) The Frequency, Intensity, Time and Type of exercise required.
	(c) A health-related exercise session.	(c)
	(i) Warm-up	(i) Purpose of warm-up and types of exercise to be included.
	(ii) Work-out	(ii) Purpose of work-out. Selection of safe exercises and appropriate methods of exercising for the core components.
	(iii) Cool-down	(iii) Purpose of cool-down and types of exercise to be included.
	(d) Applying the "SMART principle" to exercise programmes and sessions.	(d) Exercise programmes and sessions should be Specific, Measurable, Attainable, Realistic, and Tenable.
	(e) Monitoring a health-related exercise programme.	(e)
	Principles and methods	eg Aerobic endurance – use of pulse rate; Muscular Strength/Endurance (MSE) – monitoring the number of repetitions for exercises; Flexibility – a sit and reach test.
	(f) Safety in exercising	(f)
	Before, during and after	eg State of health; safe exercise programme and sessions; food and drink, clothing and footwear; the environment; equipment; rules and procedures; drugs.
	(g) Benefits of regular and appropriate exercise.	(g) eg On body systems; for weight control; posture; stress.

Section	Details of Study	Illustrative/Exemplar Comments
2 DIET	(a) Why we need food.	(a) eg To maintain life; for growth and repair; for voluntary activities in lifestyle.
	(b) Components of food (function and sources).	(b) eg Carbohydrate (for energy – potatoes);. Fats (for insulation – butter); Protein (for growth and repair – meat); vitamins and minerals (for regulation – vegetables); fibre (for functioning – whole grain bread); water.
	(c) Balanced and unbalanced diets	(c)
	(i) Energy intake and expenditure.	(i) eg Positive balance – obesity; negative balance – malnutrition.
	(ii) Balance within the diet.	(ii) Balance between the nutrients.
	(d) Weight control Principles and methods	(d) eg Combining exercise with Kilojoule controlled diet.
3 SMOKING	(a) Effects of smoking on health and performance	(a) eg Illnesses associated with smoking; how smoking affects oxygen uptake.
	(i) Short term	
	(ii) Long term	
4 ALCOHOL	(a) Effects of alcohol on health and performance	(a) eg illnesses associated with excessive intake of alcohol; how alcohol affects co-ordination, reaction time, balance.
	(i) Short term	
	(ii) Long term	
5 REST/SLEEP STRESS	(a) The concepts	(a)
	(b) Effects on health and performance	(b) eg Benefits of rest/sleep; controlling stress
6 DRUGS	(a) Classification of drugs to include International Olympic Committee (IOC) list of doping classes and methods.	(a) eg Stimulants; narcotic analgesics; anabolic steroids; beta blockers; diuretics.
	(b) Effects of drugs on health and performance.	(b) eg The effects of drugs on body which enhance performance; side effects of drugs
	(i) Short term	
	(ii) Long term	
	(c) Ethics	(c) eg Arguments for and against banning performance enhancing drugs from sport.
7 PERSONAL HYGIENE	(a) Care of the body	(a) eg Principles of care for the skin, hair, feet, teeth.
8 PEER PRESSURE; ADVERTISING	(a) The concepts	
	(b) Effects on person	(b) eg How these factors can influence one's lifestyle and affect health.

6.2 Theme B – Preparation for and evaluation of Performance in Sport

Section	Details of Study	Illustrative/Exemplar Comments
1 POTENTIAL	(a) Genetic factors	(a) eg Anatomical and physiological make-up (eg body type; height and weight; ratio of fast twitch to slow twitch muscle fibres; stroke volume; vital capacity).
	(b) Age	(b) How age affects potential performance.
	(c) Gender	(c) How gender affects potential performance, eg differences and similarities between the sexes.
2 PHYSICAL FITNESS	(a) The concept	(a) eg The ability to perform physical tasks efficiently and effectively.
	(b) Components of physical fitness.	(b) eg Aerobic endurance; anaerobic power (speed); muscular strength; muscular endurance; muscular power; muscular speed; flexibility.
	(c) An outline training programme	(c)
	(i) Physical fitness requirements of events and sports.	(i) Judging relative importance of components of physical fitness.
	(ii) The individual.	(ii) eg Consideration of factors such as present level of fitness, age, gender.
	(iii) Training phases.	(iii) eg Out-of-season; pre-season; in-season.
	(d) A training programme.	(d)
	(i) Principles of training.	(i) eg Specificity; overload; progression; rest/ recovery; maintenance; variety; peaking.
	(ii) Training methods to develop: – energy systems; muscular fitness; and flexibility.	(ii) Aerobic energy system – eg steady pace; fartlek; interval. Anaerobic energy system – eg interval; resistance. Muscular fitness – eg isotonic weight training; callisthenics; circuit training; isometric training; isokinetic training. Flexibility – eg static stretching (active and passive) ballistic stretching.
	(e) Assessing components of physical fitness	(e)
	(i) Purpose and principles.	(i) eg To gauge entry level and to chart progress.
	(ii) Methods	(ii) eg Standardised tests.
	(f) A training session	(f)
	(i) Warm-up	(i) Purpose and types of exercise to be included.
	(ii) Conditioning or fitness phase	(ii) Selecting appropriate and safe exercise(s) and methods of training for the development of specific fitness components and applying the principles of training to them.

Section	Details of Study	Illustrative/Exemplar Comments
	(iii) Skill or team-play phase	(iii) Selecting practices to improve both individual and team skills.
	(iv) Cool-down	(iv) Purpose and types of exercise to be included.
	(g) Effects of exercise, training methods and principles of training on the body systems (i) Short term (ii) Long term	(g) eg Short term and long term effects of exercise, training methods and principles of training on the skeletal, musculatory, respiratory and circulatory systems. Short term effects on digestive system.
2 SKILLS	(a) The concept	(a)
	(b) Classification of skills	(b) eg Closed – Open skills continuum.
	(c) Process of learning and mastering a skill.	(c) eg Stages – cognitive, associative and autonomous. How the nervous system is involved in each of the stages leading to the mastery of a skill.
	(d) Principles for learning and mastering a skill	(d) eg mental imagery; motivation/ desire; arousal; practice – specificity and transfer of learning, break down of technique into component parts, variety; attention/ concentration; feedback – knowledge of results, knowledge of performance.
	(e) Assessment of potential	(e) Co-ordination; balance; reaction time; agility; speed; power.
3 TACTICAL ABILITY	(a) The concept	(a) eg Reading a situation; anticipation; decision making; positioning; employing strategies.
	(b) Tactical strategies	(b) Ways and means to win in sport.
4 PSYCHOLOGICAL FACTORS	(a) Personality traits	(a) Relative importance of factors, for example, introvert/extrovert; anxiety; aggression; dominance; sociability; self control; willingness to accept criticism.
	(b) Attitudes and behaviour	(b) eg Desirable attitudes and code of conduct for sport.
5 OTHER FACTORS	(a) Diet	(a) Special considerations for performance, eg Maintaining glycogen stores during training; carbohydrate loading before endurance events; fluid requirements; pre-event meals.
	(b) Environment	(b) How environment can affect performance, eg Altitude; weather and climate; playing surface.

6.3 Theme C – Participation in and Provision for Physical Education, Physical Recreation and Sport

Section	Details of Study	Illustrative/Exemplar Comments
1 PARTICIPATION	(a) Factors influencing participation.	(a) eg Cultural; social; health; affluence; education; leisure time; occupation; gender; age; geographical location; climate; media; trends.
2 PROVISION	(a) Who provides?	(a) eg DENI; Sport Council; Councils; Education and Library Boards; Schools; Governing Bodies of Sport; Churches; Private Sector;
	(b) What is provided?	(b) eg Strategies; schemes; funding; amenities; facilities; equipment and clothing; work-force (teachers, managers, workers, volunteers, coaches etc).
	(c) How is it provided?	(c) eg Financial aspects: – taxes; rates; lottery; sponsorship; Responsibility for decision making and implementation.
	(d) Why is it provided?	(d) eg Statutory responsibility; value of physical recreation and sport; political reasons; for profit; for image.

Teachers are reminded that they should refer to Safe Practice in Physical Education, issued by the British Association of Advisers and Lecturers in Physical Education before engaging in practical activities and be conversant with all relevant policies/guidelines issued by DENI and their Education and Library Board.

The following activities are approved by the Council:

Athletics

Badminton

Basketball

Camogie

Canoeing

Cricket

Dance

Fitness Training

Gaelic Football

Gymnastics

Hockey

Hurling

Lifesaving

Netball

Orienteering

Rugby

Soccer

Squash

Swimming

Table Tennis

Tennis

Trampolining

Volleyball

Adventure Training

PRACTICAL ACTIVITIES MEMORANDUM

1 GENERAL INFORMATION

1.1 Component Weighting

The Scheme of Assessment in Physical Education carries a 60% weighting for the Practical Activities. Individual performance in the practical activities carries an overall weighting of 50% of the total marks. Evaluation and improvement of performance in the practical activities carries an overall weighting of 10% of the total marks. Candidates are assessed internally by the candidate's teacher and moderated externally by the Council.

1.2 Choice of Activities

Candidates will be assessed in four different activities, selected from the categories below. Only one activity in each category may be chosen. The categories are:

Athletics

Dance

Fitness Training

Games 1

Games 2

Gymnastic Activities (Gymnastics or Trampolining)

Outdoor Education (Canoeing, Orienteering or Adventure Training)

Swimming (Swimming or lifesaving)

The same activity cannot be selected for Games 1 and Games 2.

Teachers wishing to assess an activity not detailed in the categories above are required to seek approval from the Council. A submission for approval must follow the format as illustrated for each of the activities listed in the Memorandum. A submission must be lodged in time for approval to be given by the Council before 30 April in the year preceding the examination. A submission made after 30 April will not be considered for the following year's examination.

1.3 Assessment of Performance in Practical Activities

Within the context of a practical activity the teacher should focus on what each candidate knows, understands and can do. The evidence upon which such judgement can be made will emerge as candidates engage in the practical activities. Assessment should, therefore, be a continuous process, with teachers observing and recording candidates' achievements within the context of the practical activities and in accordance with the stated criteria.

Candidates should at all times be asked to perform to the best of their abilities and to reflect critically on their performance.

In each practical activity candidates will be assessed against the criteria for:

individual performance in the practical activity;

and

evaluation and improvement of performance in the practical activity.

1.3.1 *Weighting of Marks*

Individual performance in the practical activities and evaluation and improvement of performance in the practical activities will each be marked out of 25 marks.

Individual Performance in the Practical Activity

Total 25 marks

Range 1	1–5 marks
Range 2	6–10 marks
Range 3	11–15 marks
Range 4	16–20 marks
Range 5	21–25 marks

Evaluation and Improvement of Performance in the Practical Activity

Total 25 marks

Range 1	1–5 marks
Range 2	6–10 marks
Range 3	11–15 marks
Range 4	16–20 marks
Range 5	21–25 marks

These marks will then be scaled to comply with the overall weightings as shown in Table 4.3 and 4.4.

1.3.2 A candidate's performance in a practical activity is determined by factors such as:

(a) **tactical ability.**

That is, for example, the candidate's ability to:

(i) read the situation and to anticipate what is going to happen;

(ii) know what to do and when to do it in the activity;

(iii) position himself/herself appropriately for the activity;

(iv) use strategies to be in control in the activity.

Tactical ability may be read as **artistic ability** in some activities.

(b) **range and mastery of the skills.**

That is, for example, the candidate's ability to perform a wide range of the appropriate skills of the activity efficiently and effectively. In other words the skills are performed with sound technique, appropriate timing and accuracy.

(c) **level of physical fitness.**

That is, for example, the candidate's ability to meet the physical fitness requirements of the activity.

(d) **attitudes and behaviour.**

That is, for example, the candidate's ability to:

(i) demonstrate desire, determination, persistence and concentration;

(ii) demonstrate fair play, respect and co-operation with others;

(iii) demonstrate self control, self confidence and self expression;

(iv) demonstrate a willingness to accept criticism and to take responsibility.

(e) **preparation.**

That is, for example, the quality and effectiveness of the candidate's planning, training and practising for the activity.

(f) **genetic make-up.**

That is, for example, the candidate's anatomical and physiological make-up. For example, body type, height and weight, ratio of fast twitch muscle fibres to slow twitch muscle fibres, VO2 max.

1.3.3 ***Individual Performance in the Practical Activity***

The teacher should consider the relevant factors which determine individual performance in the activity (paragraph 1.3.2) and use the criteria below to judge the ability of the candidate in the activity.

The teacher should decide which statement best describes the candidate's ability in the activity and which mark from the range would be most appropriate.

Assessment Criteria

Range 1 1–5 marks

The candidate's performance demonstrates limited to basic ability.

Range 2 6–10 marks

The candidate's performance demonstrates basic to moderate ability.

Range 3 11–15 marks

The candidate's performance demonstrates moderate to good ability.

Range 4 16–20 marks

The candidate's performance demonstrates good to very good ability.

Range 5 21–25 marks

The candidate's performance demonstrates very good to outstanding ability.

1.3.4 ***Evaluation and Improvement of Performance in the Practical Activity***

The candidate should consider the relevant factors which determine individual performance in the activity (paragraph 1.3.2). The candidate should use these to evaluate his/her own and others' performances. The candidate should also use these as a framework for suggesting ways to improve his/her own and others' performance.

The teacher should use the criteria below to judge the ability of the candidate to do this.

The teacher should decide which statement best describes the candidate's ability and which mark from the range would be most accurate.

Assessment Criteria

Range 1 1–5 marks

The candidate demonstrates limited to basic ability in evaluating his/her own and others' performances and in suggesting ways to improve his/her own and others' performance.

Range 2 6–10 marks

The candidate demonstrates basic to moderate ability in evaluating his/her own and others' performances and in suggesting ways to improve his/her own and others' performance.

Range 3 11–15 marks

The candidate demonstrates moderate to good ability in evaluating his/her own and others' performances and in suggesting ways to improve his/her own and others' performance.

Range 4 16–20 marks

The candidate demonstrates good to very good ability in evaluating his/her own and others' performances and in suggesting ways to improve his/her own and others' performance.

Range 5 21–25 marks

The candidate demonstrates very good to outstanding ability in evaluating his/her own and others' performances and in suggesting ways to improve his/her own and others' performance.

2 PRACTICAL ACTIVITIES

2.1 Athletics

2.1.1 *Content*

Students should do a minimum of five events (one track, one jump, one throw and any two others).

Individual Techniques

Events

Sprints	Distance	Hurdles	Steeplechase	Walking
100 m	800 m	70 m	1,500 m	2,000 m
200 m	1,500 m	75 m	2,000 m	3,000 m
400 m	3,000 m	80 m		
		100 m		
		110 m		
		200 m		
		400 m		

Jumps	Throws
High Jump	Shot
Long Jump	Discus
Triple Jump	Javelin
Pole Vault	Hammer
	Short-handled hammer

2.1.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

Notes

1 Individual performance will be quantified using the scoring tables from the AAA Esso Five-Star Award Scheme (available from the Council) which have been equated with the mark ranges for individual performance. Students must be assessed at least five events (one track, one jump, one throw and two others). Teachers should add up the candidate's best five scores and then use Table 2.2.1 which follows to find the candidate's mark for performance.

2 Hurdle heights and the weights of throwing implements should be appropriate to the AAA age/sex group into which the candidate fits.

Athletics – Overall Performance

Individual performance and appraisal must be assessed using Table 2.2.1

Table 2.1.1

Boys' Points	Girls' Points	Marks
420	350	25
419–407	349–338	24
406–395	337–327	23
394–382	326–316	22
381–370	315–304	21
369–357	303–293	20
356–345	292–282	19
344–332	281–270	18
331–320	269–259	17
319–307	258–247	16
306–295	246–236	15
294–282	235–225	14
281–270	224–214	13
269–257	213–202	12
256–245	201–191	11
244–232	190–180	10
231–220	179–168	9
219–207	167–157	8
206–195	156–146	7
194–182	145–134	6
181–170	133–123	5
169–157	122–112	4
156–145	111–100	3
144–132	99–89	2
131–120	88–78	1

2.2 Badminton

2.2.1 *Content*

(a) *Individual Techniques:*

- basic skills (grip, movement/footwork, body position in the strokes and in relation to the shuttlecock);
- strokes (serves, smashes, drop shots, clears, drives, blocks);

(b) *Team/Performance Skills and Tactical Awareness:*

- positional play for singles and doubles;
- principles of play, eg:

  ability to:

  - outmanoeuvre opponents or make opponents tired (eg by varying and changing length and direction of shots);
  - upset opponent's game (eg changing rhythm, direction or type of moves);
  - deceive opponents (by disguising intentions);
  - discover opponent's weaknesses and play to them;
  - discover opponent's strengths and avoid playing to them.

2.2.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

Note

Evaluation of performance should be based on a singles game.

2.3 Basketball

2.3.1 *Content*

(a) *Individual Techniques:*

- catching (one handed, two handed, making a target);
- passing (chest, overhead, bounce, javelin, reverse);
- shooting (lay-up, hook, set, jump);
- dribbling (fast, slow, high, low reverse dribble, changing pace and direction, switching hands, shielding, head position and use of the eyes);
- footwork (getting free, stopping, pivoting);
- marking and dodging.

(b) *Team/Performance Skills and Tactical Awareness:*

- positional play (roles of the various positions, post and centre play, forward play, guards, playmaker, screening, cutting, rolling, blocking out, rebounding);
- principles of play, eg attack – width, depth, penetration, mobility; defence – depth, delay; systems of attack and defence;
- set plays (tip off, jump ball, free throw, out of court).

2.3.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

2.4 Camogie

2.4.1 *Content*

(a) *Individual Techniques*:

- striking;
- stopping (on the ground and in the air);
- blocking (on the ground and in the air);
- catching (one handed);
- dribbling (soloing);
- lifting (moving and stationary ball, free taking);
- goalkeeping.

(b) *Team/Performance Skills and Tactical Awareness:*

- positional play (roles of the various positions, marking, movement off the ball, positioning at set plays);
- principles of play, eg defence – width, depth; attack – width, penetration;
- set plays (free taking, puck out, sideline cut).

2.4.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

2.5 Canoeing

2.5.1 *Content*

Individual Techniques:

- embark and disembark in a variety of situations;
- paddle forwards, backwards, sideways, turning, stopping;
- support strokes (slap for support, sculling for support);
- capsize drills (coming out, retaining paddle and hold on canoe);
- rescue drills (bow, put-across, TX rescues);
- **either** on moving water – ferry glide, breaking in and out, **or** on sea – paddle into, with and across breaking waves;
- swim for 25m wearing canoe clothing and fully inflated lifejacket;
- plan for and undertake a day trip (canoe, loading, food, route);
- prepare and load canoe for day trip.

2.5.2 *Assessment Criteria*

Performance must be assessed using the criteria:

- Individual performance and appraisal in an individual activity (paragraph 1.3.2);
- Evaluation of performance (paragraph 1.3.4).

Note

Evaluation of performance must include an assessment of safety aspects and expedition planning.

2.6 Cricket

2.6.1 *Content*

(a) *Individual Techniques:*

- batting:
  - strokes/shots (on and off drives, lofted drive, cutting, pulling, hooking, glance, defensive shots);
  - grip;
  - stance;
  - backlift;
  - footwork (offensive and defensive drives played off back and front feet);
  - body position (control, balance, timing);
  - selection of strokes;
  - running between wickets (calling, backup);
- bowling:
  - types (fast, medium, slow);
  - grip (fast, medium, slow);
  - runup (length and speed);
  - delivery (basic action, over or round wicket, line and length);
  - variation (flight, speed, swing and cutting, amount and types of spin);
- fielding:
  - basic positions;
  - stopping;
  - retrieving;
  - intercepting;
  - throwing;
  - close catching;
  - high catching;
  - backing up;
  - wicket keeping (positions, stance, catching, stumping, run-out).

(b) *Team Performance Skills and Tactical Awareness:*

- principles of attack and defence when batting (eg use of feet);
- bowling (eg speed and direction);
- fielding (eg placing).

2.6.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

2.7 Dance

2.7.1 *Content*

Individual Techniques:

- steps:
  - examples:

    simple (skipping, gallop);

    intermediate (waltz, promenade, pas-de-basque);

    advanced (mazurka, schottische, cherkessia, seven step, ostgota);
- formations/patterns:
  - simple (longways set, squares, circles);
  - intermediate (thread the needle, double circles);
  - advanced (reel of three, pousette);
- dances:
  - examples:

    simple (Furham Reel, Siege of Carrick, Alunelul, Svyspring, Haymaker's Jig, Strip the Willow);

    intermediate (Hora Agadate, Mayim Mayim, Cottage Pie, Rinnce Mor, Polka Piqueé, Farandole);

    advanced (Dashing White Sergeant; Waves of Tory; Cherkessia Kfula, Tarantella, Culling the Turf, Heridean Weaving Lilt).

2.7.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

This will focus on:

- skills (accurate performance of steps, holds and grasps, demonstration of rhythmical phrasing);
- flow (linking of steps and formations to produce the required floor and air patterns);
- characterisation poise (of the body), ie demonstration of the specific qualities of speed and weight required in the performance of the dance;
- co-operation, ie co-operation and interaction in twos, threes or group;
- communication of idea/dance quality to others;
- overall artistic impression.

Note

Candidates should be able to perform at least six dances from no less than three countries. Some of these dances should highlight aspects of cultural heritage and heighten pupils' awareness of cross-cultural links. Marks awarded must be appropriate to the degree of difficulty of the movement sequence.

2.8 Fitness Training

2.8.1 *Content*

The QUB Fitness Test Battery for Schools.

The tests are:

- standing broad jump;
- sit and reach;
- grip strength;
- 20 m shuttle run test;
- sit-ups;
- % body fat;
- 10 × 5 m sprint.

2.8.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

Notes

1 It is essential that test protocol is adhered to at all times. A copy of the tests is available on request from the Council. The equipment needed and the test protocol are available on request at a minimum fee from the Queen's University Physical Education Centre.

2 On completion of the tests teachers should convert each of the seven raw scores to a performance mark by using the conversion Tables 2.8.2a–2.8.2g which follow. Add these seven marks together, then use the overall performance Table 2.8.2h to read the candidate's mark for physical fitness.

Table 2.8.2a

Standing Broad Jump in cm		
	Male	Female
Points	cm	cm
10	>246	>188
9	246–236	188–181
8	235–226	180–173
7	225–216	172–165
6	215–206	164–157
5	205–196	156-149
4	195–186	148–141
3	185–176	140–133
2	175–165	132–125
1	<165	<125

Table 2.8.2b

Sit and Reach		
	Male	Female
Points	cm	cm
12	>27	>31
11	27	31
10	26	30
9	25–24	29
8	23–22	28–27
7	21–20	26–25
6	19–18	24–23
5	17–16	22–21
4	15–14	20
3	13	19
2	12	18
1	<12	<18

Table 2.8.2c

Grip Strength in kg		
	Male	Female
Points	kg	kg
10	>53	>37
9	53–51	37–35
8	50–48	34–32
7	47–45	31–30
6	44–42	29–28
5	41–39	27
4	38–36	26
3	35–33	25
2	32–30	24
1	<30	>24

Table 2.8.2d

20m Shuttle Run		
	Male	Female
Points	laps	laps
20	>135	>95
19	135–132	95–92
18	131–128	91–88
17	127–124	87–84
16	123–120	83–80
15	119–116	79–76
14	115–112	75–72
13	111–108	71–68
12	107–104	67–65
11	103–100	64–61
10	99–96	60–59
9	95–92	58–56
8	91–88	55–53
7	87–85	52–50
6	84–82	49–47
5	81–79	46–44
4	78–76	43–41
3	75–73	40–38
2	72–70	37–35
1	<70	<35

Table 2.8.2e

Sit-ups in 30 seconds		
	Male	Female
Points	number	number
15	>32	>26
14	32	26
13	31	25
12	30	24
11	29	23
10	28	22
9	27	21
8	26	20
7	25	19
6	24	18
5	23	17
4	22	16
3	21	15
2	20	14
1	<20	<14

Table 2.8.2f

% Body Fat		
	Male	Female
Points	cm	cm
15	<18.5	<30
14	18.5–20.4	30–31
13	20.5–22.4	32–33
12	22.5–24.4	34–35
11	24.5–26.4	36–37
10	26.5–28.4	38–39
9	28.5–30.4	40–41
8	30.5–32.4	42–43
7	32.5–34.4	44–45
6	34.5–36.4	46–47
5	36.5–38.4	48–49
4	38.5–39.9	50–51
3	40–43.4	52–54
2	43.5	55
1	>43.5	>55

Table 2.8.2g

10 × 5 Shuttle Run Time in seconds		
	Male	Female
Points	cm	cm
10	<17.7	<19.5
9	17.7–18.1	19.5–20.0
8	18.2–18.6	20.1–20.6
7	18.7–19.1	20.7–21.2
6	19.2–19.6	21.3–21.8
5	19.7–20.1	21.9–22.4
4	20.2–20.6	22.5–22.9
3	20.7–21.1	23.0–23.5
2	21.2–21.6	23.6–24.1
1	>21.6	>24.1

Table 2.8.2h

Overall Performance	
Points	Marks
92–86	25
85–84	24
83–81	23
80–78	22
77–75	21
74–72	20
71–69	19
68–66	18
65–63	17
62–60	16
59–57	15
56–54	14
53–51	13
50–48	12
47–45	11
44–42	10
41–39	9
38–36	8
35–33	7
32–30	6
29–27	5
26–24	4
23–21	3
20–18	2
17–15	1

2.9 Gaelic Football

2.9.1 *Content*

(a) *Individual Techniques:*

- catching (low on chest, overhead);
- kicking (punt, drop kick, free kick);
- passing (kick, hand, fist);
- solo run (side step);
- pick up;
- tackling (blocking, shoulder);
- shooting (right, left);
- goalkeeping.

(b) *Team/Performance Skills and Tactical Awareness:*

- positional play (roles of the various positions, marking, movement off the ball, positioning at set plays);
- principles of play, eg attack – width, penetration; defence width, depth;
- set plays (throw-in at start of the game, free kicks, kick out, "forty-five").

2.9.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

2.10 Gymnastics

2.10.1 *Content*

Individual Techniques

Examples:

- a forward roll;
- a handstand with support (partner);
- from front support jump to crouch and jump to stand;
- a backward roll;
- a headstand with bent knees;
- from back lying, raise body to bridge;
- squat onto and jump off a box with straight body;
- jump from box with straddle legs (astride jump);
- a standing upward jump with a half turn;
- from astride sitting, circle roll sideways to face opposite direction;
- a headstand with legs straight;
- backward roll to astride;
- forward roll to standing position;
- a cartwheel;

- a handstand;
- a standing upward jump with a full turn;
- squat onto long box, straddle vault off;
- tucked jump upward from box top;
- straddle vault over buck or box broadways;
- handstand forward roll;
- forward roll with straight legs to straddle;
- two cartwheels;
- backward roll passing through handstand;
- donkey kick from a bench or box top;
- handstand pirouette through 180°;
- headspring;
- headspring from standing position on box;
- squat or through vault;
- squat on, jump off with half turn;
- back flip or flic flac;
- round off or Arab spring;
- throw or kick to handstand and hold for three seconds;
- handspring;
- show splits position (forwards or sideways);
- cartwheel, one hand only;
- straddle vault over box lengthways;
- Arabesque or "Y" balance, hold for three seconds;
- handspring vault.

2.10.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

Notes

1 Candidates must use the range of agilities performed to compose a short sequence which includes dance, links, leaps and turns and which lasts longer than one minute (music optional).

2 In Rhythmic gymnastics, the use of apparatus, sports acrobatics, etc may be incorporated in the work to enhance or add variety to the performance.

2.11 **Hockey**

2.11.1 *Content*

(a) *Individual Techniques:*

- dribbling (grip, footwork, head position);
- passing:
  - drive (grip, footwork, from left to right, from right to left);
  - push (grip, footwork, straight, from left to right, from right to left);
  - flick (grip, footwork, straight, from right to left, from left to right);
  - scoop (grip, footwork);
  - reverse stick pass (grip, footwork);
  - hit on (grip, footwork);
- stopping the ball (grip, footwork);
- receiving the ball (grip, feet and body positioning, receiving from right, left, in front, behind);
- tackling (straight tackle, chase tackle, eg left hand lunge, left hand jab);
- beating an opponent (right hand dodge, left hand dodge, scoop, reverse stick dodge).
- shooting (from open play, corner, penalty, corner);
- goalkeeping.

(b) *Team/Performance Skills and Tactical Awareness:*

- positional play (roles of various positions, marking, covering, supporting, positions for set pieces);
- principles of play, eg systems of play, attack and defence in relation to ball possession and support play, zonal defence, man-to-man marking;
- set plays (corners in attack and defence, free hits, push in, pass back).

2.11.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

2.12 **Hurling**

2.12.1 *Content*

(a) *Individual Techniques:*

- striking;
- catching (one handed);
- lifting (moving and stationary ball);
- blocking (on the ground and in the air);
- stopping (on the ground and in the air);
- dribbling (soloing);
- goalkeeping.

(b) *Team/Performance Skills and Tactical Awareness:*

- positional play (roles of the various positions, marking, movements off the ball, positioning at set plays);
- principles of play, eg defence – width, depth; attack – width, penetration; aerial and ground hurling;
- set plays (free taking, throw in at start of game, puck-out, "sixty-five").

2.12.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

2.13 **Lifesaving**

2.13.1 *Content*

(a) *Individual Techniques:*

- entries (slide in, step in, shallow dive, straddle);
- approach and contact skills;
- defensive skills (stand off position, reverse, leg block and counter, duckaway);
- releases (from grip on wrist, from grip around body, head or neck from front, from grip around body, head or neck from rear, from grip around body from rear);
- tows (extended, chin, cross chest – with restraints, with clothes);
- surface diving (feet first, head first, recovery of object);
- landings (support and stirrup, straight arm);
- coma position (rigid, non-rigid, buoyant, towing aids);
- artificial respiration (expired air method).

Candidates must be able to demonstrate:

- mouth to nose;
- mouth to mouth;
- treatment for vomit;
- treatment for air in the stomach;
- recovery position;
- treatment for shock.

2.13.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

2.14 **Netball**

2.14.1 *Content*

(a) *Individual Techniques:*

- catching (gaining control of the ball with two hands/one hand);
- passing (one-handed: shoulder, bounce, under-arm, lob/two handed: chest, bounce, overhead);
- footwork (2-1 landing, 1-2 landing, use of pivot, plus all the variations allowed within the footwork rule);
- goal scoring;
- techniques of getting free (change of direction – including feint, change of speed, sudden sprint);
- defence – player without the ball: close marking, good positioning, man-to-man, zone defence/player with the ball: guarding the pass, interception of the pass/shot;
- toss-up.

(b) *Team Performance Skills and Tactical Awareness:*

- positional play (roles of various positions, ability to work with team members on court, support, cover, marking);
- principles of play, eg attacking and defending plays, man-to-man marking, zone defence, balance-timing, spatial awareness;
- set plays (centre pass, side line passes, back line passes, free and penalty pass/ shot, positioning for attacking and defending plays).

2.14.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

2.15 **Orienteering**

2.15.1 *Content*

Individual Techniques:

- simple map making (plan of the school and local area);
- specialist map reading, eg bearings and use of compass, note selection;
- distance and pacing;
- development of stamina;
- competition strategy.

2.15.2 *Assessment Criteria*

Performance must be assessed using the criteria:

- Individual performance and appraisal in an individual activity (paragraph 1.3.2);
- Evaluation of performance (paragraph 1.3.4).

2.16 **Rugby**

2.16.1 *Content*

(a) *Individual Techniques*

- handling (giving and receiving a pass, scrum-half pass, put-in to scrum, throw in, pick up, falling on the ball, receiving the ball from a kick, throw in and to mark);
- tackling (side, rear, front, smother, ankle tap);
- kicking (place kick, drop kick, punt, grubber, dribbling);
- running (side step, body swerve, change of pace).

(b) *Team/Performance Skills and Tactical Awareness*

Candidates should specialise in either forward or backward play.

- positional play (roles of various positions);
- principles of play, eg in attack, in defence;
- set plays (back and forward moves following scrums, lineouts, rucks and mauls, short penalties).

2.16.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

2.17 **Soccer**

2.17.1 *Content*

(a) *Individual Techniques:*

- passing (short and long, ground and lofted, chipped);
- ball control (use of instep, outside and sole of foot, thigh, chest and head, trapping);
- dribbling (screening the ball, feints, changes of pace and direction);
- heading (defensive heading, heading for goal, headed pass);
- shooting (volley, half volley, placing);
- tackling (block tackle, front and side, slide tackle, containing);
- goalkeeping.

(b) *Team/Performance Skills and Tactical Awareness*

- positional play (roles of the various positions, marking, movement off the ball, positioning at set pieces);
- principles of play, eg attack – width, depth, penetration; defence – depth, delaying;
- set plays (corners, free kicks, goal kicks and throw-ins).

2.17.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

2.18 **Squash**

2.18.1 *Content*

(a) *Individual Techniques:*

- basic skills (grip, movement/footwork, body position in the strokes and in relation to the ball, swing);
- strokes (services bost shots, drop shots, lobs and volleys).

(b) *Performance and Tactical Awareness*

- positional awareness;
- anticipation;
- tactical awareness of space and opponent;
- variation of length, width, pace of shots.

2.18.2 *Assessment Criteria*

Performance must be assessed using the criteria:

- Individual performance and appraisal in the game situation (paragraph 1.3.3);
- Evaluation of performance (paragraph 1.3.4).

Note

Evaluation of performance should be based on a singles game.

2.19 **Swimming**

2.19.1 *Content*

Individual Techniques:

- breaststroke;
- back stroke;
- front crawl;
- butterfly.

2.19.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);

- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

Note

Evaluation of Performance

In the context of swimming this will relate to self and peer analysis and appraisal of performance in the basic strokes.

Individual performance and appraisal will be quantified using the scheme which follows.

25 m Timed Swim

Start with dive, jump or in the water holding the rail or end of pool. Candidate chooses the stroke which must conform to IASA laws. Use Table 2.19.2a to assess the performance of candidates.

Table 2.19.2a

Front Crawl (time in secs)		Backstroke (time in secs)		Butterfly (time in secs)		Breaststroke (time in secs)		Marks
Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
13	15	14	16	14	16	16	18	10
14	16	15	17	15	17	17	19	9
15	17	16	18	16	18	18	20	8
16	18	17	19	17	19	19	21	7
18	20	19	21	19	21	21	23	6
20	22	21	23	21	23	23	25	5
22	24	23	25	23	25	25	27	4
25	27	26	28	26	28	28	30	3
28	30	29	31	29	31	31	33	2
32	34	33	35	33	35	35	37	1

Endurance Swim

Table 2.19.2b

	Freestyle	Backstroke	Breaststroke	Butterfly
Boys	16 minutes	17 minutes	20 minutes	22 minutes
Girls	17 minutes	18 minutes	21 minutes	22 minutes

The number of complete 25 m lengths at the end of the allowed time is scored as follows:

Table 2.19.2c

Number of 25 m Lengths	Marks
40	15
39–37	14
36–34	13
33–32	12
31–30	11
29–27	10
26–25	9
24–22	8
21–20	7
19–17	6
16–15	5
14–12	4
11–10	3
9–7	2
6–4	1

The candidate's score in the 25 m timed swim is added to his or her score in the endurance swim to give an overall score out of 25.

2.20 **Table Tennis**

2.20.1 ***Content***

(a) *Individual Techniques:*

- basic skills (stance and grip variations, forehand, backhand);
- strokes, eg serves return of serves, block, drives, smashes, pushes, chops, the use of spin.

(b) *Team/Performance Skills and Tactical Awareness*

- positional play (for singles and doubles);
- principles of play, eg positioning, tactics adopted to outmanoeuvre opponents, shot variations within rallies.

2.20.2 ***Assessment***

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

Note

Evaluation of performance should be based on a singles game.

2.21 **Tennis**

2.21.1 ***Content***

(a) *Individual Techniques:*

- basic skills (grip, movement/footwork, body position in the strokes and in relation to the ball, swing);
- strokes, eg serves, drives, low and high volleys, lobs, smashes, return of services, drop shots, the use of spin).

(b) *Team/Performance Skills and Tactical Awareness:*

- positional (positioning for singles, doubles, movement on court);
- principles of play, eg shot selection, variety in play and shots, including return of service, tactics adopted in rallies for singles and doubles, ability to read opponent's game to discover strengths and weaknesses.

2.21.2 ***Assessment***

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

Note

Evaluation of performance should be based on a singles game.

2.22 **Trampolining**

2.22.1 *Content*

Individual Techniques:

Examples:

- straight jump;
- piked straddle jump;
- piked jump;
- tuck jump;
- knee drop to feet;
- seat drop to feet;
- front drop and rotation to feet;
- back drop and rotation to feet;
- straight jump with half twist;
- seat drop half twist to feet;
- half twist to seat drop to feet;
- seat drop to front to feet;
- front drop to seat drop to feet;
- straight jump to full twist;
- swivel hips;
- half twist to front drop to feet;
- front drop half twist to feet;
- half twist to back drop to feet;
- back drop to front drop to feet;
- front drop to back drop to feet;
- roller (seat drop full twist to seat drop to feet);
- cradle (back drop half twist forward to back drop to feet);
- front somersault to feet;
- back somersault to feet.

2.22.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

Note

Candidates will be required to perform one voluntary routine of ten linked techniques.

2.3 **Volleyball**

2.23.1 *Content*

(a) *Individual Techniques:*

- basic skills (hand grip, wrist action, body position, use of shoulders, arms and legs, control of pace and positioning of the ball);
- strokes (volley/set, dig, service, smash/spike, block, forward retrieve, side retrieve.

(b) *Team/Performance Skills and Tactical Awareness*

- positional play (roles of the various positions);
- principles of play, eg serve/receive, systems of offence and defence, cover strategies – six up and six back, combined block, combination attacks, reverse and cross over, setting alternatives;
- set plays (services, setting up attacks and blocks).

2.23.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

2.24 **Adventure Training**

2.24.1 *Content*

Individual Techniques:

- map reading skills, eg grid referencing, bearings and use of compass, route finding and route card construction, pacing and distance;
- equipment selection (individual and group);
- outdoor navigation;
- emergency procedures;
- outdoor living skills (tent pitching, cooking and basic hygiene);
- development of stamina.

2.24.2 *Assessment*

The activity must be assessed by using the assessment criteria for:

- Individual Performance in the Practical Activity (paragraph 1.3.3);
- Evaluation and Improvement of Performance in the Practical Activity (paragraph 1.3.4).

Note

Evaluation of performance must include the consideration of safety guidelines and expedition planning.

3 MODERATION PROCEDURES

3.1 Agreement Trials

Agreement Trials will be conducted annually, usually in the Spring Term where teachers are briefed on the application of the assessment criteria and engage in trial marking with respect to the Practical Activities.

3.2 Internal Standardisation

3.2.1 Where there is more than one teaching group in the subject the centre must carry out internal

standardisation of assessment with respect to the Practical Activities.

3.2.2 As a result of this internal standardisation it may be necessary to adjust the marking of individual teachers to bring their assessments into line with those of the other teachers in the centre and to match the standards promulgated at the Agreement Trial. Where such an adjustment is necessary the total final mark recorded on the *Candidates' Record Sheets* should be amended.

3.2.3 If substantial adjustments are found to be necessary, in order to overcome large discrepancies in marking standards, it is recommended that the centre should hold a second Agreement Trial based on different items of work.

3.3 **External Moderation**

(a) ***Receipt of Instructions from the Council***

Centres will receive instructions regarding the moderation of the teachers' assessment. These instructions will include:

- the date of the visit of the moderator, which will normally be during late April or early May;
- further information on any arrangements which may need to be made prior to the visit.

(b) ***Agreement on Marks to be Awarded***

Prior to the visit of the moderator teachers should select candidates to participate in the activities which they have undertaken during the Key Stage 4 Programme of Study. In choosing candidates, teachers should ensure that candidates are drawn from each of the teaching groups and cover the full ability range within the centre. In the case of Games, teachers should select sufficient candidates to simulate the appropriate team game.

The selected candidates will participate in the various activities and the moderator will discuss with the teacher(s) their assessments agreed upon as a result of internal standardisation.

Where agreement is reached between the teacher(s) and the moderator on the mark to be awarded to each candidate this agreed mark should be recorded on the appropriate mark sheet. Where agreement cannot be reached on the marks to be awarded the teachers may lodge an appeal on behalf of those candidates whose marks are being queried. If appeals are not notified to the moderator during the visit to the centre they cannot be considered by the Council at a later stage.

In those cases where appeals have been lodged, arrangements will be made by the Council for a second moderator to visit the centre and reassess the Practical Activities of the candidates concerned. This visit will normally take place approximately three weeks following the original visit and centres will be given adequate notice of the visit.

If agreement cannot be reached between the teacher(s) and the second moderator the mark(s) awarded by the second moderator will stand. Thereafter appeals cannot be considered for this component of the examination.

3.4 **Supplementary Training Materials**

Supplementary Training Materials in the form of advice on assessment and exemplar materials will be issued to all centres.

3.5 **Support Service and Advice**

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of the assessment of Practical Activities. The Council has made provision for Assistant Coursework Moderators to support groups of centres. Arrangements can be made to contact individual centres to discuss issues arising from the assessment of Practical Activities with the teachers concerned by the means of a visit if necessary.

RELIGIOUS STUDIES

Candidates in this examination will be assessed in the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 The GCSE Religious Studies syllabus has been constructed as far as is possible to meet the regulations for the GCSE examinations published by the School Curriculum and Assessment Authority (SCAA) and the Council's own code of examination practice.

1.2 This syllabus has been designed to reflect the distinctive character of the programme of study as set out in the Northern Ireland Core Curriculum Order including the statutory cross-curricular themes. It seeks to consolidate and extend the knowledge and skills developed at earlier Key Stages and to facilitate further study at a more advanced level.

1.3 The syllabus should be interpreted by reference as necessary to non-statutory guidance and suitable exemplar material both which will be issued by the Council.

1.4 The syllabus has been designed to be as free as possible from ethnic, gender, denominational, political or other form of bias.

1.5 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

2 RATIONALE

2.1 The syllabus is designed to support good practice in teaching and learning through effective assessment procedures which will allow students to demonstrate what they know, understand and can do and will enable them to study Christian beliefs and practices.

2.2 This syllabus is designed to:

- help students to recognise and appreciate the religious and spiritual dimensions of life through research and questioning;
- help students to understand how Christians see their religion as a "realm of meaning" which seeks to express the significance of human life;
- challenge students to examine their own life stances, as they identify the values and attitudes which influence them;
- encourage students to respect the beliefs, values and attitudes of others.

3 AIMS

3.1 The statement of aims set out below describes the educational purposes of following a course in Religious Studies; not all aims can necessarily be translated into assessment objectives.

3.2 A course in Religious Studies should give a sense of achievement and enable students to:

3.2.1 stimulate an interest in and enthusiasm for the study of religion;

3.2.2 develop a knowledge and understanding of at least one living religion;

3.2.3 identify and promote exploration of, and reflection upon, questions about the meaning and purpose of life;

3.2.4 consider religious and, where appropriate, other responses to moral issues;

3.2.5 develop skills relevant to the study of religion;

3.2.6 develop contexts within their work to explore and reflect on the content and issues of the cross-curricular themes as appropriate.

3.3 The cross-curricular themes will not be formally assessed and therefore it is not envisaged that formal evidence of engagement will be required in the coursework or terminal examination.

4 ASSESSMENT OBJECTIVES

4.1 The assessment objectives set out in paragraph 4.3 are consistent with the programme of study of the Northern Ireland Core Curriculum Order. They refer both to the range of experiences which students encounter and to the quality of their achievements.

4.2 The assessment objectives listed below are clearly interdependent and interrelated. Whilst all must be assessed it is not intended that each objective will always be tested in isolation. The weighting for each assessment objective is in brackets.

4.3 Students must demonstrate:

4.3.1 knowledge and understanding of the key elements of the religion concerned: including beliefs, practices, sources of authority and organisation (40%);

4.3.2 knowledge and understanding of the effect of religion on individual or corporate moral behaviour, attitudes, social practices and lifestyles (35%);

4.3.3 the ability to analyse and evaluate religious issues, draw conclusions and to use evidence and argument to support points of view (25%).

4.4 Students must therefore be provided with opportunities to explore religious teaching, its origins and implications, and to develop the competence and confidence to comment with perception and insight.

5 SYLLABUS CONTENT

5.1 ***While the content of the syllabus has been sectionalised for the purpose of presentation and examination, teachers are advised to develop a coherent course which integrates the elements within each section and relates one section to another.***

5.2 **Section A: The Challenge of Jesus (35%)**

This section of the course will constitute 35% of the course and will form Section A of Paper 1 of the terminal examination. Students should develop an understanding of the challenge to believers of Jesus' teaching and ministry and help them to explore the central issue of Jesus' identity.

5.2.1 ***Palestine at the time of Jesus***

Teachers should provide opportunities for pupils to explore:

- the historical and geographical context
- the political background
- the social and religious context to Jewish life in Palestine

5.2.2 ***The identity of Jesus***

Teachers should provide opportunities for students to investigate the identity of Jesus through key events:

- his birth
- his baptism
- the transfiguration
- the events in Gethsemane
- his crucifixion death and resurrection
- study of the following 3 titles used of Jesus, *Messiah, Son of Man, Saviour;*
- ***Prescribed texts:***

Matthew 1: 18–24	Luke 1: 26–52
Matthew 2: 1–23,	Matthew 3: 1–17
Matthew 4: 1–11	Matthew 8: 23–27
Matthew 9: 1–8	Matthew 9: 9–13
Matthew 9: 27–34	Matthew 13: 53–58
Matthew 14: 22–33	Matthew 15: 21–28
Matthew 16: 13–20	Matthew 17: 1–9
Matthew 21: 1–45	

5.2.3 ***The teachings of Jesus***

Teachers should provide opportunities for students to explore some of Jesus' teaching about central issues and their implications for living today:

- discipleship
- prayer
- forgiveness
- wealth and poverty
- humility and ambition
- life after death
- the new covenant
- ***Prescribed texts:***

Matthew 5: 13–16	Matthew 5: 21–48
Matthew 6: 1–4	Matthew 6: 5–15
Matthew 7: 24–29	Matthew 13: 1–23
Matthew 18: 1–6	Matthew 18: 15–20
Matthew 18: 21–35	Matthew 19: 16–30
Matthew 22: 23–33	Matthew 25: 31–46
Matthew 26: 17–30	Luke 15: 11–32

5.2.4 ***His deeds***

Teachers should provide opportunities for students to explore the relevance of and implications for living to-day of Jesus' treatment of:

- religious leaders
- women
- the poor
- sinners
- social outcasts
- foreigners
- ***Prescribed texts:***

Luke 4: 38–40	Luke 5: 12–14
Luke 7: 1–10	Luke 7: 36–50
Luke 8: 40–56	Luke 10: 25–37
Luke 13: 10–17	Luke 14: 1–34
Luke 17: 11–19	Luke 18: 35–43
Luke 19: 1–10	Luke 20: 1–8
Luke 20: 9–19	Luke 21: 1–4

5.2.5 ***His death, resurrection and ascension***

Teachers should provide opportunities for students to appreciate the narrative of Jesus' passion, resurrection and ascension highlighting the following:

- Jesus' arrest and trials
- events during the crucifixion
- Jesus' death on the cross
- the resurrection narrative
- Jesus' ascension
- commission to the disciples
- his promise to return
- ***Prescribed texts:***

Matthew 24: 1–14	Matthew 26: 31–75
Matthew 27: 1–66	Matthew 28: 1–20
Acts 1: 1–11	Luke 24: 13–35

While not prescribing any particular edition of the New Testament, the Examination Team, in setting questions, will use the *Good News* edition when quoting biblical texts.

5.3 **Section B: The Christian Church explored through contrasting denominations (30%)**

This section will constitute 30% of the course and will be examined in Section B of Paper 1 of the terminal examination. Students should develop a knowledge, understanding and appreciation of Christianity, its worship, prayer and religious language; a growing awareness of the meaning of belonging to a Christian denomination, and sensitivity towards the beliefs of others.

5.4 **Each of the areas identified in 5.5.1 below should be explored from two such Christian denominations. Different areas may be explored through different Christian denominations, eg Presbyterianism and Roman Catholicism.** Particular attention should be paid to paragraphs 5.5.2, 5.5.3 and 5.5.4.

5.5 Students should have opportunities to investigate:

5.5.1 the symbolism and significance of key events in the Church Calendar: Advent, Christmas, The Epiphany, Lent, Holy Week, Easter Sunday, Ascension Day, Pentecost, Harvest and feast and saints' days;

5.5.2 the symbolism and significance of church buildings, the architecture, and the furnishings including: baptistry/font, ambo/lectern/pulpit, communion table/altar (other furnishings could be considered as appropriate);

5.5.3 the styles of worship and participation in Sunday Services; the order of service, the use of scripture, prayer and forms of praise;

5.5.4 the symbolism and significance of the following sacraments, ordinances and practices: Baptism, Eucharist or Communion, and Confirmation;

5.5.5 the role and importance of the key personnel, eg Deacon/Deaconess, Eucharistic Minister, Elder, Minister, Pastor, Priest, Reader;

5.5.6 the local organisation of the churches, eg parish, congregation, local assembly;

5.5.7 inter-denominational contacts: initiatives which develop understanding and contact between Christian Churches.

5.6 **Section C: Christian Morality (35%)**

This section should constitute 35% of the total course and will be examined in Section C of Paper 2. Students should develop their ability to think and judge about morality, to relate Christian moral principles and attitudes, **based on biblical and church teaching**, to personal and social life, and to identify values and attitudes that influence behaviour.

5.7 Students should be provided with opportunities to investigate and explore the following areas from a moral perspective. **They should also consider the plurality of Christian viewpoints on certain issues.**

5.7.1 ***Friendship, Sexuality and Responsibility***

- qualities of friendship
- different kinds of love
- boy-girl relationships
- appreciation of sexuality
- Christian attitudes to sexuality
  - pre-marital sex
  - chastity
  - single life

5.7.2 ***Marriage***

- Christian teaching on marriage
- preparation for marriage
- the wedding ceremony
- issues arising from inter-denominational marriages
- marital breakdown

5.7.3 ***Parenting***

- responsible parenthood and family planning
- adoption and fostering
- reflecting Christian values in the home
- single parents

5.7.4 ***Caring and Respect for Life***

- care of the elderly and the sick
- care of marginalised people
- abortion and euthanasia
- drug addiction

5.7.5 ***Social responsibilities***

- work as a vocation
- rights and responsibilities of the employer and the employee
- effects of unemployment on the individual, the family and the community
- the value of leisure

6 SCHEME OF ASSESSMENT

6.1 The scheme of assessment is designed to enable students to demonstrate the levels of attainment they have achieved by combining evidence from the coursework component with that produced by the terminal examination as set out below.

Assessment Component	Weighting
Terminal Examination	**80%**
Paper 1 (2 hours)	
Section A: The Challenge of Jesus	28%
Section B: Christianity explored through two contrasting traditions	24%
Paper 2 (1 hour)	
Section C: Christian Morality	28%
Coursework	**20%**
Two assignments based on two of the three sections of the course. • The Challenge of Jesus • Christianity explored through two contrasting traditions • Christian Morality	2 × 10%

6.2 The weightings for each component their distribution between coursework and terminal examination are set out below.

Assessment Objective	Coursework	Terminal Examination	Weighting
4.3.1	8%	32%	40%
4.3.2	7%	28%	35%
4.3.3	5%	20%	25%
Overall Weighting	20%	80%	100%

7 DIFFERENTIATION

Differentiation will be achieved by task and by outcome in the coursework and practical activities and by the use of tiered papers in the terminal examination.

8 TERMINAL EXAMINATIONS

8.1 Two tiers of examination covering distinct but overlapping grades will be offered.

Tier S Grades C–G

Tier T Grades A*–E

8.2 ***Candidates cannot be entered for both tiers of the examination.***

8.3 Each tier of the terminal examination will comprise two papers. Each section of the paper will consist of a range of question formats suited to the tier. Question formats used will be short-answer questions, stimulus questions, structured paragraph and essay questions. All three assessment objectives will be tested in each section of each paper.

8.4 While the examination has been divided into discrete sections, candidates in any section may draw upon their knowledge and understanding of other sections when making their responses to questions e.g. candidates could use biblical teaching and text to support a point of view expressed in the paper examining Christian Morality.

8.5 **Paper 1 (2 hrs) (52%)**

Section A: The Challenge of Jesus

This section will examine the areas of the course outlined in paragraphs 5.2.1 to 5.2.5. It will consist of

- 5–10 short-answer questions
- a compulsory text-based question
- a choice of one from two structured questions
- a choice of one from two structured essay questions

Section B: Christianity explored through two contrasting traditions

This section will examine the content of the course set out in paragraphs 5.3 to 5.5.7. It will consist of

- two structured questions
- a choice of one from two structured essay questions

Paper 2 (1 hr) (28%)

Section C: Christian Morality

This section will examine the areas of the course set out in paragraphs 5.6 to 5.7.5. It will consist of

- two structured questions
- a choice of one from two structured essay questions

8.6 Candidates will be provided with an examination booklet which will contain all the stimulus material and the basic diagrams which may be necessary to respond to the questions set.

8.7 In setting questions in the above papers the term "Christian" will be used in its widest sense and will not carry any denominational connotation.

9 COURSEWORK COMPONENT

9.1 All work which is internally set and assessed by the teacher is classified as coursework. Candidates will be expected to complete two assignments based on two of the three sections of the course:

- *The Challenge of Jesus*
- *Christianity explored through two contrasting traditions*
- *Christian Morality*

9.3 Students should be given the opportunity to explore and study independently and in some depth, topics about which they have an interest. The framework for coursework assignments is set out in the *Coursework Memorandum.*

10 MODERATION

The work of candidates in each centre should be internally standardised and will be moderated according to the procedures set down by the Council and outlined in the *Coursework Memorandum.*

11 GRADE DESCRIPTIONS

11.1 The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall; weaknesses in one aspect might be balanced by strengths in another.

11.2 **Grade A**

Candidates should be able to demonstrate:

- thorough, accurate and detailed knowledge and in depth understanding of the syllabus content;
- accurate and appropriate use of specialist terms;
- sensitivity in handling and exploring concepts related to religious beliefs and values;
- informed insight into a wide range of issues related to the syllabus content;
- the ability to formulate reasoned arguments based on rigorous analysis and evaluation and well supported by a range of relevant evidence with detailed reference to the material studied.

11.3 **Grade C**

Candidates should be able to demonstrate:

- a wide knowledge of the syllabus content;
- understanding of some of the uses of language in religion, including basic concepts and terminology;
- the ability to explain principal beliefs clearly and to trace a relationship between belief and practice;
- a clear understanding of religious issues in relation to syllabus content;
- the ability to recognise the significance of an issue raised and to express clearly a personal viewpoint supported by some use of evidence and argument;

11.4 **Grade F**

Candidates should be able to demonstrate:

- a limited knowledge of syllabus content;
- recognition of some of the terms used in religious studies;
- the ability to state a principal religious belief in their own words;
- the ability to recognise a moral issue and relate it to an appropriate religious belief;
- the ability to express clearly a personal opinion directly related to an issue raised and offer an argument in support of it.

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The term coursework refers to the range of activities and tasks arising from the programmes of study which are undertaken by the student and assessed by the teacher during the course. These activities should be embedded in classroom practice and arise naturally from a planned process of teaching and learning.

1.2 The syllabus, through the coursework component, seeks to support good practice and to encourage creative approaches to the delivery and assessment of Religious Studies.

1.3 For the purposes of standardisation, however, the Council requires certain procedures to be followed in the assessment of processes and activities which contribute a qualification in Religious Studies.

2 TASK SETTING

2.1 The purpose of coursework is to provide students with the opportunity to:

- engage in the sustained exploration of religious topics arising from within the course;
- negotiate tasks, set goals and develop independence in their studies;
- participate actively in the assessment process;
- show evidence of original research which reflects their own particular choices and interests in religious issues;
- present considered and developed personal responses to religious issues or problems which they have encountered;
- develop skills and competencies in processes which will contribute to their preparation for the terminal examination.

2.2 Coursework allows teacher and students to negotiate tasks which match the rubric of the syllabus and ensure that the work undertaken has a clear focus and that the enthusiasm of the student is creatively and productively directed. It is therefore essential that students have:

- a clear understanding of the nature of the task;
- the criteria by which it will be assessed;
- the opportunity to assess their own work;
- the opportunity to discuss the ongoing work with the teacher;
- the opportunity to engage in a collaborative learning process.

2.3 **When negotiating assignment titles, teachers should ensure that from the outset the students have selected enabling tasks which allow all three assessment objectives to be met.** The topic or individual or organisation chosen for study should be associated with or personify an aspect of Christian teaching (Contrasting viewpoints of different churches could be explored.): teaching which effects the life of an individual or society as a whole.

2.4 The student should identify and explore:

- the topic itself or the individual or organisation being studied;
- the Christian teaching associated with this topic or individual or organisation;
- the source and basis for this teaching;
- the religious issues arising from the topic and their implications for the individual and society.

To achieve the top marks the student would also be required to:

- analyse and evaluate the issues arising from his or her work;
- consider alternative interpretations and approaches;
- draw personal conclusions supported by argument and referenced to sources or texts.

2.5 It is therefore essential that a title or topic is structured in such a way that the three key aspects of the assessment objectives Knowledge, Understanding and Evaluation are all demonstrated. The example below indicates one way an assignment might be structured and the issues which could be covered.

Title: Euthanasia - a matter of life and death
What is euthanasia?
What is the Christian attitude to euthanasia?
On what is this teaching based?
What are the alternatives to euthanasia?
Why is it sometimes so difficult to accept Christian teaching when people are suffering or are terminally ill?
What are your views on euthanasia?
What reasons can you give to support your arguments?

2.6 The above example would ensure that all the assessment objectives are met and the student has had the opportunity to explore and develop his or her thinking on this issue and to consider and research alternative approaches, eg the work of the hospices.

2.7 While the length of individual assignments may vary according to depth and treatment, the total number of words for both assignments should not exceed 1500 words.

2.8 Teachers should ensure that the topics chosen for the two assignments are selected from two different sections of the three sections within the syllabus. The sections are:

- *The Challenge of Jesus;*
- *Christianity explored through two contrasting traditions;*
- *Christian Morality.*

3 TEACHER ASSESSMENT

3.1 Each formally assessed task should be awarded a mark out of 25 using the criteria provided in *Appendix A*. The mark should reflect the teacher's overall judgement of the student's achievement and should

allow for compensation between strengths and weaknesses in the performance of the task. The impression mark will recognise that the individual appropriateness of each criterion in each mark band will vary from task to task.

3.2 For summative purposes an overall mark for coursework will then be awarded. This mark should be an aggregate of the two marks awarded and reflect the achievement of the student and the considered judgement of the teacher.

3.3 Where there is more than one teaching group in a centre then the assessment of all teachers should be internally standardised. (See paragraph 5.5.)

4 AUTHENTICATION

4.1 At least one of the two assignments to be submitted should be completed in class.

4.2 Teachers and student should discuss the drafts of coursework assignments and the teacher may advise the students of strengths and weaknesses in their work but should not at this stage correct work in detail. Once the work has been presented as completed, the teacher should assess the work using the criteria set out in *Appendix A* and determine a mark. The work must now be regarded as completed and not be returned to the student for further development.

4.3 The candidate will authenticate his or her own work on the *Candidate Record Sheet* and the teacher will authenticate the work of the teaching group as a whole on the *Teacher's Coursework Record.*

4.4 Written coursework submitted to the Council should include the teacher's comments, annotations and a mark for each assignment formally assessed.

5. MODERATION

5.1 Standardisation will be achieved by means of supplementary training materials, agreement trials and internal standardisation carried out by the centres and sampling of the work by moderators appointed by the Council.

5.2 Agreement trials are conducted annually usually in the spring term when teachers will be briefed on the application of the assessment criteria and engage in trial marking.

5.3 Supplementary training materials in the form of advice on assessment and illustrative materials will be issued to all centres.

5.4 **Support Service and Advice**

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of the coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising out of the Coursework Component with the teachers concerned by means of a visit if necessary.

5.5 **Internal Standardisation**

Where there is more than one teaching group in the subject, centres must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as is possible, that each teacher in a department has applied the criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marking of individual teachers to bring their assessments into line with those of other teachers and to match the standards set at the Agreement Trial. Where such adjustment is necessary the final mark recorded on the Candidate's Record Sheet will be adjusted.

5.6 **External Moderation of Written Evidence**

External moderation of coursework will be carried out according to procedures set down by the Council.

APPENDIX A
CRITERIA FOR ASSESSMENT

A.1 Depending on the task set, pupils will demonstrate achievement in some of the criteria listed below. Other criteria may not be appropriate or pertain to the assessment of certain tasks and teachers are asked to use their professional judgement to select and apply the criteria appropriately and fairly to the work of students. **Compensation between higher achievement in one aspect of a task and lower achievement in another is permissible and encouraged.**

A.2 Teachers should first attempt to make broad judgements. A piece of work to be assessed against the criteria may fall into a range of marks, eg Band D: 16–20 marks. This initial judgement should then be further refined

A.3 If the criteria have only just been fulfilled in a minimum fashion, then the work is probably worth 16–17 marks. On the other hand if the piece demonstrates fulfilment of most of the criteria in a reasonably competent manner then the work is probably worth 18–19 marks. Where the criteria are very competently fulfilled and some evidence of achievement of the higher mark band is apparent then the work may be judged to be worth 20–21 marks. **The presence or absence of certain criteria will form the basis for the teachers formative comments.**

Band A 0–5 marks

Candidate has demonstrated the ability to:

- identify in simple terms the topic for exploration
- understand and convey simple facts, ideas and opinions
- select some information in response to structure set out for the topic
- recognise and express some implications of religious belief for an individual or society

Band B 6–10 marks

Candidate has demonstrated the ability to:

- identify the topic for exploration
- understand order and present a range of facts, ideas and opinions
- recognise and express the implications of religious belief and practice for an individual or society
- select and evaluate a limited range of relevant information
- attempt to reflect on issues identified

Band C 11–15 marks

Candidate has demonstrated the ability to:

- identify clearly the topic for exploration and some of the associated religious issues
- understand, order and present a range of facts, ideas and opinions in a logical manner
- understand and convey information and use it to develop personal ideas and argument
- recognise and express clearly the implications of religious belief and practice for an individual or society
- select and evaluate relevant and related material
- attempt to express a personal point of view and to support it with argument and/or reference to texts or sources

Band D 16–20 marks

Candidate has demonstrated the ability to:

- identify clearly the topic for exploration and the important religious issues associated with it
- understand, order and present complex facts, ideas and opinions in a logical and coherent manner
- understand and convey a breadth of factual information and use it to develop personal ideas and arguments
- recognise and express possible responses to religious belief and practice
- select and evaluate points which are implicit in the topic explored
- express a personal point of view or conclusion supported by reasoned argument and/or reference to texts or sources

Band E 21–25 marks

Candidate has demonstrated the ability to:

- identify clearly the topic for exploration and the important religious issues associated with it
- recognise and express implicit meanings and attitudes
- understand, convey and synthesise a range of information, facts and opinions in support of personal conclusion
- recognise and express coherently some of the possible responses to religious belief and practice
- select and evaluate, relevantly and coherently, from a range of information
- express logically a personal conclusion or conclusions based on reasoned argument and supported by reference to texts or sources.

SCIENCE: BIOLOGY

To accord with the regulations laid down by the Department of Education for Northern Ireland (DENI), students who have not yet completed Key Stage 4 of the Northern Ireland Curriculum must be entered for all three of the separate examinations in Biology, Chemistry and Physics in the same series of examinations. The Department's regulation is in keeping with a similar regulation which applies to the separate sciences in England and Wales.

This regulation does not apply to students who have completed Key Stage 4 or to mature students who are older than the compulsory school leaving age.

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 The syllabus supports the view that Science should foster interest, enthusiasm, understanding and critical evaluation through exploration and investigation. The syllabus also allows opportunity to develop communication skills and the ability to discuss the environmental, technological and social aspects of Science.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for GCSE Biology. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4 Science.

1.3 A course based on this syllabus will help to facilitate the further study of Biology at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

1.6 The content of the syllabus is as follows:

1 Living Organisms and Life Processes
2 Environment
3 Variation
4 Microbiology.

1.7 Practical skills will be assessed through the internal assessment of coursework and questions in the theory papers.

1.8 The syllabus complies with the Statement on Dissection and Related Issues issued by the GCE Examining Boards in association with the School Curriculum and Assessment Authority. Accordingly the syllabus does not require candidates to undertake dissection of whole animals. However, it does include study of anatomy and functioning of the mammalian body and it is for the teacher to decide whether the work should include demonstration of a dissected animal or whether pupils should be given the opportunity to investigate directly the structure of, say, a heart or an eye. A copy of the aforementioned statement is available on request from the Council.

1.9 Syllabus content for the Foundation Tier is set out in normal type.

Syllabus text content dealing with Higher Tier only is set out in bold italics.

1.10 The nature of Attainment Target 1 is such that it pervades the Science curriculum, and it is considered appropriate to have it assessed, for the major part, as part of teacher-assessed coursework.

2 AIMS

The aims set out below describe the educational purposes of following a course in GCSE Science: Biology. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

The aims of the syllabus are to:

2.1 provide through the exploration and study of science a coherent educational experience for all candidates which enables them to acquire sufficient understanding and knowledge to:

2.1.1 become confident citizens in a technological world, able to take or develop an informed interest in matters of scientific import;

2.1.2 recognise the usefulness and limitations of scientific methods and appreciate their applicability in other disciplines and in everyday life;

2.1.3 be encouraged to pursue and be suitably prepared for further studies in science.

2.2 Develop abilities and skills that:

2.2.1 are relevant to the study, practice and application of science;

2.2.2 are useful in everyday life;

2.2.3 encourage safe practice.

2.3 Stimulate:

2.3.1 curiosity, interest and enjoyment in science and its methods of enquiry;

2.3.2 interest in, and care for, the environment.

2.4 Promote an awareness that:

2.4.1 the study and practice of science are co-operative and cumulative activities and are subject to social, economic, technological, ethical and cultural influences and limitations;

2.4.2 the applications of science may be both beneficial and detrimental to the individual, the community and the environment.

2.4.3 the concepts of science are of a developing and sometimes transient nature.

2.5 In addition to these aims the following are specific to Science: Biology:

2.5.1 to develop an interest in, and enjoyment of, the study of living organisms;

2.5.2 to promote respect for all forms of life.

3 ASSESSMENT OBJECTIVES

The assessment objectives indicate the skills and abilities which need to be assessed.

Candidates will be assessed on their ability to:

3.1 develop the intellectual and practical skills that allow them to explore biology and to develop a fuller understanding of scientific phenomena and the procedures of scientific exploration and investigation. This work should take place in the context of practical activities that require a progressively more systematic and quantified approach and which draw upon an increasing knowledge and understanding of science. The knowledge, skills and understanding specified by the syllabus should be used to enable candidates to demonstrate within a complete practical investigation the ability to:

3.1.1 carry out experimental and investigative work in which they plan procedures, use precise and systematic ways of making measurements and observations, analyse and evaluate evidence, and relate this to scientific knowledge and understanding.

3.1.2 recall, understand, use and apply the scientific knowledge set out in the syllabus;

3.1.3 communicate scientific observations, ideas and arguments using a range of scientific and technical vocabulary and appropriate scientific and mathematical conventions;

3.1.4 evaluate relevant scientific information and make informed judgements from it.

The relationship between aims and assessment objectives is illustrated in Table 3.1.4.

Table 3.1.4

	Aims					Assessment Objectives
Experimental skills and abilities	2.1 (1,2,3)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1)	2.5 (1,2)	3.1.1
Knowledge with understanding	2.1 (1,2,3)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1,2,3)	2.5 (1,2)	3.1.2–3.1.4

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment consists of coursework assessment and a terminal examination. Differentiation will be achieved by having the written papers targeted at different levels of ability.

4.2 Two tiers of entry are available, giving access to different grades as follows:

Tier	Grades covered
Foundation	C–G
Higher	A*–D(E)

Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade D but who demonstrate the qualities associated with a grade E performance.

Candidates enter for one tier only. Questions set on the Foundation Tier will be confined to syllabus content at that level only. Questions set in the Higher Tier will sample the whole syllabus.

4.3 Candidates will take two terminal papers, for each tier of entry.

The duration, type and number of questions in each paper is shown in Table 4.3.

Table 4.3

Foundation Tier	Paper 1 (1 hour)	short answer questions of roughly equal marks.
	Paper 2 (1½ hours)	5 or 6 compulsory structured questions of roughly equal marks. This paper will be more searching, placing emphasis on application, analysis and evaluation.
Higher Tier	Paper 1 (1½ hours)	short answer questions of roughly equal marks.
	Paper 2 (2 hours)	7 or 8 compulsory structured questions of roughly equal marks. This paper will be more searching, placing emphasis on application, analysis and evaluation.

4.4 The weighting of each written paper and coursework is shown in Table 4.4.

Table 4.4

	Foundation	Higher
Paper 1	30%	32%
Paper 2	45%	43%
Coursework	25%	25%

Approximately 50% of the marks in Higher Tier papers will come from the foundation level.

4.5 A model for assessment of coursework with the various categories weighted approximately is given below.

Assessment Category	Weighting
A Planning experimental procedures	7%
B Obtaining evidence	7%
C Interpreting and evaluating	11%

4.6 The relationship between assessment objectives and assessment components are shown in Table 4.6.

Table 4.6

Component	Assessment Objectives				Total
	3.1.1	3.1.2	3.1.3	3.1.4	
Terminal Papers	–	60%	7.5%	7.5%	75%
Coursework	25%	–	–	–	25%
Total	25%	60%	7.5%	7.5%	100%

Of the total assessment available for the written papers (75%), syllabus section 1: Living Organisms and Life Processes will attract 40%, and syllabus sections 2, 3 and 4, Environment, Variation and Microbiology will attract the remaining 35%.

At least 15% of the total marks will be for questions relating to the personal, social, economic and technological application of biology in modern society, with the greater emphasis being given to technological considerations. These questions will be set in such a way that they can only be answered from candidates' knowledge and understanding of the biology content detailed in the subject content of the syllabus.

All written papers may contain parts of questions on practical aspects of biology which students are likely to have covered during the course.

5 CERTIFICATION

GCSE certificates will only be awarded for achievement at Grades A*–G.

6 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus. They are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates devise fair tests in contexts which involve only a few factors; record observations and measurements in tables and graphs; offer simple explanations consistent with the evidence obtained.

Candidates use simple apparatus to make measurements appropriate to the task.

Candidates recall a limited range of information, for example, they state the main functions of organs of the human body and flowering plants.

Candidates use and apply knowledge and understanding in some specific everyday contexts, for example, they describe how a reduction in the population of one organism in a habitat can affect another organism.

Candidates obtain information from simple tables, charts and graphs and identify simple patterns in information and observations.

Candidates link cause and effect in simple contexts; make some use of scientific and technical vocabulary and make simple generalisations from information.

Grade C

Candidates use scientific knowledge and understanding to identify key factors to vary and control and where appropriate to make predictions; present data systematically, in graphs where appropriate, and use lines of best fit; draw conclusions consistent with their evidence and explain these using knowledge and understanding.

Candidates use a range of apparatus to make careful and precise measurements and systematic observations and recognise when it is necessary to repeat measurements and observations.

Candidates recall a range of scientific information from all areas of the syllabus, for example, they describe how some organ systems in living organisms carry out life processes.

Candidates use and apply scientific knowledge and understanding in some general context, for example, they describe how a cell is adapted to its functions.

Candidates use scientific knowledge and understanding to make inferences and identify and explain patterns within data; make predictions from patterns in data.

Candidates describe links between related phenomena in different contexts; use diagrams, charts and graphs to support arguments; use appropriate scientific and technical vocabulary in a range of contexts.

Grade A

Candidates use scientific knowledge and understanding to select an appropriate strategy for a task, identifying the key factors to be considered and making predictions where appropriate; they select a method of presenting data appropriate to the task; they use information from a range of sources where it is appropriate to do so; they identify and explain anomalous observations and measurements and the salient features of graphs; use scientific knowledge and understanding to draw conclusions from their evidence; identify shortcomings in the evidence.

Candidates decide the level of precision needed in measurements and use a range of apparatus with precision and skill; make appropriately precise measurements; make systematic observations in qualitative work; decide which observations are relevant to the task in hand.

Candidates recall a wide range of knowledge from all areas of the syllabus.

Candidates use detailed scientific knowledge and understanding in a range of applications relating to scientific systems or phenomena, for example, they explain how temperature or water content is regulated in humans.

Candidates use scientific knowledge and understanding to identify patterns and draw conclusions by combining data of more than one kind or from more than one source.

Candidates draw together and communicate knowledge from more than one area; use routinely scientific or mathematics conventions in support of arguments; use a wide range of scientific and technical vocabulary throughout their work.

7 UNITS AND BACKGROUND SKILLS AND ABILITIES IN MATHEMATICS

The units, conventions, nomenclature, symbols and notation used in the examination papers will be in accord with those given in *SI Units, Sign, Symbols and Abbreviations*, published by the Association for Science Education (1995). Candidates taking the GCSE Science: Biology examination will be expected to be familiar with the units and mathematical requirements appropriate to their selected tier of entry. Other units in common use may be included in the examination papers but candidates will not be required to convert between such units or from such units to SI units.

7.1 Units

(a) Base Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
length	metre	m
mass	kilogram	kg
time	second	s
temperature	kelvin	K

(b) Non-SI Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
energy	kilowatt hour	kWh
temperature	degree Celsius degree Centigrade	°C
volume	litre	l

(c) Derived Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
work, energy, heat	joule	J

(d) Prefixes for SI Units

Sub-multiple	Prefix	Symbol	Multiple	Prefix	Symbol
10^{-2}	centi	c	10^{3}	kilo	k
10^{-3}	milli	m	10^{6}	mega	M
10^{-6}	micro	μ			
10^{-9}	nano	n			

7.2 Mathematical Requirements

The mathematical skills required by candidates will be appropriate to the tier of entry and should include the following:

Topic	Tier	Further Details
Number	F	Whole numbers (odd, even, multiple, factor and square). Vulgar and decimal fractions and percentages. (Candidates will be required to calculate percentages.)
	H	Use of indices in representing very large and small numbers.
Approximation	F	Estimation; approximation to obtain reasonable answers; limits of accuracy appropriate to given data.
Computation	F	The four rules of number applied to whole numbers and decimal fractions.
Proportion and variation	H	Elementary ideas and notation of ratio. Scales. Elementary ideas and applications of direct proportion. Common measures of rate.
Measures	F	Measures of mass, length, area, volume and time.
Application	F	Use of tables and charts. Reading of clocks and dials.
Graphs	F	Cartesian co-ordinates. Drawing, interpretation and use of graphs in practical situations. Drawing graphs from given data, given axes and scales.
	H	Gradient – idea of. Select appropriate axes and scales for graphs.
Equations		Word equations only.
Statistics and probability	F	Collection, classification and tabulation of statistical data: construction and interpretation of bar charts, pie charts and pictograms. Measures of average and the purposes for which they are used. Construction and use of simple frequency distributions. Reading, interpreting and drawing simple inferences from tables and statistical diagrams.

8 BACKGROUND SKILLS AND ABILITIES IN ENGLISH

The English abilities required of candidates will be appropriate to their tier of entry.

Candidates should be able to:

- communicate formally, orally and in writing, matching content and style to audience and purpose with due regard to spelling, punctuation and grammar;

- interact with others in group discussion, explore ideas, discuss issues, listen to, take account of and increasingly evaluate other people's opinion and views;
- use source materials and contemporary topics as the basis for hypothesis, reasoning, debate and argument sorting out evidence and identifying bias;
- read and discuss some material which will challenge or extend them as readers;
- select information from texts with which they are working, and reorder and rework it for a specific purpose and audience;
- plan and draft written work through discussion, gathering and organising ideas, preparing outlines and developing an appropriate science vocabulary;
- in writing be aware of the need for match between form and purpose; forms to include descriptions, organised note-making, reports and essays.

9 REAGENTS

It will be assumed that candidates have a working knowledge of the practical use indicated for the following reagents.

9.1 Alkaline solutions (sodium or potassium hydroxide) and soda lime: absorption of CO_2.

9.2 Benedict's reagent: test for reducing sugar.

9.3 Biuret reagent: (sodium or potassium hydroxide solution plus dilute copper(II) sulphate solution): test for protein.

9.4 Cobalt chloride paper: test for water.

9.5 DCPIP solution: comparison of relative concentration of vitamin C in standard solution and fruit extract.

9.6 Hydrogencarbonate (Bicarbonate) indicator: detection of changes in CO_2 content.

9.7 Iodine solution: test for starch.

9.8 Indicator solutions and paper:

(a) Litmus for detecting pH change;

(b) Universal indicator for measuring pH.

9.9 Lime water: test for carbon dioxide.

9.10 Methylene blue: stain for plant and animal tissues.

10 PROHIBITED COMBINATIONS

Candidates presenting this subject are not permitted to take any of the following subjects in the same series of examinations:

Science: Double Award (Modular)

Science: Double Award (Non-Modular)

Science: Single Award (Modular)

Science: Single Award (Non-Modular).

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The scheme for coursework assessment is based on the programme of study for experimental and investigative science at key stage four. Candidates will be assessed on three skill areas:

- Planning experimental procedures
- Obtaining evidence
- Interpreting and evaluating.

1.2 The internal assessment of candidates' performance in the three skills should be made as part of normal class routine and should be an integral part of the scheme of work. It is not necessary to assess all students at the same time nor when carrying out the same experiment or investigation.

1.3 Internal assessment of coursework is subject to moderation by the Council.

1.4 It is left to teachers to decide whether or not individual students should be informed that a particular assessment is being made, although it would seem to be appropriate to inform them at the start of a course that internal assessment of practical coursework will be undertaken. Teachers may give feedback on the results of assessments to their students. In such cases students should be informed that marks are subject to moderation and hence are subject to change.

1.5 Notes for guidance and exemplar material are published separately from this memorandum.

2 SKILL AREAS

Students should develop the intellectual and practical skills that allow them to explore science and to develop a fuller understanding of scientific exploration and investigation. This work should take place in the context of activities that require a progressively more systematic and quantitative approach and which draw upon an increasing knowledge and understanding of science.

Skill Area P – Planning experimental procedures

This concerns the ability of candidates to formulate questions which can be tested, predict the outcome of a set of experimental procedures and devise investigations to test their ideas. It includes the ability to decide on what measurements to take, how to take them, and on how to consider factors which need to be taken into account in order to ensure that their investigation is valid.

Skill Area O – Obtaining evidence

This concerns the extent to which candidates can use apparatus and materials safely and effectively to make observations and measurements with increasing levels of discrimination and precision. It also involves the ability to record data in a systematic manner using an appropriate range of forms. At the higher levels candidates should be aware of sources of error and limits of accuracy.

Skill Area I – Interpreting and evaluating

This concerns the ability of candidates to recognise and explain patterns in data, to handle data in an increasingly quantitative manner and to draw valid conclusions from the results of their investigations. It also involves the ability to report their experimental work systematically and with clarity, using scientific language and notation as appropriate. At the higher levels candidates should be able to account for anomalous results evaluate their experiment or investigation and suggest improvements.

3 CONDUCT OF THE ASSESSMENT

3.1 Assessment must be carried out by the teacher in the context of experimental and investigative work which should arise naturally out of the normal teaching programme for a course.

Teachers should identify in advance which skill areas are to be assessed within the practical situation. The teacher must ensure that the work is that of the student(s) being assessed.

3.2 Assessment may take place in a variety of experimental situations, but at least one of the marks contributing to the final assessment must come from a whole investigation.

3.3 It is recognised that practical work is often carried out as a group activity. When assessments are being made during group activity the teacher will have to identify separately the contribution made by an individual student and care must be taken to ensure that a student does not always adopt a more or less dominant role.

3.4 Experimental and investigative work should be carried out across the full range of contexts provided by each area of the syllabus.

3.5 All practical work should be conducted in accordance with current regulations and recommendations relating to safety in the laboratory and in the field.

4 ARRIVAL AT SKILL AREA MARKS

4.1 **Mark descriptions** comprising a number of **statements** are provided in each skill area. Activities chosen for assessment should, wherever possible, provide opportunities for all the statements in a mark description to be addressed. It should be noted that some of the statements in a mark description contain a phrase as "where appropriate" and therefore may not apply to a particular activity.

4.2 Whenever assessments are made, the mark descriptions should be used to judge which mark **best fits** the candidate's performance. The statements should not be taken as discrete and literal hurdles, all of which must be fulfilled for a mark to be awarded.

4.3 The mark descriptions within a skill area are designed to be hierarchical. This means that, in general, a description at a particular mark subsumes those at

lower marks. It is assumed that activities which access higher marks will involve a more sophisticated approach and/or a more complex treatment. Adjacent descriptions should be considered when making judgements and use made of the **intermediate marks** (ie 3, 5 and 7) where performance exceeds one description and only partially satisfies the next.

4.4 A candidate who fails to meet the requirements for 2 marks, but who has made a creditworthy attempt in a skill area should be given 1 mark for that skill. Zero marks should only be awarded for a skill area in the unlikely event of a candidate failing to demonstrate any achievement in that skill.

The **professional judgement** of the teacher in making these judgements is important.

5 ARRIVAL AT THE FINAL MARK SUBMITTED

5.1 Centres are required to award each candidate a mark for each of the three Skill Areas. These marks should represent a candidate's best performance during the course.

5.2 However, to satisfy the Council's Criteria for Science, the following requirements must be met:

(a) The Skill Area marks must have been obtained from at least two pieces of work set in the context of the syllabus content.

(b) At least one of the Skill Area marks must have been obtained from a whole investigation carried out by the candidate, ie a piece of work which covers all three Skill Areas.

In consequence, the minimum evidence must be two pieces of work.

5.3 Care should be taken to avoid a situation where, in order to meet the requirements, a candidate's best performance is not reflected in the final marks awarded.

6 RECORDING ASSESSMENT

6.1 Teachers must keep a record of the assessment of the work of their students.

6.2 The Candidate's Record Sheet must be used to record the marks for the skill areas being assessed.

6.3 When submitting candidates' work, teachers must clearly indicate those activities/investigations which were used for assessment purposes. Assessed work must be clearly annotated to identify, as precisely as possible, where in the work the relevant criteria have been satisfied so that the reasons why marks have been awarded are clear. An indication must also be given at the appropriate point in the evidence, or in accompanying information, of any further guidance given by the teacher which has significant assessment implications.

7 ASSESSMENT CRITERIA

7.1 Descriptions of the performance required for the award of marks in each of the skill areas are set out overleaf. Criteria are specified for the award of 2, 4, 6 and 8 marks.

7.2 The assessment criteria must be interpreted in the context of the programme of study for key stage four.

Pupils should be encouraged to develop their experimental and investigative skills and their understanding of science through systematic experimentation and investigation. Work within Attainment Target 1 should be introduced through the knowledge and understanding covered within Attainment Targets 2, 3 and 4.

They should have opportunities to participate in increasingly complex activities which involve the application of scientific knowledge, understanding and skills.

While there should be opportunities throughout the key stage for pupils to undertake complete investigations, it will be appropriate in some cases to focus on particular aspects of the investigative process. On some occasions, the whole process of investigating an idea should be carried out by the pupils working on their own.

The skill areas to be assessed the relevant areas from the programme of study, and mark descriptions are given opposite.

Skill Area P: Planning experimental procedures

Programme of Study Requirements
Candidates should be taught to: (a) use their scientific knowledge and understanding to turn ideas into a form that can be investigated; (b) make predictions where appropriate to do so; (c) consider the factors which need to be taken into account in investigations; (d) draw up procedures for the investigation taking into account the observations or measurements which need to be made and how these are to be used; (e) select appropriate apparatus, instruments and techniques for the investigation, taking into account criteria, for example, the range and accuracy of the measurements and observations required, and the need for safe working procedures.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	P.2a	plan a simple safe procedure.	▼
4 marks	P.4a	plan a fair test or a practical procedure, making a prediction where appropriate.	
	P.4b	select appropriate equipment.	
6 marks	P.6a	use scientific knowledge and understanding to plan a procedure, to identify key factors to vary, control or take into account, and to make a prediction where appropriate.	
	P.6b	decide on a suitable number and range of observations or measurements to be made.	
8 marks	P.8a	use detailed scientific knowledge and understanding to plan an appropriate strategy taking into account the need to produce precise and reliable evidence and to justify a prediction where appropriate.	
	P.8b	include a strategy for dealing with results.	

Skill Area O: Obtaining evidence

Programme of Study Requirements
Candidates should be taught to:
(a) use apparatus and materials in a safe and competent manner;
(b) use apparatus and instruments to make observations and measurements to an appropriate degree of accuracy;
(c) understand the need, where appropriate, to repeat measurements;
(d) record observations or measurements systematically using methods appropriate to the information collected and to the purpose of the investigation.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	O.2a	use simple equipment safely to make some observations or measurements.	↓
4 marks	O.4a	make appropriate observations or measurements which are adequate for the activity.	
	O.4b	record the observations or measurements.	
6 marks	O.6a	make sufficient systematic and accurate observations or measurements and repeat them when appropriate.	
	O.6b	record clearly and accurately the observations or measurements.	
8 marks	O.8a	use equipment with precision and skill to obtain and record reliable evidence which involves an appropriate number and range of observations or measurements.	

Skill Area I: Interpreting and evaluating

Programme of Study Requirements
Candidates should be taught to:
(a) present results in ways appropriate to the data collected and the purpose of the investigation, including, where appropriate, the use of graphs;
(b) interpret and evaluate results using, where appropriate, mathematical relationships;
(c) identify any trends, patterns and conclusions emerging from consideration of the results;
(d) draw valid conclusions and decide whether these conclusions agree with the original idea;
(e) explain the conclusions in the light of their scientific knowledge and understanding;
(f) consider their observations and measurements, including anomalies and sources of error, and suggest, where appropriate, improvements that could be made if they were to repeat their investigation;
(g) produce a written report of their investigation, using appropriate scientific vocabulary.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	I.2a	explain simply what has been found out.	▼
4 marks	I.4a	present findings in the form of simple diagrams, charts or graphs.	
	I.4b	identify trends and patterns in observations or measurements.	
6 marks	I.6a	construct and use appropriate diagrams, charts, graphs (with lines of best fit), or use numerical methods, to process evidence for conclusions.	
	I.6b	draw conclusions consistent with their evidence and relate these to relevant scientific knowledge and understanding.	
	I.6c	comment on the suitability of the procedures and, where appropriate, suggest changes to improve the reliability of the evidence.	
8 marks	I.8a	use detailed scientific knowledge and understanding to explain valid conclusions drawn from processed evidence.	
	I.8b	explain how results support or undermine the original prediction when one has been made.	
	I.8c	comment on the reliability of the evidence, accounting for any anomalies or explain whether the evidence is sufficient to support a firm conclusion.	

8 MODERATION

8.1 Agreement Trials

Agreement Trials are conducted annually where teachers are briefed on the application of the assessment criteria and engage in trial marking.

8.2 Supplementary Training Materials

Supplementary training materials in the form of advice on assessment and exemplar materials are issued to all centres.

8.3 Support Service and Advice

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising from the coursework with the teachers concerned by means of a visit if necessary.

8.4 Internal Standardisation

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marks assigned by individual teachers to bring their assessments into line with those of the other teachers in the department and to match the standards promulgated at the Agreement Trial.

8.5 External Moderation

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, scrutinise samples of coursework drawn from each teaching group within a centre in accordance with instructions issued by the Council. The Assistant Coursework Moderators determine whether internal standardisation has been achieved within the centre, whether the assessments are consistent across the levels and whether an adjustment is necessary to bring the assessments into line with the standards agreed at the Agreement Trials. The recommendations of each Assistant Coursework Moderator are summarised and are reviewed by two other Assistant Coursework Moderators working independently. Any cases of disagreement are referred to the Coursework Moderator for resolution. Following the issue of results, all centres receive a statement of the adjustments made, if any.

INFORMATION TECHNOLOGY

Pupils should use, where appropriate, information technology to store, process, retrieve and present information. They should have opportunities to use databases and spreadsheets in their work and to use, where appropriate, sensors to monitor changes occurring during their practical work.

LIVING ORGANISMS AND LIFE PROCESSES

Syllabus content for the Foundation Tier is laid out in normal type.

Syllabus text content dealing with Higher Tier only is laid out in bold italics.

1 LIVING ORGANISMS AND LIFE PROCESSES

Life processes

Pupils should have opportunities to:

(a) extend their knowledge of the basic life processes of all living organisms, including:
- nutrition, respiration, movement, excretion, response to stimuli, growth and reproduction.

Organ systems

Plants

(b) learn the basic functions of the organs in a flowering plant, including:
- the root – to absorb water and mineral salts; anchorage;
- the stem – to support; transport of water and food in veins;
- the leaf – large surface area to absorb light energy for photosynthesis;
- the flower – to reproduce.

Animals

(c) learn the basic functions of the major organ systems of the body, including:
- digestive system – where large molecules are broken down to simple soluble molecules which are absorbed into and transported by the blood;
- respiratory system – for gas exchange (oxygen for carbon dioxide in the lungs);
- skeletal system – support, movement and protection;
- circulatory system – transport of materials, protection, and maintaining body temperature;
- excretory systems – removal of toxic waste products at the kidneys;
- reproductive system – sexual reproduction as a process involving gamete formation and fertilization;
- sexual reproduction as a process involving gamete formation and fertilization. Asexual reproduction as a process producing genetically identical offspring without fertilization;
- nervous system – the role of receptors, co-ordinators and effectors in bringing about a response.

Nutrition

Pupils should have the opportunity to:

Plants

(a) explain that photosynthesis takes place in the green parts of plants, including;
- the structure and shape of a mesophytic leaf in relation to gas exchange, light absorption and photosynthesis.

(b) find out that photosynthesis is a key process which is essential to life, including:
- converting and storing energy;
- that oxygen and starch are produced by photosynthesis;
- investigations which show that light, carbon dioxide, and chlorophyll are needed for photosynthesis to take place;
- ***the importance of the chloroplast as the site for photosynthesis;***
- the word equation for photosynthesis;
- that plants require specific minerals for healthy growth limited to, calcium – cell walls; magnesium-chlorophyll formation; nitrogen (nitrates) – amino acids and protein formation;
- ***factors affecting the rate of photosynthesis.***

(c) ***explain how the products of photosynthesis are used by a plant for respiration, storage and growth.***

(d) ***find out the economic implications in crop production of enhancing environmental factors, for example, carbon dioxide, light intensity, temperature and fertiliser application.***

Animals

Diet

(e) find out that food is an energy source, and to compare the energy content of different foods, including:
- the functions of food – energy, growth and protection;
- the principal elements present in carbohydrates, fats and proteins. The main dietary sources and functions of carbohydrates, fats, proteins and fibre. Simple sugars as units of more complex carbohydrates, (cellulose, glycogen, starch); fatty acids and glycerol as constituents of fats; amino acids as units of protein;
- vitamins: limited to sources of vitamins C and D and the effects of their deficiency in man;
- minerals: the sources and importance of the following elements with regard to the functions indicated. Calcium: bones and teeth. Iron: haemoglobin;
- water as a solvent, a transport medium, a component of cytoplasm and body fluids, and a participant in chemical reactions;
- the use of simple tests for each of the following: starch (iodine solution), simple sugars (Benedict's

reagent), proteins (Biuret test) and vitamin C (DCPIP test);

- the comparison of energy content of carbohydrates, fats and proteins in different foods;
- variation in energy required, with respect to age, gender, activity.

Healthy Diet

(f) learn about the diet required to maintain healthy bodies, including:

- a balanced diet;
- the relationship between health, diet and heart disease;
- the difference between malnutrition and starvation;
- dental care – structure of a tooth; the role of bacteria and sugar in tooth decay; care of teeth including the importance of fluoride.

Digestive System

(g) be introduced to the structure and functions of the component parts of the digestive system in humans, including:

- the basic structure and functions of the component parts of the human alimentary canal: buccal cavity, oesophagus, stomach, duodenum, ileum, colon, rectum, anus in relation to ingestion, digestion, absorption, assimilation and egestion where appropriate;
- peristalsis;
- the source and action of bile;
- the significance of a large surface area for absorption; length, folds and villi;
- the absorption of water in the colon;
- ***the role of the liver in the assimilation of glucose.***

(h) extend their knowledge of the digestive system to include the action of amylase, lipase and protease in saliva, gastric, pancreatic and intestinal juice (specific names of enzymes not required).

(i) ***understand the properties of enzymes, including:***

- ***the role of enzymes as biological catalysts in cellular activity involving both breaking down and building up of molecules, illustrated by reference to starch metabolism;***
- ***the effects of temperature and pH on enzyme action;***
- ***the principle of substrate specificity.***

(j) understand the basic principles of the parasitic mode of life, including:

- the Aphid as an ectoparasite (limited to mode of nutrition and methods of control);
- the liver fluke as an endoparasite. ***Adaptations of the adult fluke to the parasitic way of life limited to flattened leaf like body; suckers for attachment to host; absence of sense organs, limited means of locomotion. The life cycle as a method of asexual multiplication, (no details of larval stages required). The snail as a secondary host;***
- ***the economic significance of these parasites and anaerobic respiration.***

Respiration

Pupils should have opportunities to:

Cell Respiration

(a) understand how the cells use oxygen to provide energy for other life processes to take place, limited to the word equation for respiration.

Plants

(b) understand that plants respire, including:

- the exchange of oxygen and carbon dioxide through the stomata of the leaf of a plant during the day and during the night.

Animals

Respiratory System

(c) understand the structure and function of the component parts of the respiratory system, including:

- identification and function of the major organs of the respiratory system; nasal cavity, trachea, bronchus, bronchioles, lungs, alveolus, diaphragm, ribs, pleural membranes and intercostal muscles;
- mechanism of breathing (the roles of the intercostal muscles and diaphragm);
- investigate the composition of inhaled and exhaled air (gas analysis not required).

(d) understand that respiratory surfaces are adapted for their function in both plants and animals, including large surface area, thin, moist, permeable; the existence of a diffusion gradient.

(e) understand that respiration may be aerobic or anaerobic depending on the availability of oxygen, including:

- ***anaerobic respiration compared with aerobic respiration in terms of energy released and the product ethanol in yeast (word equation only required).***

Smoking and Health

(f) find out how cigarette smoke affects health, including:

- tar as a trigger for lung cancer and bronchitis;
- nicotine contributing to heart disease; irregular heart beat and increased blood clotting;
- carbon monoxide; displacement of oxygen in haemoglobin;
- passive smoking.

Transport

Pupils should have opportunities to:

(a) understand that substances pass into and out of cells in a number of ways, including:

- diffusion – as the means by which gases move in and out of cells;
- osmosis – as a special case of diffusion where water passes through a partially permeable membrane (details of osmotic, water and pressure potential are not required). The role of the cell wall in limiting entry of water into a plant cell;

- ***active uptake – a process involving the expenditure of energy and the transport of substances against a concentration gradient as exemplified by the absorption of ions by an epidermal cell of the root of a plant.***

Plants

(b) find out how substances are transported in plants, including:

- the main structural features of a stem, root and leaf in a herbaceous dicotyledon (No detail of cell structure required);
- water uptake by roots; xylem as the main pathway for water transport;
- phloem as the main pathway for translocation of substances synthesised by the plant.

(c) understand the role of water in plants; transport, support and ***transpiration,*** including:

- ***transpiration as the evaporation of water from the mesophyll and its diffusion through the stomata;***
- ***the potometer as a means of measuring water uptake;***
- ***factors affecting the rate of transpiration; temperature, humidity, air movements and surface area.***

Animals

Circulatory System

(d) be introduced to the structure and functions of the component parts of the circulatory system in humans, including:

- blood – composition and functions. Red blood cells – haemoglobin and oxygen transport; the effect of carbon monoxide. White blood cells – phagocytosis and antibody formation. Platelets – their role in the conversion of fibrinogen to fibrin. Plasma – as a transport medium;
- structure and function of the heart; double circulation;
- the structure and functions of arteries, veins and capillaries.

(e) extend their knowledge of the circulatory system in humans to include the names of the main blood vessels entering and leaving the heart (including the coronary system) and the main organs of the body, limited to the lungs, kidney, liver and intestine.

(f) ***understand the relationship between plasma, tissue fluid and lymph.***

(g) understand the defence mechanisms of the body, including:

- skin (detail of skin structure not required);
- blood – clotting; antibodies and antigens; active and passive immunity;
- mucous membranes in the respiratory system.

Heart Disease

(h) find out the relationship between diet, fitness and circulatory disorders, including:

- obesity and increased blood pressure;
- investigate the effects of exercise on heart rate;
- heart attack as reduced coronary circulation.

Reproduction

Pupils should have opportunities to:

Plants

(a) learn about the structure and functions of the component parts of the flower, limited to a named dicotyledonous plant, including:

- the flower – sepals, petals, nectaries, stamens, (anthers and filaments) and carpels (stigma, style, ovary), receptacle;
- self and cross-pollination;
- insects and wind as agents of pollination;
- ***growth of the pollen tube and its entry into the ovule followed by fertilization;***
- fruit and seed dispersal – wind, animals, water and explosive mechanisms;
- seed structure (radicle, plumule, cotyledon, testa, endosperm);
- seed germination (a hypogeal seed);
- investigate the conditions which affect germination (temperature, adequate water, oxygen supply);
- natural propagation illustrated by runners; artificial propagation illustrated by stem cuttings.

Animals

Reproductive System

(b) be introduced to the structure and functions of the component parts of the reproductive systems in humans, including:

- the male system – testes, scrotum, sperm ducts, prostate gland, urethra and penis;
- the female system – ovaries, oviducts, uterus, cervix, vagina and vulva;
- fertilization in the oviduct;
- development, by cell division, into a ball of cells which implants in the uterus lining;
- name the placenta, umbilical cord, amnion and amniotic fluid;
- birth limited to contraction of the uterus, dilation of the cervix and rupture of the amniotic membrane.

(c) ***extend their knowledge of the reproductive system to explain the role of the placenta, umbilical cord, amnion and amniotic fluid, including:***

- ***structure and function of the placenta and umbilical cord in relation to the exchange of dissolved nutrients, gases and excretory products.***

(d) find out about the requirements to maintain healthy bodies and healthy babies during pregnancy, including diet, Rubella, smoking, alcohol and drugs.

(e) learn about the needs of young children in the early stages of their development, including breast feeding, balanced diet, immunisation programme (specific details of vaccine and timetable not required), parental care and a loving environment.

Puberty

(f) learn about the physical and emotional changes which take place during adolescence, including:

- girls – growth spurt; body hair (armpits and pubic region); growth of breasts; menstruation;
- boys – growth spurt; body hair (armpits and pubic region); facial hair; voice deepening; growth of testes and penis;
- the events of the menstrual cycle (hormonal control not required).

(g) learn about the need for a responsible attitude to sexual behaviour, including:

- interpersonal relationships;
- prevention of sexually transmitted diseases – the cause, transmission, treatment and prevention of AIDS and gonorrhoea;
- contraception – natural, mechanical, chemical and surgical methods.

(h) ***explain some of the recent developments in the research into fertility problems:***

- ***in vitro fertilization;***
- ***embryo transplants;***
- ***fertility;***
- ***multiple births.***

Excretion

Pupils should have opportunities to:

Excretory System

(a) learn the structure and functions of the component parts of the excretory system in humans, including:

- excretion as the elimination of metabolic waste products and toxic materials taken in from the environment;
- an outline of the structure of the human urinary system to include: kidney, ureter, bladder, sphincter muscle, urethra, renal artery and vein;
- ***the breakdown of excess amino acids to urea in the liver;***
- ***removal of these toxic products of metabolism by ultrafiltration from the blood at the kidneys (no detail of nephron required);***
- ***the detoxification of alcohol by the liver.***

(b) learn that the kidney has a role in maintaining the internal environment (homeostasis) in humans limited to osmoregulation (no detail of nephron or ADH required).

(c) ***understand that dialysis is a life supporting mechanism, using an artificial method of filtration, in cases of kidney failure.***

Sensitivity and Response

Pupils should have opportunities to:

Plants

(a) understand the role of hormones in plants, including:

- phototropism as a growth movement in response to light;
- ***commercial use of hormones in weed control, stimulation of flowering, and fruit formation.***

Animals

Nervous System

(b) find out that behaviour can be explained in terms of receptors, co-ordinators and effectors, including:

- receptors – an outline of the structure and function of the human eye (sight defects and their correction not required). The principle functions of the component parts of the eye in producing a focused image on the retina under different light conditions. ***The functions of rods and cones.*** Eye protection (eyelids, tears and conjunctiva).

  Human skin with respect to sensitivity to touch, temperature and pain; temperature regulation (details of skin structure and receptors not required);
- co-ordinators – the simple function of the brain and spinal cord in co-ordinating responses. ***Voluntary and reflex actions; a reflex arc in terms of sensory, association and motor neurones;***
- effectors – the antagonistic action and function of muscles at a joint limited, to the elbow joint. The hinge joint at the elbow used to illustrate movement as a function of the human skeleton. The action of the biceps and triceps muscles. The structure and functioning of the joint in terms of fibrous capsule, synovial membrane, synovial fluid and articular cartilage;
- the function of tendons and ligaments.

(c) ***understand the function and role of hormones in co-ordination in humans, including:***

- ***insulin control of blood sugar levels; diabetes as a condition in which this mechanism breaks down;***
- ***adrenaline in preparation for flight or fight;***
- ***the role of testosterone and oestrogen in the development of secondary sexual characteristics;***
- ***the importance of feedback mechanisms in hormonal control exemplified by insulin.***

Drugs

(d) discuss the effects of alcohol, drug and solvent abuse on society, including:

- addiction;
- cost to society.

2 ENVIRONMENT

Candidates are expected to have collected and examined living specimens and to have done fieldwork in connection with this section.

Pupils should have opportunities to:

Habitat study

(a) find out by the study of a local habitat that physical factors affect the distribution and type of living organism found in a local habitat, including:

- changes in seasonal temperature;
- availability of light;
- availability of water.

Classification

For each type of adult organism listed, candidates should be able to give an example (using common name)and identify a specimen on the basis of the features listed.

(b) assign organisms to their major groups using keys and observable features, including:

Plants

- Algae as plants without roots, stems, leaves or vascular tissue exemplified by green filamentous and brown nonfilamentous algae;
- Bryophytes (mosses only): stem and leaves, without specialised vascular tissue, rhizoids, spore production;
- Pteridophytes (ferns only): roots, stems and leaves with specialised vascular tissue, spore production;
- Spermatophytes (angiosperms only): roots, stem and leaves with specialised vascular tissue, flower and seed production.

Animals

- Annelids: segmentation and chaetae;
- Arthropods (insects only): exoskeleton, three regions to body (head, thorax and abdomen), three pairs of jointed legs, two pairs of wings;
- Molluscs (snails and bivalves only); exoskeleton in the form of a shell;
- Chordates as animals with a backbone;
- Bony fish: gills, fins, scales, large number of eggs produced when there is external fertilization;
- Amphibians: lungs in adult, moist skin, external fertilization in water, many eggs;
- Reptiles: scales, internal fertilization, relatively small number of shelled eggs laid on land;
- Birds: feathers, wings, beak, internal fertilization, relatively small number of shelled eggs cared for by parent, constant body temperature;
- Mammals: mammary glands, hair, ear pinna, internal fertilization and development, parental care, constant body temperature.

Fungi

- a mould and a toadstool only: absence of chlorophyll, saprophytic nutrition, spore production.

Life cycles

(c) learn about the stages in the life cycle of some living organisms including a flowering plant, a butterfly and a frog.

Sampling

(d) know how to collect specimens and some sampling techniques in a habitat; including:

- quadrats, pooters, pit fall traps and nets.

Adaptation

(e) learn that living organisms are adapted to survive in the environment, for example, adaptations to life on land, and in water.

(f) understand the components of food chains and food webs, including:

- sun as a primary source of energy;
- producers;
- consumers (primary, secondary and tertiary);
- decomposers (the role of bacteria and fungi);
- nature of energy flow.

Cycles

(g) understand that materials are recycled to maintain the balance in the environment, including:

- carbon cycle: photosynthesis, respiration, combustion and fossilisation;
- ***nitrogen cycle – decay and decomposition of protein, nitrification, nitrogen fixation and denitrification (no specific names of bacteria required)***;
- ***fertilizers – natural (farmyard manure and compost) and artificial, as a means of replacing nitrogen in the soil.***

(h) ***explain the economic importance of recycling, including:***

- ***eg cost of artificial fertilisers related to use of farmyard manure and compost;***
- ***recycling of paper.***

(i) explain the role of microbes in sewage disposal and composting, including:

- earthworms as detritus feeders facilitating saprophytic decomposition by bacteria and fungi to form humus.

Pollution

(j) find out that human activity can damage the environment and affect the plants and animals living there, including:

- air – soot, sulphur dioxide, carbon monoxide and lead;
- water – sewage, silage effluent, eutrophication from cattle slurry and fertilizer run-off; effulent from water cooling processes;
- land – disposal of domestic refuse.

Conservation

(k) find out that Man may contribute to improving the environment for himself, and the plants and animals which live there, including:

- the problem of the destruction or alteration of habitats; deforestation; monoculture; competition from non-native species exemplified by Rhododendron;
- over-fishing exemplified by herring;
- conservation viewed as responsible management of the Earth's natural resources and redressing, where possible, past mistakes by Man;
- maintenance of variety in natural communities;
- careful use of herbicides and pesticides;
- preservation of rare/endangered species;
- ***deforestation; afforestation and reafforestation.***

(l) explain the meaning of the terms pyramid of numbers and pyramid of biomass.

(m) ***explain how materials for growth and energy are transferred through an ecosystem, including;***

- ***assigning organisms to their trophic level;***
- ***energy losses between trophic levels;***
- ***the advantages of short food chains in relation to the feeding of Man.***

(n) ***understand how food production involves the management of ecosystems to improve the efficiency of energy transfer; including:***

- ***the management of herring stock in the North Sea.***

(o) ***understand the basic scientific principles associated with major changes in the biosphere, which should be an international responsibility, including:***

- ***acid rain;***
- ***destruction of the ozone layer;***
- ***the green house effect.***

(p) understand how population growth and decline are related to environmental resources including the effects of birth rate, death rate, emigration, immigration, food supply, predation and diseases.

(q) understand the factors affecting human population size, including:

- the effects of food supply, medical care and sanitation;
- the control of human population size.

3 VARIATION

Pupils should have opportunities to:

The cell

(a) learn that plants and animals are composed of cells, including:

- use of the microscope and slide to study the structure and function of a typical plant and animal cell including nucleus, cytoplasm, cell membrane, nuclear membrane, cell wall, chloroplast, permanent vacuole and chromosomes;
- similarities: cytoplasm, nucleus and membranes as features common to most;
- differences: cell wall and large vacuole as distinguishing features of most plant cells.

Specialisation

(b) understand that cells become specialised to carry out different functions to include the root hair in plants; sperm cell, ***ciliated epithelium in animals.***

Levels of organisation

(c) understand that cells are the building units of tissues, organs, organ systems and organisms in a flowering plant and a mammal.

Genetics

(d) learn that genetic information is carried in the form of genes/alleles on chromosomes in the nucleus of cells; for example, eye colour and tongue rolling;

- ***genes as short lengths of DNA.***

(e) ***understand how genetic information is passed from cell to cell and generation to generation, including:***

- ***an outline of mitosis in terms of the exact duplication of chromosomes (names of phases not required);***
- ***meiosis as reduction division (diploid to haploid) and as a process which re-assorts the chromosomes (omitting crossing over and names of phases);***
- ***fertilization as a means of restoring the diploid number and combining different sets of chromosomes.***

(f) understand the principles of a simple monohybrid cross (co-dominance not required). Use of Punnett squares to determine genotype frequencies, including:

- distinctions between phenotype and genotype; heterozygous and homozygous; dominant and recessive alleles;
- ***use of backcross to determine genotype.***

(g) explain the way in which sex is determined in humans.

(h) know that some diseases can be inherited, limited to cystic fibrosis and Down syndrome (no details of symptoms required).

(i) ***understand that some diseases are sex linked, restricted to the inheritance of haemophilia and red/green colour blindness.***

(j) know that radiation can cause genetic mutation, including:

- the role of U-V light and skin cancer;
- other mutations as a change in the structure of a gene (illustrated by haemophilia) or in the number of chromosomes (illustrated by Down syndrome).

(k) ***understand how DNA controls protein synthesis (process of transcription and translation not required), limited to DNA as a double helix linked by base pairs and lengths of DNA which code for specific proteins, including:***

- ***the rules for base pairing (DNA only) during replication.***

(l) ***understand how human insulin can be obtained from genetically engineered bacteria.***

Selection

(m) find out that variation can be measured in living organisms including height as an example of continuous variation and tongue rolling as an example of discontinuous variation.

(n) know that variation in living organisms has both a genetic and environmental basis, eg height in humans.

(o) ***understand that sexual reproduction is a source of genetic variation, while asexual reproduction produces clones.***

(p) ***know that cloning results in genetically identical offspring, for example, cuttings and runners in asexual reproduction in plants; tissue culture (no detail of experimental technique required).***

(q) ***understand how variation and selection may lead to evolution or extinction, including:***

- ***natural selection as variation within phenotypes and competition for resources leading to differential survival;***
- ***the implications of natural selection for the concept of evolution as a continuing process.***

(r) ***understand the use of artificial selection in plant and animal breeding leading to increased yield, food value, hardiness and disease resistance.***

Growth

(s) know that organisms grow by cell division, cell enlargement and an increase in dry mass, including:

- measures of growth: increase in length, mass and cell numbers.

Cancer

(g) know that cancer is abnormal cell division, including;

- environmental triggers, carcinogens; smoking and lung cancer; U-V light; viruses;
- the meaning of the terms benign and malignant;
- the importance of early detection. Screening for breast, cervical and prostate cancer;
- treatments of cancer: surgery, radiotherapy, chemotherapy.

4 MICROBIOLOGY

Pupils should have opportunities to:

(a) learn about the beneficial and harmful roles of bacteria, viruses and fungi and their control limited to:

- bacteria – Salmonella food poisoning; gonorrhoea; tuberculosis;
- viruses – AIDS; Rubella;
- fungi – decomposition; fermentation;
- aseptic technique;
- beneficial.
  - (i) Recognise the role of micro-organisms in the manufacture of alcohol, bread and yoghurt.
  - (ii) Recall the key factors in the process of decay (temperature, microbes, compactness, moisture) and how this process is important in the re-use of biological material in everyday life, eg fungal action on bread; dead leaves into humus.
- harmful
  - (i) The cause, spread, control and prevention of infectious disease limited to Salmonella food poisoning and tuberculosis.
  - (ii) Microbial spoilage of food. The biological principles underlying the drying, refrigeration and freezing of foodstuffs as methods of preservation; pasteurization of milk.

(b) understand how the body's natural defences, immunization and medicines can be used to prevent disease, including;

- an outline of the immune system to include antibody production in response to foreign antigen, phagocytosis;
- immunity: natural (innate and acquired), artificial (active and passive);
- antiseptic action illustrated by phenol;
- antibiotic action illustrated by penicillin.

(c) ***understand a simple biodigester, including:***

- ***manufacture of drugs, eg penicillin.***

SCIENCE: CHEMISTRY

To accord with the regulations laid down by the Department of Education for Northern Ireland (DENI), students who have not yet completed Key Stage 4 of the Northern Ireland Curriculum must be entered for all three of the separate examinations in Biology, Chemistry and Physics in the same series of examinations. The Department's regulation is in keeping with a similar regulation which applies to the separate sciences in England and Wales.

This regulation does not apply to students who have completed Key Stage 4 or to mature students who are older than the compulsory school leaving age.

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 The syllabus supports the view that Science: Chemistry should foster interest, enthusiasm, understanding and critical evaluation through exploration and investigation. The syllabus also allows the opportunity to develop communication skills and students' appreciation of the scientific, social economic, environmental and technological contributions and applications of chemistry.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for GCSE Chemistry. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4 Science.

1.3 A course based on this syllabus will help to facilitate the further study of Chemistry at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 AIMS

The aims set out below describe the educational purposes of a course in GCSE Science: Chemistry. Some of these aims are reflected in the assessment objectives; others cannot readily be assessed. The aims are not listed in an order of priority.

The aims of the syllabus are to:

2.1 To provide through the exploration and study of Chemistry a coherent educational experience in Science for all candidates which enables them to acquire sufficient understanding and knowledge to:

2.1.1 become confident citizens in a scientific world, able to take or develop an informed interest in matters of chemical importance;

2.1.2 recognise the usefulness and limitations, of appropriate scientific methods and appreciate their applicability in other disciplines and in everyday life;

2.1.3 be encouraged to pursue and be suitably prepared for further studies in Chemistry;

2.1.4 apply information in familiar and unfamiliar situations.

2.2 To develop abilities and skills that:

2.2.1 are relevant to the study, practice and application of Chemistry;

2.2.2 are useful in everyday life;

2.2.3 encourage safe practice.

2.3 To stimulate:

2.3.1 curiosity, interest and enjoyment in Chemistry and its methods of enquiry;

2.3.2 interest in, and care for, the environment.

2.4 To promote an awareness that:

2.4.2 the application of Chemistry may be both beneficial and detrimental to the individual, the community and the environment;

2.4.3 the concepts, principles and models of Chemistry are of a developing and sometimes transient nature.

2.5 To provide a body of chemical knowledge and expertise appropriate for students not studying the subject beyond Key Stage 4.

3 ASSESSMENT OBJECTIVES

The assessment objectives indicate the skills and abilities which will be assessed.

Candidates will be assessed on their ability to:

3.1 develop the intellectual and practical skills that allow them to explore Chemistry and to develop a fuller understanding of scientific phenomena and the procedures of chemical exploration and investigation. This work should take place in the context of practical activities that require a progressively more systematic and quantified approach and which draws upon an increasing knowledge and understanding of Chemistry. The knowledge, skills and understanding specified by the syllabus should be used to enable candidates to demonstrate the ability to:

3.1.1 carry out experimental and investigative work in which they plan procedures, use precise and systematic ways of making measurements and observations, analyse and evaluate evidence, and relate this to scientific knowledge and understanding;

3.1.2 recall, understand, use and apply the scientific knowledge set out in the syllabus;

3.1.3 communicate scientific observations, ideas and arguments using a range of scientific and technical vocabulary and appropriate scientific and mathematical conventions;

3.1.4 evaluate relevant scientific information and make informed judgements from it.

The relationship between aims and assessment objectives is illustrated in Table 3.1.4.

Table 3.1.4

	Aims					Assessment Objectives
Experimental skills and abilities	2.1 (1,2,3,4)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1)	2.5	3.1.1
Knowledge and understanding	2.1 (1,2,3,4)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1,2,3)	2.5	3.1.2–3.1.4

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment consists of coursework assessment and a terminal examination. Differentiation will be achieved by having the papers targeted at different levels of ability.

4.2 Two tiers of entry are available, giving access to different grades as shown in Table 4.2:

Table 4.2

Tier	Grades covered
Foundation	C–G
Higher	A*–D(E)

Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but demonstrate the qualities associated with a Grade E performance.

Candidates enter for one tier only. Questions set on the Foundation Tier will be confined to syllabus content at that level only. Questions set on the Higher Tier will sample the whole syllabus. Approximately 50% of the marks available in the Higher Tier Papers will come from Foundation Level material.

4.3 Candidates at each tier will take two papers. The duration of the papers are shown in Table 4.3:

Table 4.3

	Foundation	Higher
Paper 1	1 hr	1½ hrs
Paper 2	1½hrs	2 hrs

4.4 All papers will consist of a number of structured questions of varying length. All questions will be compulsory and the opportunity for writing continuous prose will be given. In addition, a portion of the total available credit will be allocated to assessment relating to technological application and social, economic and environmental implications. The standard of the papers will be such as to give all candidates the opportunity to show what they know, understand and can do. All written papers may contain parts of questions on practical aspects of Chemistry which students are likely to have covered during the course.

The weighting of each written paper and the coursework is shown in Table 4.4.

Table 4.4

	Foundation Tier	Higher Tier
Paper 1	30%	32%
Paper 2	45%	43%
Coursework	25%	25%

Approximately 50% of the material tested at the Higher Tier of entry will be drawn from foundation material.

4.5 A model for coursework assessment is shown in Table 4.5:

Table 4.5

Assessment Category	Weighting
A Planning	7%
B Carrying out investigations	7%
C Interpreting	11%

Further details on the assessment of coursework may be found in the coursework memorandum section of the syllabus.

4.6 The relationship between assessment objectives and the assessment components are shown in Table 4.6.

Table 4.6

Component	Assessment Objectives				Total
	3.1.1	3.1.2	3.1.3	3.1.4	
Terminal Papers	–	60%	7.5%	7.5%	75%
Coursework	25%	–	–	–	25%
Total	25%	60%	7.5%	7.5%	100%

5 CERTIFICATION

GCSE certificates will only be awarded for achievement at Grades A*–G.

6 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates devise fair tests in contexts which involve only a few factors; record observations and measurements in tables and graphs; offer simple explanations consistent with the evidence obtained.

Candidates use simple apparatus to make measurements appropriate to the task.

Candidates recall a limited range of information, for example, state some uses of materials obtained from oil; suggest ways in which insulation is used in domestic contexts.

Candidates use and apply knowledge and understanding in some specific everyday contexts, for example, they suggest a way of speeding up a particular chemical reaction; explain that fuels are energy resources and that energy is sometimes "wasted".

Candidates obtain information from simple tables, charts and graphs and identify simple patterns in information and observations.

Candidates link cause and effect in simple contexts; make some use of scientific and technical vocabulary and make simple generalisations from information.

Grade C

Candidates use scientific knowledge and understanding to identify key factors to vary and control and where appropriate to make predictions; present data systematically, in graphs where appropriate, and use lines of best fit; draw conclusions consistent with their evidence and explain these using scientific knowledge and understanding.

Candidates use a range of apparatus to make careful and precise measurements and systematic observations and recognise when it is necessary to repeat measurements and observations.

Candidates recall a range of scientific information from all areas of the syllabus. for example, recall simple chemical symbols and formulae; recall correct units for quantities.

Candidates use and apply scientific knowledge and understanding in some general contexts, for example, use simple balanced equations; use quantitative relationships between physical quantities to perform calculations.

Candidates use scientific knowledge and understanding to make inferences and identify and explain patterns within data; make predictions from patterns in data.

Candidates describe links between related phenomena in different contexts; use diagrams, charts and graphs to support arguments; use appropriate scientific and technical vocabulary in a range of contexts.

Grade A

Candidates use scientific knowledge and understanding to select an appropriate strategy for a task, identifying the key factors to be considered and making predictions where appropriate; they select a method of presenting data appropriate to the task; they use information from a range of sources where it is appropriate to do so; they identify and explain anomalous observations and measurements and the salient features of graphs; use scientific knowledge and understanding to draw conclusions from their evidence; identify shortcomings in the evidence.

Candidates decide the level of precision needed in measurements and use a range of apparatus with precision and skill; make appropriately precise measurements; make systematic observations in qualitative work; decide which observations are relevant to the task in hand.

Candidates recall a wide range of knowledge from all areas of the syllabus.

Candidates use detailed knowledge and understanding in a range of applications relating to scientific systems or phenomena, for example, routinely use a range of balanced equations; use understanding of bonding to explain the simple properties of a material; use a wide range of relationships between physical quantities to carry out calculations effectively.

Candidates use scientific knowledge and understanding to identify patterns and draw conclusions by combining data of more than one kind or from more than one source.

Candidates draw together and communicate knowledge from more than one area; use routinely scientific or mathematics conventions in support of arguments; use a wide range of scientific and technical vocabulary throughout their work.

7 UNITS AND BACKGROUND SKILLS AND ABILITIES IN MATHEMATICS

The units, conventions, nomenclature, symbols and notation used in the examination papers will be in accord with those given in *SI Units, Signs, Symbols and Abbreviations,* published by the Association for Science Education (1995).

7.1 Units

(a) Base Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
length	metre	m
mass	kilogram	kg
time	second	s
electric current	ampere	A
temperature	kelvin	K

(b) Non-SI

Physical Quantity	Name of SI Base Unit	Symbol for Unit
temperature	degree Celsius degree Centigrade	°C
volume	litre or cubic decimetre	l or dm^3

(c) Prefixes for SI Units

Sub-multiple	Prefix	Symbol	Multiple	Prefix	Symbol
10^{-2}	centi	c	10^{3}	kilo	k
10^{-3}	milli	m	10^{6}	mega	M
10^{-6}	micro	μ			
10^{-9}	nano	n			
10^{-12}	pico	p			

7.2 Mathematical Requirements

The mathematical skills required by candidates will be appropriate to the tier of entry, and should include the following:

Topic	Tier	Further Details
Number	F	Whole numbers (odd, even, multiple, factor and square). Vulgar and decimal fractions and percentages. (Candidates will be required to calculate percentages.)
	H	Use of indices in representing large and small numbers.
Approximation	F	Estimation; approximation to obtain reasonable answers; limits of accuracy appropriate to given data.
Computation	F	The four rules of number applied to whole numbers and decimal fractions.
Proportion and Variation	H	Elementary ideas and notation of ratio. Scales. Elementary ideas and applications of direct, and inverse proportion. Common measures of rate.
Measures	F	Measures of mass, length, area, volume and time.
Application	F	Use of tables and charts. Reading of clocks and dials.
Graphs	F	Cartesian co-ordinates. Drawing, interpretation and use of graphs in practical situations. Drawing graphs from given data, given the axes and scales.
	H	Idea of gradient. Select appropriate axes and scales for graph plotting.
Formulae	F	The use of letters for generalised numbers. Substitution of numbers for words and letters in formulae.
	H	Transformation of simple formulae.
Equations	F	Simple linear equations in one unknown.
Statistics and Probability	F	Collection, classification and tabulation of statistical data: construction and interpretation of bar charts, pie charts and pictograms. Measures of average and the purposes for which they are used. Construction and use of simple frequency distributions. Reading, interpreting and drawing simple inferences from tables and statistical diagrams.

8 BACKGROUND SKILLS AND ABILITIES IN ENGLISH

The English abilities required of candidates will be appropriate to their tier of entry.

Candidates should be able to:

- communicate formally, orally and in writing, matching content and style to audience and purpose with due regard to spelling, punctuation and grammar;
- interact with others in group discussion, explore ideas, discuss issues, listen to, take account of and increasingly evaluate other people's opinion and views;
- use source materials and contemporary topics as the basis for hypothesis, reasoning, debate and argument, sorting out evidence and identifying bias;
- read and discuss some material which will challenge or extend them as readers;
- select information from texts with which they are working, and reorder and rework it for a specific purpose and audience;
- plan and draft written work through discussion, gathering and organising ideas, preparing outlines and developing an appropriate science vocabulary;
- in writing be aware of the need for match between form and purpose; forms to include descriptions, organised note-making, reports and essays.

9 PROHIBITED COMBINATIONS

Candidates presenting this subject are not permitted to take any of the following subjects in the same series of examinations:

Science: Double Award (Non-Modular)

Science: Double Award (Modular)

Science: Single Award (Non-Modular)

Science: Single Award (Modular).

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The scheme for coursework assessment is based on the programme of study for experimental and investigative science at key stage four. Candidates will be assessed on three skill areas:

- Planning experimental procedures
- Obtaining evidence
- Interpreting and evaluating.

1.2 The internal assessment of candidates' performance in the three skills should be made as part of normal class routine and should be an integral part of the scheme of work. It is not necessary to assess all students at the same time nor when carrying out the same experiment or investigation.

1.3 Internal assessment of coursework is subject to moderation by the Council.

1.4 It is left to teachers to decide whether or not individual students should be informed that a particular assessment is being made, although it would seem to be appropriate to inform them at the start of a course that internal assessment of practical coursework will be undertaken. Teachers may give feedback on the results of assessments to their students. In such cases students should be informed that marks are subject to moderation and hence are subject to change.

1.5 Notes for guidance and exemplar material are published separately from this memorandum.

2 SKILL AREAS

Three skill areas as listed below will be assessed:

P Planning experimental procedures

O Obtaining evidence

I Interpreting and evaluating.

Students should develop the intellectual and practical skills that allow them to explore science and to develop a fuller understanding of scientific exploration and investigation. This work should take place in the context of activities that require a progressively more systematic and quantitative approach and which draw upon an increasing knowledge and understanding of science.

Skill Area P – Planning experimental procedures

This concerns the ability of candidates to formulate questions which can be tested, predict the outcome of a set of experimental procedures and devise investigations to test their ideas. It includes the ability to decide on what measurements to take, how to take them, and on how to consider factors which need to be taken into account in order to ensure that their investigation is valid.

Skill Area O – Obtaining evidence

This concerns the extent to which candidates can use apparatus and materials safely and effectively to make observations and measurements with increasing levels of discrimination and precision. It also involves the ability to record data in a systematic manner using an appropriate range of forms. At the higher levels candidates should be aware of sources of error and limits of accuracy.

Skill Area I – Interpreting and evaluating

This concerns the ability of candidates to recognise and explain patterns in data, to handle data in an increasingly quantitative manner and to draw valid conclusions from the results of their investigations. It also involves the ability to report their experimental work systematically and with clarity, using scientific language and notation as appropriate. At the higher levels candidates should be able to account for anomalous results evaluate their experiment or investigation and suggest improvements.

3 CONDUCT OF THE ASSESSMENT

3.1 Assessment must be carried out by the teacher in the context of experimental and investigative work which should arise naturally out of the normal teaching programme for a course.

Teachers should identify in advance which skill areas are to be assessed within the practical situation. The teacher must ensure that the work is that of the student(s) being assessed.

3.2 Assessment may take place in a variety of experimental situations, but at least one of the marks contributing to the final assessment must come from a whole investigation.

3.3 It is recognised that practical work is often carried out as a group activity. When assessments are being made during group activity the teacher will have to identify separately the contribution made by an individual student and care must be taken to ensure that a student does not always adopt a more or less dominant role.

3.4 Experimental and investigative work should be carried out across the full range of contexts provided by each area of the syllabus.

3.5 All practical work should be conducted in accordance with current regulations and recommendations relating to safety in the laboratory and in the field.

4 ARRIVAL AT SKILL AREA MARKS

4.1 **Mark descriptions** comprising a number of **statements** are provided in each skill area. Activities chosen for assessment should, wherever possible, provide opportunities for all the statements in a mark description to be addressed. It should be noted that some of the statements in a mark description contain a phrase as "where appropriate" and therefore may not apply to a particular activity.

4.2 Whenever assessments are made, the mark descriptions should be used to judge which mark **best fits** the candidate's performance. The statements should not be taken as discrete and literal hurdles, all of which must be fulfilled for a mark to be awarded.

4.3 The mark descriptions within a skill area are designed to be hierarchical. This means that, in general, a description at a particular mark subsumes those at lower marks. It is assumed that activities which access higher marks will involve a more sophisticated approach and/or a more complex treatment. Adjacent descriptions should be considered when making judgements and use made of the **intermediate marks** (ie 3, 5 and 7) where performance exceeds one description and only partially satisfies the next.

4.4 A candidate who fails to meet the requirements for 2 marks, but who has made a creditworthy attempt in a skill area should be given 1 mark for that skill. Zero marks should only be awarded for a skill area in the unlikely event of a candidate failing to demonstrate any achievement in that skill.

The **professional judgement** of the teacher in making these judgements is important.

5 ARRIVAL AT THE FINAL MARK SUBMITTED

5.1 Centres are required to award each candidate a mark for each of the three Skill Areas. These marks should represent a candidate's best performance during the course.

5.2 However, to satisfy the Council's Criteria for Science, the following requirements must be met:

(a) The Skill Area marks must have been obtained from at least two pieces of work set in the context of the syllabus content.

(b) At least one of the Skill Area marks must have been obtained from a whole investigation carried out by the candidate, ie a piece of work which covers all three Skill Areas.

In consequence, the minimum evidence must be two pieces of work.

5.3 Care should be taken to avoid a situation where, in order to meet the requirements, a candidate's best performance is not reflected in the final marks awarded.

6 RECORDING ASSESSMENT

6.1 Teachers must keep a record of the assessment of the work of their students.

6.2 The Candidate's Record Sheet must be used to record the marks for the skill areas being assessed.

6.3 When submitting candidates' work, teachers must clearly indicate those activities/investigations which were used for assessment purposes. Assessed work must be clearly annotated to identify, as precisely as possible, where in the work the relevant criteria have been satisfied so that the reasons why marks have been awarded are clear. An indication must also be given at the appropriate point in the evidence, or in accompanying information, of any further guidance given by the teacher which has significant assessment implications.

7 ASSESSMENT CRITERIA

7.1 Descriptions of the performance required for the award of marks in each of the skill areas are set out overleaf. Criteria are specified for the award of 2, 4, 6 and 8 marks.

7.2 The assessment criteria must be interpreted in the context of the programme of study for key stage four.

Pupils should be encouraged to develop their experimental and investigative skills and their understanding of science through systematic experimentation and investigation. Work within Attainment Target 1 should be introduced through the knowledge and understanding covered within Attainment Targets 2, 3 and 4.

They should have opportunities to participate in increasingly complex activities which involve the application of scientific knowledge, understanding and skills.

While there should be opportunities throughout the key stage for pupils to undertake complete investigations, it will be appropriate in some cases to focus on particular aspects of the investigative process. On some occasions, the whole process of investigating an idea should be carried out by the pupils working on their own.

The skill areas to be assessed, the relevant areas from the programme of study, and mark descriptions are given opposite.

Skill Area P: Planning experimental procedures

Programme of Study Requirements
Candidates should be taught to:
(a) use their scientific knowledge and understanding to turn ideas into a form that can be investigated;
(b) make predictions where appropriate to do so;
(c) consider the factors which need to be taken into account in investigations;
(d) draw up procedures for the investigation taking into account the observations or measurements which need to be made and how these are to be used;
(e) select appropriate apparatus, instruments and techniques for the investigation, taking into account criteria, for example, the range and accuracy of the measurements and observations required, and the need for safe working procedures.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	P.2a	plan a simple safe procedure.	↓
4 marks	P.4a	plan a fair test or a practical procedure, making a prediction where appropriate.	
	P.4b	select appropriate equipment.	
6 marks	P.6a	use scientific knowledge and understanding to plan a procedure, to identify key factors to vary, control or take into account, and to make a prediction where appropriate.	
	P.6b	decide on a suitable number and range of observations or measurements to be made.	
8 marks	P.8a	use detailed scientific knowledge and understanding to plan an appropriate strategy taking into account the need to produce precise and reliable evidence and to justify a prediction where appropriate.	
	P.8b	include a strategy for dealing with results.	

Skill Area O: Obtaining evidence

Programme of Study Requirements
Candidates should be taught to: Pupils should have opportunities to: (a) use apparatus and materials in a safe and competent manner; (b) use apparatus and instruments to make observations and measurements to an appropriate degree of accuracy; (c) understand the need, where appropriate, to repeat measurements; (d) record observations or measurements systematically using methods appropriate to the information collected and to the purpose of the investigation.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	O.2a	use simple equipment safely to make some observations or measurements.	↓
4 marks	O.4a	make appropriate observations or measurements which are adequate for the activity.	
	O.4b	record the observations or measurements.	
6 marks	O.6a	make sufficient systematic and accurate observations or measurements and repeat them when appropriate.	
	O.6b	record clearly and accurately the observations or measurements.	
8 marks	O.8a	use equipment with precision and skill to obtain and record reliable evidence which involves an appropriate number and range of observations or measurements.	

Skill Area I: Interpreting and Evaluating

Programme of Study Requirements
Candidates should be taught to:
(a) present results in ways appropriate to the data collected and the purpose of the investigation, including, where appropriate, the use of graphs;
(b) interpret and evaluate results using, where appropriate, mathematical relationships;
(c) identify any trends, patterns and conclusions emerging from consideration of the results;
(d) draw valid conclusions and decide whether these conclusions agree with the original idea;
(e) explain the conclusions in the light of their scientific knowledge and understanding;
(f) consider their observations and measurements, including anomalies and sources of error, and suggest, where appropriate, improvements that could be made if they were to repeat their investigation;
(g) produce a written report of their investigation, using appropriate scientific vocabulary.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	I.2a	explain simply what has been found out.	↓
4 marks	I.4a	present findings in the form of simple diagrams, charts or graphs.	
	I.4b	identify trends and patterns in observations or measurements.	
6 marks	I.6a	construct and use appropriate diagrams, charts, graphs (with lines of best fit), or use numerical methods, to process evidence for conclusions.	
	I.6b	draw conclusions consistent with their evidence and relate these to relevant scientific knowledge and understanding	
	I.6c	comment on the suitability of the procedures and, where appropriate, suggest changes to improve the reliability of the evidence.	
8 marks	I.8a	use detailed scientific knowledge and understanding to explain valid conclusions drawn from processed evidence.	
	I.8b	explain how results support or undermine the original prediction when one has been made.	
	I.8c	comment on the reliability of the evidence, accounting for any anomalies or explain whether the evidence is sufficient to support a firm conclusion.	

8 MODERATION

8.1 Agreement Trials

Agreement Trials are conducted annually where teachers are briefed on the application of the assessment criteria and engage in trial marking.

8.2 Supplementary Training Materials

Supplementary training materials in the form of advice on assessment and exemplar materials are issued to all centres.

8.3 Support Service and Advice

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising from the coursework with the teachers concerned by means of a visit if necessary.

8.4 Internal Standardisation

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marks assigned by individual teachers to bring their assessments into line with those of the other teachers in the department and to match the standards promulgated at the Agreement Trial.

8.5 External Moderation

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, scrutinise samples of coursework drawn from each teaching group within a centre in accordance with instructions issued by the Council. The Assistant Coursework Moderators determine whether internal standardisation has been achieved within the centre, whether the assessments are consistent across the levels and whether an adjustment is necessary to bring the assessments into line with the standards agreed at the Agreement Trials. The recommendations of each Assistant Coursework Moderator are summarised and are reviewed by two other Assistant Coursework Moderators working independently. Any cases of disagreement are referred to the Coursework Moderator for resolution. Following the issue of results, all centres receive a statement of the adjustments made, if any.

INFORMATION TECHNOLOGY

Pupils should use, where appropriate, information technology to store, process, retrieve and present information. They should have opportunities to use databases and spreadsheets in their work and to use, where appropriate, sensors to monitor changes occurring during their practical work.

Syllabus content for the Foundation Tier and Higher Tier is laid out below.

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
ATOMIC STRUCTURE	Understand the terms: elements, compounds, atoms, ions and molecules and their interrelation.	
	Describe the structure of atoms in terms of protons, electrons and neutrons.	
	Relative charges and masses of protons, electrons and neutrons.	
	Define atomic number and mass number.	
Isotopes	Distinguish between isotopes, eg ^{35}Cl and ^{37}Cl.	
Electronic structure	Describe the arrangement of electrons in shells for elements 1–20.	
Ions	Describe the structure of ions in terms of protons, electrons and neutrons.	
Ionic bonding	The formation of ionic compounds as a result of attraction between ions of opposite charge.	
	Examples should include MgO and NaCl.	$CaCl_2$ as a further example.
	Recognise ionic bond formation as typical of metal compounds.	
Covalent bonding		Describe the formation of a covalent bond in terms of sharing electron pairs. Examples should include Cl_2, O_2, H_2O and CH_4.
		Recognise covalent bonding as typical of non-metal elements and compounds.
Bonding in metals		Describe, in simple terms, the bonding in metals.
Structures		Classify substances in terms of their properties as metallic, ionic, covalent molecular or giant covalent. Using examples above of typical substances as appropriate and including graphite, diamond, quartz and the typical metals.
		Explain the properties of typical ionic, covalent (simple and giant) and metallic substances in terms of their chemical bonding and structures using examples above where appropriate.
		Recognise that the energy transferred in a chemical reaction is associated with breaking and making of chemical bonds. (Qualitative treatment only).

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
ELECTROLYSIS		Give a simple explanation of electrolysis and examples of its use. The terms anode, cathode and electrolyte. Conduction through the movement of ions. The fact that positive ions are discharged at the cathode and negative ions are discharged at the anode. Examples of use of electrolysis should include extraction of aluminium from pure aluminium oxide and the refining of copper. (Details of processes required but no details of plant.) Predict the products of simple electrolytic reactions. Examples should include the molten halide salts LiCl and $PbBr_2$ and solutions limited to sulphuric acid (dilute) and sodium chloride (concentrated) (inert electrodes in all above). Electrolysis of copper sulphate solution using copper electrodes. Describe electrolysis in terms of ionic reactions. Any stoichiometrically correct equation for cathode and anode reactions will be accepted. Examples should be drawn from above electrolysis processes.

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
SOLIDS, LIQUIDS AND GASES	Classify materials as solids, liquids or gases on the basis of their properties, ie shape, hardness, "movement", effect of heating or cooling.	
Changes of state	Recognise that when materials change their state there is no change in the substance of which they are made, for example, melting blocks of ice.	
	Demonstrate knowledge of the sequence of changes of state that results from heating or cooling. Sublimation to be included.	
Behaviour of gases	Recognise that gases have *weight* and that they spread out to fill the space available, eg diffusion of bromine.	
	Give examples which show that gases are compressible and how this characteristic is used in everyday life, eg, fire extinguishers, aerosol sprays.	
Kinetic theory	Recognise that it is helpful to imagine that everything is made of very small particles.	
	Give examples of situations which indicate that these small particles move. Examples should include diffusion, dilution and mixing experiments. Also Brownian Motion.	
	Explain the differences between solids, liquids and gases in terms of proximity and motion of particles.	
	Recognise that energy transfers are associated with changes of state and with changes within a particular state, such as expansion, eg expansion of metals, freezing of water.	
	Use their developing ideas about the constitution of matter and relate them to everyday examples involving changes of state and solubility, eg ice, water, water vapour, steam, melting solder, solubilities of sodium chloride, copper sulphate, ethanol, oxygen and carbon dioxide in water.	
	Explain changes of state and energy changes associated with them, diffusion and dissolving, in terms of simple kinetic theory.	
PVT relationship for gases	Recognise that the volume of a gas depends upon pressure and temperature. (Qualitative treatment only)	
		Use the relationship between the volume of a gas and its pressure and temperature to solve simple problems, ie, PV/T = constant (conversion to STP not required). Quantitative practical details not required.

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
MATERIALS AND THEIR PROPERTIES Uses of materials	Relate knowledge of the properties of materials to their everyday use, eg metals in saucepans, pipes, bridges etc, wood in tables, window frames, chairs etc, glass in windows, bottles etc, plastics as alternatives to glass, wood and metals.	
Man-made materials	Relate knowledge of the properties of the different classes of man-made materials to everyday use, taking account of social, cultural, economic, environmental and health and safety issues. Specific examples of man-made materials should include: metals – iron, aluminium, copper, lead and zinc; ceramics - pottery, tiles; glass – soda glass, heat resistant glass; plastics – thermosetting eg melamine bakelite, epoxy resins, thermosoftening, eg polyethene, PVC, polystyrene; fibres – nylon. Structures and methods of manufacture are not required unless specifically mentioned in the syllabus.	
Hazard symbols	Recognise and know the value of common hazard symbols on containers, ie, flammable, toxic, corrosive, explosive, harmful/irritant (distinction between supply symbols, convenience labels and safety signs not required).	
Elements, compounds and mixtures	Classify substances as elements (metallic or non-metallic), compounds or mixtures and distinguish between them according to their properties.	
Separation techniques	Give an account of various techniques for separating and purifying mixtures, and choose an appropriate technique in a given situation. The techniques should include filtration, crystallisation, centrifugation, simple and fractional distillation, chromatography, use of a separating funnel. Appropriate situations can be laboratory, industrial or domestic.	

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
Composite materials		Evaluate the relative advantages and disadvantages of composite materials, eg glass fibre (boats, car bodies), reinforced glass (windows), reinforced concrete (beams), glass-reinforced plastic and bone. Describe a composite material as one which combines the properties of more than one material to produce a more useful material for particular purposes.
Industrial processes		Give an account of thermal and electrolytic decompositions in some important manufacturing processes. Thermal decompositions should include the cracking of hydrocarbons and the decomposition of limestone to give lime. Electrolytic decompositions should include the extraction of aluminium and the refining of copper. Details of processes required but not details of plant. Use scientific knowledge and information to evaluate the social, economic and environmental factors associated with manufacturing processes, eg in cracking oil, the choralkali industry and the production of plastics and fertilisers.
Manufacture of iron		Describe the production of iron in the blast furnace. Outline the essential chemistry of the process and demonstrate an understanding of the energy factors involved. Details of process required but not details of plant.
Human influences	Identify the positive and negative effects of the exploitation of raw materials, including the harmful effects on the physical and living environments. Limited to limestone quarrying, peat cutting, lignite mining and solution mining of salt. Explain how the impact of human activity on the Earth is related to economic factors and industrial requirements.	

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
ACIDS, BASES AND SALTS		
Indicators	Use indicators to classify aqueous solutions as acidic, akaline or neutral. Indicators should include litmus and universal indicator (or pH paper).	
The pH scale	Measure the pH of aqueous solutions. Use the pH scale to classify solutions as acidic/alkaline and to indicate relative strengths of these solutions.	Explain the uses and limitations of different systems of classification, for example, acids and bases. Limited to the amphoteric nature of zinc and aluminium hydroxides.
Acids	Recognise that acids dissolve in water, producing hydrogen ions ($H^+(aq)$), that alkalis dissolve in water producing hydroxide ions ($OH^-(aq)$) and that neutralisation is the combination of these ions to form water.	$H^+(aq) + OH^-(aq) \rightarrow H_2O(l)$
Bases	Recognise that a base is a metal oxide or hydroxide and that an alkali is a soluble base.	
Salts	Give examples of reactions between acids and alkalis in producing salts. Reactions limited to hydrochloric, sulphuric and nitric acids with sodium, potassium and calcium hydroxides and ammonia solution, bases to include copper (II) oxide and magnesium oxide. Reaction of acids with metals and metal carbonates to produce salts.	
Salt preparation	Use appropriate methods to prepare soluble and insoluble salts. Use of the above reactions in the preparation of soluble salts. Preparation of insoluble salts by precipitation reactions.	
Test for anions		Describe the chemical tests for the anions: carbonate using dilute acid; halides using silver nitrate solution; sulphate using barium chloride solution.

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
CHEMICAL CHANGE Energetics	Recognise that heat or light can bring about permanent change in materials, eg, photography, photosynthesis Demonstrate a knowledge that materials can be decomposed by heat. Effect of heat on hydrated copper (II) sulphate and metal carbonates. Decomposition of limestone and thermal cracking of hydrocarbons (details of plant not required). Recognise that chemical reactions involve the transfer of energy. Examples of simple exothermic and endothermic reactions, eg combustion, photosynthesis, dissolving, displacement, hydration of $CuSO_4$, neutralisation (see also Electrolysis).	
Combustion	Describe combustion as the combination of fuels and oxygen to release energy and form oxides, ie fuel + oxygen → carbon dioxide + water + energy. Fossil fuel impurities leading to SO_2 pollution. Acid rain	Pollution control as a national and international responsibility.
Rusting	Demonstrate an understanding of the causes of rusting and its economic and environmental implications, and the ways of controlling and preventing the process. Rusting as the reaction of iron with a combination of water and air. Rust prevention by painting, oiling, greasing, galvanising, tin plating, chromium plating, using stainless steel.	Rust as hydrated iron (III) oxide. Sacrificial protection related to the reactivity series.
Chemical change	Recognise that when new compounds are formed through a permanent change chemical reaction has occurred, eg, rusting, thermal decomposition, combustion, displacement.	
Redox	Recognise oxidation as the addition of oxygen to, or removal of hydrogen from, a substance. Reduction as the reversal of oxidation. Relate important oxidation and reduction reactions to everyday examples. Limited to rusting, combustion of fuels, respiration. Laboratory reduction of metal oxides using hydrogen. Laboratory preparation of O_2 and its reactions with Mg and S.	Redox as a process involving electron transfer. Reduction and oxidation in electrolysis, examples limited to those specified in the syllabus. Relate important oxidation and reduction reaction to manufacturing processes. Limited to Fe manufacture, Al manufacture, contact process and Haber-Bosch process

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
REACTIVITY SERIES	Recall the reactivity series of metals, ie K, Na, Ca, Mg, Al, Zn, Fe, Cu limited to reaction with oxygen, water/steam, dil acid, displacement reactions. Predicting where an unfamiliar element should be placed in the series.	Relate the position of metals in the reactivity series to the method of extraction from their ores. Extraction of metals related to position in reactivity series (qualitative treatment). Displacement as a redox reaction.
EQUATIONS		
Symbols	Recognise symbols for common elements. Use symbols for these elements. Use chemical names for simple compounds.	
Word equations	Construct simple word equations to describe reactions.	
Formulae	Give symbolic representations for some elements and deduce the formulae of simple compounds. Limited to elements both of whose valencies in the compound can be established from their positions in the Periodic Table and those groups (hydroxide, sulphate, nitrate, carbonate, hydrogencarbonate, ammonium) whose symbols and valencies are given in a Data Leaflet provided for candidates. Interpret chemical formulae.	
Symbolic equations	Write symbolic equations (which do not require balancing).	Write balanced symbolic equations. Use symbolic equations quantitatively to describe reactions.
Ionic equations		Write ionic equations, eg, to describe electrolysis processes.

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
QUANTITATIVE CHEMISTRY RAM; RMM; RFM	Recognise that atoms have mass centred largely in the nucleus. Understand that atomic masses are measured relative to carbon-12. Understand the term relative atomic mass and use this to determine relative formula masses (relative molecular masses).	
The mole		Interpret chemical equations quantitatively. Understand that one mole of different substances contains equal numbers of specified particles. Use relative formula mass to determine the number of moles present in a given mass of material. Use experimental results to calculate the formula of a simple compound. Avogadro's Law. Molar volume of gases at room temperature and pressure. Calculation of reaction masses and volumes.
Concentration		Understand the term concentration of a solution expressed in moles per litre (mol/dm^3).
Titrations		Calculate solution concentrations in moles per litre (mol/dm^3) and g/dm^3 from the results of acid/base titrations.

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
RATES OF REACTION Factors affecting rates	Describe the qualitative effects of temperature, concentration, particle size, catalysis and, as appropriate, light on the rate of chemical reactions. Give examples of catalysts for specific reactions, eg, MnO_2 with H_2O_2.	Catalysts in manufacturing processes (examples mentioned in the syllabus). Identify the significant factors which control the rates of reaction and, where appropriate, their quantitative effects. Quantitative effects limited to the interpretation of data, eg, drawing graphs and making predictions about how the rate may change when the factors listed are altered. Relate the factors affecting rate of chemical reaction to the practical problems associated with manufacturing processes and recognise the need for compromise between competing priorities. Limited to the processes mentioned in the syllabus. Give a simple explanation of how the factors listed above influence the rate in terms of collisions and the energies of the reacting particles.

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
THE PERIODIC TABLE Uses of the Periodic Table	Outline the work of Mendeleev in the development of the Periodic Table.	
	Relate the position of selected elements (limited to the first 20 elements) in the Periodic Table to their electronic structure.	
	Demonstrate a knowledge that the Periodic Table groups together elements with similar properties, eg, the Alkali Metals as a group of reactive metals, the Halogens as a group of reactive non-metals, the Noble Gases as a group of unreactive non-metals.	
Periodic trends		Describe simple trends in the properties of elements within Groups (I, II, VII) and across Periods (2 and 3) of the Periodic Table. Use the Periodic Table to predict the properties of certain unfamiliar elements. Limited to Groups I, II, VII and properties to relative atomic mass, atomic size, metallic and non-metallic characteristics, valency and chemical reactivity with oxygen, water and dilute acids, as appropriate.
Limitation of classification		Explain the uses and limitations of different systems of classification, for example, metals and non-metals. Limited to silicon and germanium as semi-metals and to electrical conduction in graphite.

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
METALS AND THEIR COMPOUNDS	Describe the important physical and chemical properties of a range of metals and their compounds.	
Physical properties	Physical properties of metals to include electrical and thermal conductivity, malleability, ductility, lustre, strength, melting point (qualitative treatment).	
Chemical properties	Chemical properties of the metals K, Na, Ca, Mg, Al, Zn, Fe, Cu, limited to their reactions with oxygen, water/ steam, dilute hydrochloric and sulphuric acids.	
		Use flame tests to identify compounds of the following metals: Ca, Cu, K, Na.
Chemical reactions		Reaction of aluminium with aqueous NaOH.
		Reaction of NaOH solution with CO_2 (from the air), and ammonium salts.
		Use sodium hydroxide solution to distinguish salts of Ca, Cu, Al, Fe(II), Fe(III), Zn.
	Action of heat and dilute acids on calcium carbonate, copper carbonate, anhydrous and hydrated sodium carbonate, sodium hydrogencarbonate.	
	Reactions of CaO with water and with dilute acids.	Amphoteric nature of zinc and aluminium hydroxides.
	Reactions of calcium hydroxide solution with carbon dioxide.	Oxidation of Fe(II) salts to Fe(III) by chlorine and by air.
	Effect of boiling on a calcium hydrogencarbonate solution.	
Uses of metals and their compounds	Ca: importance in the body. Mg: high strength alloys for aircraft; flares. Al: electrical wiring; saucepans; alloys. Zn: galvanising; brass. Fe: red blood cells; structures. Cu: electrical wiring; plumbing; brass; coinage. Pb: roofing; batteries; solder; anti-knock. NaCl: de-icing roads. $NaHCO_3$: cooking; antacid. $CaCO_3$: cement manufacture; blackboard chalk; slag removal in blast furnace. $Ca(OH)_2$: agriculture. $CaSO_4$: Plaster of Paris; blackboard chalk; white line road markings. $Al(OH)_3$: antacid.	

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
NON-METALS AND THEIR COMPOUNDS		
Non-metals	Describe the important physical and chemical properties of a range of non-metals and their compounds. Non-metals limited to H_2, O_2, C, S, N_2, Cl_2, Br_2, I_2, He, Ne, Ar. Describe tests to identify the gases; ammonia, carbon dioxide, hydrogen, hydrogen chloride, oxygen.	
Hydrogen	Diatomicity, preparation, physical properties and reaction of hydrogen with oxygen forming water. Test for hydrogen. Hydrogen as a reducing agent, eg, with CuO.	Industrial preparation from natural gas. Reaction of hydrogen with nitrogen forming ammonia.
Carbon	Combustion of carbon to CO and CO_2. Toxic effects of incomplete combustion fuels.	Physical properties related to structures of graphite and diamond. Uses related to properties.
Carbon dioxide	Laboratory preparation. Reactions with water, alkali, burning magnesium. Test for carbon dioxide.	
Oxygen	Diatomicity, preparation of oxygen by catalytic decomposition of hydrogen peroxide. Physical properties. Importance in combustion and respiration.	
Oxides	Formation of oxides with the common metallic and non-metallic elements C, S, Ca, Mg, H_2, Zn. Test for oxygen.	
Sulphur	Physical properties and allotropes of sulphur (rhombic, monoclinic and plastic). The combustion of S to form SO_2.	
Sulphur dioxide	The reaction of sulphur dioxide with water.	
Sulphuric acid	Reactions of dilute sulphuric acid with metals, metal oxides, metal hydroxides and carbonates.	Describe the important chemistry of the Contact Process. Manufacture of sulphuric acid from sulphur by the Contact Process. Precautions necessary in handling and diluting concentrated sulphuric acid. Reaction of concentrated sulphuric acid with solid NaCl. Dehydrating properties of concentrated sulphuric acid with sugar and hydrated copper (II) sulphate.

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
Nitrogen	Diatomicity, physical properties and lack of reactivity of nitrogen.	Describe the important chemistry of the Haber-Bosch Process.
Ammonia	Physical properties and solubility of ammonia.	Reaction with hydrogen to produce ammonia (Haber-Bosch Process). Name of catalyst; approximate temperature and pressure. (Equilibrium aspects will not be examined.)
	Test for ammonia. Ammonia as a base forming ammonium salts with acids.	Use aqueous ammonia to identify salts of Cu, Fe(II), Fe(III), Al, Zn and Mg.
		(Equations for complex ion formation not required.)
Nitric acid		Describe the important chemistry of the industrial manufacture of nitric acid from ammonia.
		Catalytic oxidation of ammonia to nitrogen monoxide, oxidation to nitrogen dioxide and absorption in water.
	Reactions of dilute nitric acid with metal oxides, hydroxides and carbonates.	
Halogens	Diatomicity of chlorine, physical properties of chlorine.	Diatomicity of halogens, physical properties of the halogens.
	Poisonous nature of chlorine.	Preparation of chlorine from concentrated hydrochloric acid (test-tube scale only)
	Reaction of chlorine with H_2.	$2HCl + [O] \rightarrow H_2O + Cl_2$
		Poisonous nature of chlorine.
		Reactions of chlorine with H_2, Fe and aqueous solutions of bromide, iodide, cold sodium hydroxide and Fe(II).
Hydrogen chloride		Test tube scale preparation of hydrogen chloride from concentrated sulphuric acid and NaCl.
	Reaction with water and ammonia.	
	Test for hydrogen chloride.	
Hydrochloric acid	Reactions of dilute hydrochloric acid with metals, metal oxides, hydroxides and carbonates.	
Noble gases	Chemical inertness of He, Ne, Ar.	

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
Uses of non-metals and their compounds.	He: balloons and breathing mixtures for divers Ne: lighting Ar: lighting and welding H_2: meteorological balloons; rocket engines; potential as a clean fuel. O_2: medicine; welding; rocket engines. N_2: coolant; food packaging. S: vulcanising of rubber; fungicide. SO_2: bleach; preservative; fungicide. H_2SO_4: car batteries; manufacture of detergents; fibres; pigments. NH_3: fertilisers; nitric acid; nylon. HNO_3: fertilisers; explosives. Cl_2: bleach for cotton; linen and wood pulp; PVC manufacture; water sterilisation. CO_2: fire extinguishers; carbonated drinks; dry ice. C: charcoal for decolourising and deodourising.	

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
WATER		
The water cycle	Describe the water cycle.	
Water treatment	Public water supply filtration and chlorination.	
Test for water	Use anhydrous copper (II) sulphate or cobalt chloride to test for the presence of water.	
	Water of crystallisation and removal by action of heat.	
	Physical properties of water and its use as a common solvent.	
Hard water	Identify a sample of water as being hard or soft.	
	Effects of hard water on soap and detergents.	
	Differences between temporary and permanent hardness.	
	Recognise characteristics of a hard water region including advantages associated with hard water.	
	Cave formation; stalagmites and stalactites.	
	Advantages and disadvantages associated with hard water.	
Water softening	Water softening by boiling, addition of washing soda and ion exchange.	Explain in terms of ions the causes and effects of water hardness and outline methods of softening water.
		Explain precipitation in terms of ions and relate this to processes of separation and purification, eg, use of washing soda to soften water.
Interaction with moist air	Interaction of common substances with moist air (eg sodium, sodium hydroxide, anhydrous, calcium chloride and silica gel.	
	Use of silica gel as a desiccant in optical instruments.	
Solubility	Understand the terms: solvent, solute, solution, saturated, hydrated and dehydration.	Recognise the quantitative effect of temperature on the solubility of solids in water and use solubility curves.
	Recognise the factors affecting solution, ie, heat, surface area, stirring, volume of solvent.	Simple quantitative determination of solubility of solids in water leading to an understanding of solubility curves.
	Understand the effect of temperature on the solubility of solids and gases in water.	
	Qualitative treatment of the solubility of gases in water.	
	Qualitative effect of temperature on the solubility of solids in water.	

	KNOWLEDGE, SKILLS AND UNDERSTANDING	
	FOUNDATION	**HIGHER**
ORGANIC CHEMISTRY		
Sources of organic chemicals	Relate that fossil fuels and biological substances are carbon-based compounds.	Explain how chemicals are obtained from oil by fractionation and cracking.
	Recall that oil is the major source of organic chemicals and that chemicals obtained from oil are hydrocarbons.	Social, cultural, economic, environmental, health and safety and energy factors involved in these processes.
	Combustion of fossil fuels to give oxides of carbon, ie, Natural gas, LPG, petrol, diesel, paraffin, candle wax, peat, lignite, coal, coke.	
	Combustion of hydrocarbons to give CO_2 or CO and water.	
	Fossil fuels as non-renewable resources.	
	Describe the important physical properties and uses of a variety of organic compounds from different homologous series.	Definition of an homologous series – applied to alkanes and alkenes.
		Alkanes: names, formulae, structures, physical state of first four members.
		Use as fuels.
Alkanes		Combustion of alkanes.
Alkenes		Alkenes: names, formulae, structures, physical state of first two members.
		Use in the manufacture of polymers.
		Chemical properties limited to combustion and the use of Br_2 to distinguish alkanes/alkenes.
		Specify examples of addition polymerisation and relate them to important commercial polymers and their manufacture (specific conditions not required) and to the social, cultural, economic environmental, health and safety factors involved.
		Limited to polythene, PVC, polystyrene. Uses of these polymers.
Ethanol		Name, formula, structure and physical state of ethanol.
		Uses: fuels, alcoholic beverages, solvent.
		Chemical properties limited to combustion.
		Preparation of ethanol from ethene (reaction conditions not required) and by fermentation (equation for fermentation not required).
Ethanoic acid		Name, formula, structure of ethanoic acid.
		Reactions of ethanoic acid as a typical dilute acid.
		Reaction with ethanol to form an ester (test-tube scale only).
		Esters: formula and structure of ethyl ethanoate.
		Uses: solvent, flavourings.

KNOWLEDGE, SKILLS AND UNDERSTANDING		
FOUNDATION	HIGHER	
ORGANIC CHEMISTRY		
Sources of organic chemicals	Relate that fossil fuels and biological substances are carbon-based compounds. Recall that oil is the major source of organic chemicals and that chemicals obtained from oil are hydrocarbons. Combustion of fossil fuels to give oxides of carbon (i.e. natural gas, LPG, petrol, diesel, paraffin, candle wax, peat, lignite, coal, coke. Combustion of hydrocarbons to give CO_2 or CO and water. Fossil fuels as non-renewable resources.	
Alkanes	Describe the important physical properties and uses of a variety of organic compound from different homologous series.	
Alkenes		
	Explain in terms of ions the causes and effects of water hardness and outline methods of softening water. Explain precipitation in terms of ions and relate this to processes of separation and purification, eg, use of washing soda to soften water.	
Ethanol		
	Recognise the quantitative effect of temperature on the solubility of solids in water and use solubility curves. Simple quantitative determination of solubility of solids in water leading to an understanding of solubility curves.	
Ethanoic acid		

SCIENCE: DOUBLE AWARD (Modular and Non-Modular)

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 The syllabus supports the view that Science should foster interest, enthusiasm, understanding and critical evaluation through exploration and investigation. The syllabus also allows opportunity to develop communication skills and the ability to discuss the environmental, technological and social aspects of Science.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Science. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4 Science (Double Award).

1.3 A course based on this syllabus will help to facilitate the further study of Science at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

1.6 The unit titles and their associated attainment targets are shown in Table 1.6.

Table 1.6

Unit Title	Attainment Target
Living things and the Processes of Life The Living World–Environment and Genetics	2
Using Materials and Understanding Reactions Patterns, Problems, Processes	3
Forces and Energy Light, Sound and Waves, Electricity and Magnetism, Earth in Space	4

1.7 Syllabus content for the Foundation Tier is set out in normal type. ***Syllabus text content dealing with Higher Tier only is set out in bold italics.***

2 AIMS

The aims set out below describe the educational purposes of following a course in GCSE Science: Single Award. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

The aims of the syllabus are to:

2.1 provide through the exploration and study of science a coherent educational experience for all candidates which enables them to acquire sufficient understanding and knowledge to:

2.1.1 become confident citizens in a technological world, able to take or develop an informed interest in matters of scientific import;

2.1.2 recognise the usefulness and limitations, of scientific methods and appreciate their applicability in other disciplines and in everyday life;

2.1.3 be encouraged to pursue and be suitably prepared for further studies in science.

2.2 Develop abilities and skills that:

2.2.1 are relevant to the study, practice and application of science.

2.2.2 are useful in everyday life;

2.2.3 encourage safe practice.

2.3 Stimulate:

2.3.1 curiosity, interest and enjoyment in science and its methods of enquiry;

2.3.2 interest in, and care for, the environment.

2.4 Promote an awareness that:

2.4.1 the study and practice of science are co-operative and cumulative activities and are subject to social, economic, technological, ethical and cultural influences and limitations;

2.4.2 the applications of science may be both beneficial and detrimental to the individual, the community and the environment.

2.4.3 the concepts of science are of a developing and sometimes transient nature.

3 ASSESSMENT OBJECTIVES

The assessment objectives indicate the skills and abilities which will be assessed.

Candidates will be assessed on their ability to:

3.1 develop the intellectual and practical skills that allow them to explore science and to develop a fuller understanding of scientific phenomena and the procedures of scientific exploration and investigation. This work should take place in the context of activities that require a progressively more systematic and

quantified approach and which draw upon an increasing knowledge and understanding of science. The knowledge, skills and understanding specified by the syllabus should be used to enable candidates to demonstrate the ability to:

3.1.1 carry out experimental and investigate work in which they plan procedures, use precise and systematic ways of making measurements and observations, analyse and evaluate evidence, and relate this to scientific knowledge and understanding;

3.1.2 recall, understand, use and apply the scientific knowledge set out in the syllabus;

3.1.3 communicate scientific observations, ideas and arguments using a range of scientific and technical vocabulary and appropriate scientific and mathematical conventions;

3.1.4 evaluate relevant scientific information and make informed judgements from it.

3.2 The relationship between aims and assessment objectives is illustrated in Table 3.2 below.

Table 3.2

	Aims				Assessment Objectives
Experimental skills and abilities	2.1 (1,2,3)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1)	3.1.1
Knowledge with understanding	2.1 (1,2,3)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1,2,3)	3.1.2–3.1.4

4 SCHEME OF ASSESSMENT (MODULAR)

4.1 The scheme of assessment consists of coursework assessment, end of module tests and a terminal examination. Differentiation will be achieved by having the written papers targeted at different levels of ability.

4.2 Two tiers of entry are available, targeted at different grades as follows:

Tier	Grades covered
Foundation	C–G
Higher	A*–D(E)

Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade D but who demonstrate the qualities associated with a grade E performance.

4.3 The scheme of assessment consists of end of module tests, a terminal examination and coursework as shown in Table 4.3 below.

Table 4.3

Component	Weighting
End of Module Tests	25%
Terminal Examination	50%
Coursework	25%

4.4 Of the six modules presented in the syllabus, three will be assessed through end of module tests as follows:

Living Organisms and the Processes of Life;

Using Materials and Understanding Reactions;

Forces and Energy;

These tests may be taken within a schedule produced by the Council up to and including June of year 11 (Form 4).

Candidates may enter different end of module tests at either Foundation or Higher Tier.

The duration of the written papers and their relative weightings are shown in Table 4.4 below:

Table 4.4

Paper	Foundation	Weighting (%)	Higher	Weighting (%)
Module A	45 mins	8.33	45 mins	8.33
Module B	45 mins	8.33	45 mins	8.33
Module C	45 mins	8.33	45 mins	8.33
Terminal Paper 1	1 hour	16.66	1 hour 30 mins	16.66
Terminal Paper 2	1 hour	16.66	1 hour 30 mins	16.66
Terminal Paper 3	1 hour	16.66	1 hour 30 mins	16.66
Coursework	–	25	–	25
	4 hours 30 mins	100%	6 hours 45 mins	100%

4.5 The syllabus area and number and type of question for each paper are given in Table 4.5 opposite:

Table 4.5

	Foundation	Higher
Paper	**Syllabus area and number of questions**	**Syllabus area and number of questions**
Module A	Living Organisms and Processes of Life – 12–15 short answer	Living Organisms and Processes of Life – 12–15 short answer
Module B	Using Materials and Understanding Reactions – 12–15 short answer	Using Materials and Understanding Reactions – 12–15 short answer
Module C	Forces and Energy – 12–15 short answer	Forces and Energy – 12–15 short answer
Terminal Paper 1	Living Organisms and Processes of Life, The Living World – survival and development	Living Organisms and Processes of Life, The Living World – survival and development
	Four structured questions with 25% of the marks available being allocated to content from module Living Organisms and Processes of Life	Five or six structured questions with 25% of the marks available being allocated to content from module Living Organisms and Processes of Life
Terminal Paper 2	Using materials and understanding reactions, Patterns, Problems, Processes	Using materials and understanding reactions, Patterns, Problems, Processes
	Four structured questions with 25% of the marks available being allocated to content from module Using materials and understanding reaction	Five or six structured questions with 25% of the marks available being allocated to content from module Using materials and understanding reaction
Terminal Paper 3	Forces and Energy, Earth in Space – 1 structured question	Forces and Energy – 1 structured question
		Earth in Space – 1 structured question
	Electricity and Magnesium, Sound, Light and Waves	Electricity and Magnesium, Sound, Light and Waves
	Three structured questions	Four structured questions

Candidates enter for one tier only. Questions set on the Foundation Tier will be confined to syllabus content at that level only. Questions set on the Higher Tier will sample all the syllabus content.

4.6 Coursework Assessment (25%)

A model for assessment of coursework which is based on Attainment Target 1: Exploring and Investigating in Science, is shown below:

The weightings shown for end category are approximate.

Assessment Category	Weighting
A Planning experimental procedures	7%
B Obtaining evidence	7%
C Interpreting and evaluating	11%

4.7 The weightings assigned to the assessment objectives within the end of module tests, the terminal papers and coursework are shown in Table 4.7 opposite:

Table 4.7

	Assessment Objectives		
	3.1.1	**3.1.2–3.1.4**	**Total**
End of Module Tests	–	25%	25%
Terminal papers	–	50%	50%
Coursework	25%	–	25%
Total	25%	75%	100%

4.8 A significant portion of the total available credit will be allocated to assessment relating to technological application and social, economic and environmental implications.

4.9 No more than 25% of the total available credit is allocated to the assessment of recall of knowledge. *Understanding* is assessed extensively through the demonstration of skills and abilities covered by assessment objectives 3.1.2–3.1.4.

4.10 All written papers may contain questions/parts of questions on practical aspects of science which students are likely to have covered during the course.

5 SCHEME OF ASSESSMENT (NON-MODULAR)

5.1 Candidates will take three terminal papers, which are attainment target dedicated, at each tier of entry. The relationship between paper numbers, syllabus area, attainment targets and weightings are shown in Table 5.1 below.

Table 5.1

Paper Number	Syllabus Area	Attainment Target	Weighting
1	Living Organisms and Life Processes The Living World– Environment and Genetics	2	25%
2	Using Materials and Understanding Reactions Patterns, Problems, Processes	3	25%
3	Forces and Energy Light, Sound and Waves, Electricity and Magnetism, Earth in Space	4	25%

5.2 The number and type of question within a paper and paper duration is given in Table 5.2 below.

Table 5.2

	Foundation			Higher		
Paper Number	Short Answer	Structured	Duration	Short Answer	Structured	Duration
1	12–15	3	1 hr 30 mins	8	4	1 hr 45 mins
2	12–15	3	1 hr 30 mins	8	4	1 hr 45 mins
3	12–15	3	1 hr 30 mins	8	4	1 hr 45 mins

5.3 Coursework Assessment (25%)

For the purpose of coursework assessment, Attainment Target 1 is divided into 3 assessment categories. These categories and their approximate weightings are shown in Table 5.3.

Table 5.3

Assessment Category	Weighting
A Planning experimental procedures	7%
B Obtaining evidence	7%
C Interpreting and evaluating	11%

5.4 The weightings assigned to assessment objectives within the terminal paper and coursework are shown in Table 5.4.

Table 5.4

Component	Assessment Objectives				Total
	3.1.1	3.1.2	3.1.3	3.1.4	
Terminal Papers	–	60%	7.5%	7.5%	75%
Coursework	25%	–	–	–	25%
Total	25%	60%	7.5%	7.5%	100%

5.5 A significant portion of the total available credit will be allocated to assessment relating to technological application and social, economic and environmental implications.

No more than 25% of the total available credit is allocated to the assessment of recall of knowledge. *Understanding* is assessed extensively through the demonstration of skills and abilities covered by assessment objectives 3.1.2–3.1.4.

5.6 Further details on the assessment of the skills and abilities of the coursework component may be found in the coursework memorandum section of the syllabus.

5.7 All written papers may contain questions/parts of questions on practical aspects of science which students are likely to have covered during the course.

6 CERTIFICATION

GCSE certificates will be awarded for achievement at grades A*–G. Candidates will be awarded a pair of identical levels which will appear on a separate line of the candidate's GCSE certificate.

7 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates devise fair tests in contexts which involve only a few factors; record observations and measurements in tables and graphs; offer simple explanations consistent with the evidence obtained.

Candidates use simple apparatus to make measurements appropriate to the task.

Candidates recall a limited range of information, for example, they state the main functions of organs of the human body and flowering plants; state some uses of materials obtained from oil; suggest ways in which insulation is used in domestic contexts.

Candidates use and apply knowledge and understanding in some specific everyday contexts, for example, they describe how a reduction in the population of one organism in a habitat can affect another organism, suggest a way of speeding up a particular chemical reaction; explain that fuels are energy resources and that energy is sometimes "wasted".

Candidates obtain information from simple tables, charts and graphs and identify simple patterns in information and observations.

Candidates link cause and effect in simple contexts; make some use of scientific and technical vocabulary and make simple generalisations from information.

Grade C

Candidates use scientific knowledge and understanding to identify key factors to vary and control and where appropriate to make predictions; present data systematically, in graphs where appropriate, and use lines of best fit; draw conclusions consistent with their evidence and explain these using scientific knowledge and understanding.

Candidates use a range of apparatus to make careful and precise measurements and systematic observations and recognise when it is necessary to repeat measurements and observations.

Candidates recall a range of scientific information from all areas of the syllabus, for example, they describe how some organ systems in living things carry out life processes; recall simple chemical symbols and formulae; recall correct units for quantities.

Candidates use and apply scientific knowledge and understanding in some general contexts, for example, they describe how a cell is adapted to its functions; use simple balanced equations; use quantitative relationships between quantities to perform calculations.

Candidates use scientific knowledge and understanding to make inferences and identify and explain patterns within data; make predictions from patterns in data.

Candidates describe links between related phenomena in different contexts; use diagrams, charts and graphs to support arguments; use appropriate scientific and technical vocabulary in a range of contexts.

Grade A

Candidates use scientific knowledge and understanding to select an appropriate strategy for a task, identifying the key factors to be considered and making predictions where appropriate; they select a method of presenting data appropriate to the task; they use information from a range of sources where it is appropriate to do so; they identify and explain anomalous observations and measurements and the salient features of graphs; use scientific knowledge and understanding to draw conclusions from their evidence; identify shortcomings in the evidence.

Candidates decide the level of precision needed in measurements and use a range of apparatus with precision and skill; make appropriately precise measurements; make systematic observations in qualitative work; decide which observations are relevant to the task in hand.

Candidates recall a wide range of knowledge from all areas of the syllabus.

Candidates use detailed scientific knowledge and understanding in a range of applications relating to scientific systems or phenomena, for example, they explain how temperature or water content is regulated in humans; routinely use a range of balanced equations; use understanding of bonding to explain the simple properties of a material; use a wide range of relationships between physical quantities to carry out calculations effectively.

Candidates use scientific knowledge and understanding to identify patterns and draw conclusions by combining data of more than one kind or from more than one source.

Candidates draw together and communicate knowledge from more than one area; use routinely scientific or mathematics conventions in support of arguments; use a wide range of scientific and technical vocabulary throughout their work.

8 REAGENTS

It will be assumed that candidates have a working knowledge of the practical use indicated for the following reagents.

8.1 Alkaline solutions (sodium or potassium hydroxide): and soda lime absorption of CO_2.

8.2 Benedict's reagent: test for reducing sugar.

8.3 Biuret reagent: (sodium or potassium hydroxide solution plus dilute copper(II) sulphate solution): test for protein.

8.4 Cobalt chloride paper: test for water.

8.5 DCPIP solution: comparison of relative concentration of vitamin C in standard solution and fruit extract.

8.6 Hydrogencarbonate (Bicarbonate) indicator: detection of changes in CO_2 content.

8.7 Iodine solution: test for starch.

8.8 Indicator solutions and paper:

(a) Litmus for detecting pH change;

(b) Universal indicator for measuring pH.

8.9 Lime water: test for carbon dioxide.

8.10 Methylene blue: stain for plant and animal tissues.

9 UNITS AND BACKGROUND SKILLS AND ABILITIES IN MATHEMATICS

The units, conventions, nomenclature, symbols and notation used in the examination papers will be in accord with those given in "SI Units, Signs, Symbols and Abbreviations", published by the Association for Science Education (1995). Candidates taking the GCSE Science: Double Award examination will be expected to be familiar with the units and mathematical requirements appropriate to their selected tier of entry. Other units in common use may be included in the examination papers but candidates will not be required to convert between such units or from such units to SI units.

9.1 Units

(i) Base Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
length	metre	m
mass	kilogram	kg
time	second	s
electric current	ampere	A
temperature	kelvin	K

(ii) Derived Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
frequency	hertz	Hz
force	newton	N
work, energy, heat	joule	J
power	watt	W
electric potential difference, electro-motive force	volt	V
electrical resistance	ohm	W
electrical capacitance	farad	F

(iii) Non-SI Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
energy	Kilowatt hour	kWh
temperature	degree Celsius degree Centigrade	°C
volume	litre	l

(iv) Prefixes for SI Units

Sub-Multiple	Prefix	Symbol	Multiple	Prefix	Symbol
10^{-2}	centi	c	10^{3}	kilo	k
10^{-3}	milli	m	10^{6}	mega	M
10^{-6}	micro	μ			
10^{-9}	nano	n			
10^{-12}	pico	p			

9.2 Mathematical Requirements

The mathematical skills required by candidates will be appropriate to the tier of entry, and should include the following:

Table 9.2

Topic	Tier	Further Details
Number	F	Whole numbers (odd, even, multiple, factor and square). Vulgar and decimal fractions and percentages. (Candidates will be required to calculate percentages)
Approximation	F	Estimation; approximation to obtain reasonable answers; limits of accuracy appropriate to given data.
Computation	F	The four rules of number applied to whole numbers and decimal fractions.
Proportion and Variation	F	Elementary ideas and notation of ratio. Scales. Elementary ideas and applications of direct proportion. Common measures of rate.
Measures	F	Measures of mass, length, capacity and time.

Table 9.2 (cont.)

Topic	Tier	Further Details
Application	F	Use of tables and charts. Reading of clocks and dials.
Graphs	F	Cartesian co-ordinates. Drawing, interpretation and use of graphs in practical situations. Gradient. Drawing graphs from given data.
Formulae	F	The use of letters for generalised numbers. Substitution of numbers for words and letters in formulae.
	H	Transformation of simple formulae.
Equations	F	Simple linear equations in one unknown.
Statistics and Probability	F	Collection, classification and tabulation of statistical data: construction and interpretation of bar charts, pie charts and pictograms. Measures of average and the purposes for which they are used. Construction and use of simple frequency distributions. Reading, interpreting and drawing simple inferences from tables and statistical diagrams.

10 BACKGROUND SKILLS AND ABILITIES IN ENGLISH

The English abilities required of candidates will be appropriate to their tier of entry.

Candidates should be able to:

- communicate formally, orally and in writing, matching content and style to audience and purpose with due regard to spelling, punctuation and grammar;
- interact with others in group discussion, explore ideas, discuss issues, listen to, take account of and increasingly evaluate other people's opinion and views;
- use source materials and contemporary topics as the basis for hypothesis, reasoning debate and argument, sorting out evidence and identifying bias;
- read and discuss some material which will challenge or extend them as readers;
- select information from texts with which they are working, and reorder and rework it for a specific purpose and audience;
- plan and draft written work through discussion, gathering and organising ideas, preparing outlines and developing an appropriate science vocabulary;
- in writing be aware of the need for match between form and purpose; forms to include descriptions, organised note-making, reports and essays.

11 PROHIBITED COMBINATIONS

Candidates presenting this subject are not permitted to take any of the following subjects in the same series of examinations:

Science: Biology; Science: Chemistry;
Science: Physics; Science: Single Award (Modular);
Science: Single Award (Non-Modular).

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The scheme for coursework assessment is based on the programme of study for experimental and investigative science at key stage four. Candidates will be assessed on three skill areas:

- Planning experimental procedure
- Obtaining evidence
- Interpreting and evaluating.

1.2 The internal assessment of candidates' performance in the three skills should be made as part of normal class routine and should be an integral part of the scheme of work. It is not necessary to assess all students at the same time nor when carrying out the same experiment or investigation.

1.3 Internal assessment of coursework is subject to moderation by the Council.

1.4 It is left to teachers to decide whether or not individual students should be informed that a particular assessment is being made, although it would seem to be appropriate to inform them at the start of a course that internal assessment of practical coursework will be undertaken. Teachers may give feedback on the results of assessments to their students. In such cases students should be informed that marks are subject to moderation and hence are subject to change.

1.5 Notes for guidance and exemplar material are published separately from this memorandum.

2 SKILL AREAS

Students should develop the intellectual and practical skills that allow them to explore science and to develop a fuller understanding of scientific exploration and investigation. This work should take place in the context of activities that require a progressively more systematic and quantitative approach and which draw upon an increasing knowledge and understanding of science.

Skill Area P – Planning experimental procedures

This concerns the ability of candidates to formulate questions which can be tested, predict the outcome of a set of experimental procedures and devise investigations to test their ideas. It includes the ability to decide on what measurements to take, how to take them, and on how to consider factors which need to be taken into account in order to ensure that their investigation is valid.

Skill Area O – Obtaining evidence

This concerns the extent to which candidates can use apparatus and materials safely and effectively to make observations and measurements with increasing levels of discrimination and precision. It also involves the ability to record data in a systematic manner using an appropriate range of forms. At the higher levels candidates should be aware of sources of error and limits of accuracy.

Skill Area I – Interpreting and evaluating

This concerns the ability of candidates to recognise and explain patterns in data, to handle data in an increasingly quantitative manner and to draw valid conclusions from the results of their investigations. It also involves the ability to report their experimental work systematically and with clarity, using scientific language and notation as appropriate. At the higher levels candidates should be able to account for anomalous results evaluate their experiment or investigation and suggest improvements.

3 CONDUCT OF THE ASSESSMENT

3.1 Assessment must be carried out by the teacher in the context of experimental and investigative work which should arise naturally out of the normal teaching programme for a course.

Teachers should identify in advance which skill areas are to be assessed within the practical situation. The teacher must ensure that the work is that of the student(s) being assessed.

3.2 Assessment may take place in a variety of experimental situations, but at least one of the marks contributing to the final assessment must come from a whole investigation.

3.3 It is recognised that practical work is often carried out as a group activity. When assessments are being made during group activity the teacher will have to identify separately the contribution made by an individual student and care must be taken to ensure that a student does not always adopt a more or less dominant role.

3.4 Experimental and investigative work should be carried out across the full range of contexts provided by Living Organisms and Life Processes, Materials and their Uses and Physical Processes.

3.5 All practical work should be conducted in accordance with current regulations and recommendations relating to safety in the laboratory and in the field.

4 ARRIVAL AT SKILL AREA MARKS

4.1 **Mark descriptions** comprising a number of **statements** are provided in each skill area. Activities chosen for assessment should, wherever possible, provide opportunities for all the statements in a mark description to be addressed. It should be noted that some of the statements in a mark description contain a phrase as "where appropriate" and therefore may not apply to a particular activity.

4.2 Whenever assessments are made, the mark descriptions should be used to judge which mark **best fits** the candidate's performance. The statements should not be taken as discrete and literal hurdles, all of which must be fulfilled for a mark to be awarded.

4.3 The mark descriptions within a skill area are designed to be hierarchical. This means that, in general, a description at a particular mark subsumes those at

lower marks. It is assumed that activities which access higher marks will involve a more sophisticated approach and/or a more complex treatment. Adjacent descriptions should be considered when making judgements and use made of the **intermediate marks** (ie 3, 5 and 7) where performance exceeds one description and only partially satisfies the next.

4.4 A candidate who fails to meet the requirements for 2 marks, but who has made a creditworthy attempt in a skill area should be given 1 mark for that skill. Zero marks should only be awarded for a skill area in the unlikely event of a candidate failing to demonstrate any achievement in that skill.

The **professional judgement** of the teacher in making these judgements is important.

5 ARRIVAL AT THE FINAL MARK SUBMITTED

5.1 Centres are required to award each candidate a mark for each of the three Skill Areas. These marks should represent a candidate's best performance during the course.

5.2 However, to satisfy the Council's Criteria for Science, the following requirements must be met:

(a) There must be at least one Skill Area mark obtained from work in the context of each of Living Organisms and Life Processes, Materials and their Uses and Physical Processes.

(b) At least one of the Skill Area marks must have been obtained from a whole investigation carried out by the candidate, ie a piece of work which covers all three Skill Areas. This can represent work in one of Living Organisms and Life Processes, Materials and their Uses and Physical Processes.

In consequence, the minimum evidence must be three pieces of work.

5.3 Care should be taken to avoid a situation where, in order to meet the requirements, a candidate's best performance is not reflected in the final marks awarded.

6 RECORDING ASSESSMENT

6.1 Teachers must keep a record of the assessment of the work of their students.

6.2 The Candidate's Record Sheet must be used to record the marks for the skill areas being assessed.

6.3 When submitting candidates' work, teachers must clearly indicate those activities/investigations which were used for assessment purposes. Assessed work must be clearly annotated to identify, as precisely as possible, where in the work the relevant criteria have been satisfied so that the reasons why marks have been awarded are clear. An indication must also be given at the appropriate point in the evidence, or in accompanying information, of any further guidance given by the teacher which has significant assessment implications.

7 ASSESSMENT CRITERIA

7.1 Descriptions of the performance required for the award of marks in each of the skill areas are set out overleaf. Criteria are specified for the award of 2, 4, 6 and 8 marks.

7.2 The assessment criteria must be interpreted in the context of the programme of study for key stage four.

Pupils should be encouraged to develop their experimental and investigative skills and their understanding of science through systematic experimentation and investigation. Work within Attainment Target 1 should be introduced through the knowledge and understanding covered within Attainment Targets 2, 3 and 4.

They should have opportunities to participate in increasingly complex activities which involve the application of scientific knowledge, understanding and skills.

While there should be opportunities throughout the key stage for pupils to undertake complete investigations, it will be appropriate in some cases to focus on particular aspects of the investigative process. On some occasions, the whole process of investigating an idea should be carried out by the pupils working on their own.

The skill areas to be assessed, the relevant areas from the programme of study, and mark descriptions are given opposite.

Skill Area P: Planning experimental procedures

Programme of Study Requirements
Candidates should be able to: (a) use their scientific knowledge and understanding to turn ideas into a form that can be investigated; (b) make predictions where appropriate to do so; (c) consider the factors which need to be taken into account in investigations; (d) draw up procedures for the investigation taking into account the observations or measurements which need to be made and how these are to be used; (e) select appropriate apparatus, instruments and techniques for the investigation, taking into account criteria, for example, the range and accuracy of the measurements and observations required, and the need for safe working procedures.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

		Candidates should be taught to:	Increasing demand of activity
2 marks	P.2a	plan a simple safe procedure.	▼
4 marks	P.4a	plan a fair test or a practical procedure, making a prediction where appropriate.	
	P.4b	select appropriate equipment.	
6 marks	P.6a	use scientific knowledge and understanding to plan a procedure, to identify key factors to vary, control or take into account, and to make a prediction where appropriate.	
	P.6b	decide on a suitable number and range of observations or measurements to be made.	
8 marks	P.8a	use detailed scientific knowledge and understanding to plan an appropriate strategy taking into account the need to produce precise and reliable evidence and to justify a prediction where appropriate.	
	P.8b	include a strategy for dealing with results.	

Skill Area O: Obtaining evidence

Programme of Study Requirements
Candidates should be able to: (a) use apparatus and materials in a safe and competent manner; (b) use apparatus and instruments to make observations and measurements to an appropriate degree of accuracy; (c) understand the need, where appropriate, to repeat measurements; (d) record observations or measurements systematically using methods appropriate to the information collected and to the purpose of the investigation.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	O.2a	use simple equipment safely to make some observations or measurements.	↓
4 marks	O.4a	make appropriate observations or measurements which are adequate for the activity.	
	O.4b	record the observations or measurements.	
6 marks	O.6a	make sufficient systematic and accurate observations or measurements and repeat them when appropriate.	
	O.6b	record clearly and accurately the observations or measurements.	
8 marks	O.8a	use equipment with precision and skill to obtain and record reliable evidence which involves an appropriate number and range of observations or measurements.	

Skill Area I: Interpreting and Evaluating

Programme of Study Requirements
Candidates should be able to: (a) present results in ways appropriate to the data collected and the purpose of the investigation, including, where appropriate, the use of graphs; (b) interpret and evaluate results using, where appropriate, mathematical relationships; (c) identify any trends, patterns and conclusions emerging from consideration of the results; (d) draw valid conclusions and decide whether these conclusions agree with the original idea; (e) explain the conclusions in the light of their scientific knowledge and understanding; (f) consider their observations and measurements, including anomalies and sources of error, and suggest, where appropriate, improvements that could be made if they were to repeat their investigation; (g) produce a written report of their investigation, using appropriate scientific vocabulary.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	I.2a	explain simply what has been found out.	
4 marks	I.4a	present findings in the form of simple diagrams, charts or graphs.	
	I.4b	identify trends and patterns in observations or measurements.	
6 marks	I.6a	construct and use appropriate diagrams, charts, graphs (with lines of best fit), or use numerical methods, to process evidence for conclusions.	
	I.6b	draw conclusions consistent with their evidence and relate these to relevant scientific knowledge and understanding.	
	I.6c	comment on the suitability of the procedures and, where appropriate, suggest changes to improve the reliability of the evidence.	
8 marks	I.8a	use detailed scientific knowledge and understanding to explain valid conclusions drawn from processed evidence.	
	I.8b	explain how results support or undermine the original prediction when one has been made.	
	I.8c	comment on the reliability of the evidence, accounting for any anomalies or explain whether the evidence is sufficient to support a firm conclusion.	

8 MODERATION

8.1 Agreement Trials

Agreement Trials are conducted annually where teachers are briefed on the application of the assessment criteria and engage in trial marking.

8.2 Supplementary Training Materials

Supplementary training materials in the form of advice on assessment and exemplar materials are issued to all centres.

8.3 Support Service and Advice

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising from the coursework with the teachers concerned by means of a visit if necessary.

8.4 Internal Standardisation

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marks assigned by individual teachers to bring their assessments into line with those of the other teachers in the department and to match the standards promulgated at the Agreement Trial.

8.5 External Moderation

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, scrutinise samples of coursework drawn from each teaching group within a centre in accordance with instructions issued by the Council. The Assistant Coursework Moderators determine whether internal standardisation has been achieved within the centre, whether the assessments are consistent across the levels and whether an adjustment is necessary to bring the assessments into line with the standards agreed at the Agreement Trials. The recommendations of each Assistant Coursework Moderator are summarised and are reviewed by two other Assistant Coursework Moderators working independently. Any cases of disagreement are referred to the Coursework Moderator for resolution. Following the issue of results, all centres receive a statement of the adjustments made, if any.

INFORMATION TECHNOLOGY

Pupils should use, where appropriate, information technology to store, process, retrieve and present information. They should have opportunities to use databases and spreadsheets in their work and to use, where appropriate, sensors to monitor changes occurring during their practical work.

Syllabus content for the Foundation Tier is laid out in normal type.

Syllabus text content dealing with Higher Tier only is laid out in bold italics.

LIVING ORGANISMS AND LIFE PROCESSES

Life processes

Pupils should have the opportunity to:

(a) extend their knowledge of the basic life processes of all living organisms, including:

- nutrition, respiration, movement, excretion, response to stimuli, growth and reproduction;

Organ systems

Plants

(b) learn the basic functions of the organs in a flowering plant, including:

- the root – to absorb water and mineral salts; anchorage;
- the stem – to support; transport of water and food in veins;
- the leaf – large surface area to absorb light energy for photosynthesis;
- the flower – to reproduce.

Animals

(c) learn the basic functions of the major organ systems of the body, including:

- digestive system – where large molecules are broken down to simple soluble molecules which are absorbed into and transported by the blood;
- respiratory system – for gas exchange (oxygen for carbon dioxide in the lungs);
- skeletal system – support, movement and protection;
- circulatory system – transport of materials, protection, and maintaining body temperature;
- excretory systems – removal of toxic waste products at the kidneys;
- reproductive system – sexual reproduction as a process involving gamete formation and fertilization;
- Asexual reproduction as a process producing genetically identical offspring without fertilization;
- nervous system – the role of receptors, co-ordinators and effectors in bringing about a response.

Nutrition

Plants

Pupils should have the opportunity to:

(a) find out that photosynthesis is a key process which is essential to life including:

- that oxygen and starch are produced by photosynthesis;
- investigations which show that light, carbon dioxide, and chlorophyll are needed for photosynthesis to take place;
- the word equation for photosynthesis;
- factors affecting the rate of photosynthesis;
- that plants require specific minerals for healthy growth limited to calcium for cell walls, magnesium for chlorophyll formation and nitrogen as nitrates for amino acids and protein formation.

(b) ***explain how the products of photosynthesis are used by a plant.***

(c) ***find out the economic implications in crop production of enhancing environmental factors, for example, carbon dioxide, light intensity, temperature and fertiliser application.***

Animals

Diet

(d) find out that food is an energy source, and to compare the energy content of different foods, including:

- the functions of food – energy, growth and protection;
- the main dietary sources and roles of carbohydrates, fats, proteins, fibre, vitamins (C and D only) minerals (calcium and iron only) and water in the diet;
- the use of simple tests for each of the following, starch (iodine) simple sugar, (Benedict's reagent), protein (Biuret test) and vitamin C (DCPIP test);
- the comparisons of energy content of carbohydrates, fats and proteins in different foods;
- variation in energy required, with respect to age, gender, activity;

Healthy Diet

(e) learn about the diet required to maintain healthy bodies, including:

- a balanced diet;
- the relationship between health, diet and heart disease;
- the difference between malnutrition and starvation;
- dental care; structure of a tooth, the role of bacteria and sugar in tooth decay, care of teeth including the importance of fluoride.

Digestive System

(f) be introduced to the structure and functions of the component parts of the digestive system in humans, including: buccal cavity, oesophagus, stomach, small intestine (ileum), large intestine (colon), rectum and anus.

- identification of the parts of the human alimentary canal, in relation to ingestion, digestion and egestion, absorption and assimilation.

(g) • extend their knowledge of the digestive system to include the action of amylase, lipase and protease in saliva, gastric, pancreatic and intestinal juice, (specific names of enzymes not required).

- the source and action of bile;
- the significance of a large surface area for absorption; folds and villi;
- the absorption of water in the colon;
- ***the role of the liver in the assimilation of glucose.***

(h) • ***understand the properties of enzymes;***

- ***the role of enzymes as biological catalysts in cellular activity involving both breaking down and building up of molecules (illustrated by reference to starch metabolism). The effects of temperature and pH on enzyme action. The principle of substrate specificity.***

Respiration

Cell Respiration

Pupils should have opportunities to:

(a) understand how the cells use oxygen to provide energy for other life processes to take place, limited to the word equation for respiration;

Plants

(b) understand that plants respire, including:

- the exchange of oxygen and carbon dioxide through the stomata of the leaf of a plant during the day and during the night;

Animals

(c) understand the structure and function of the component parts of the respiratory system, including:

- identification and function of the major organs of the respiratory system – nasal cavity, trachea, bronchus, bronchioles, lungs, alveolus, diaphragm and ribs and intercostal muscles;
- mechanism of breathing (the roles of the intercostal muscles and diaphragm);
- investigate the composition of inhaled and exhaled air; (gas analysis not required).

(d) understand that respiratory surfaces are adapted for their function in both plants and animals, including large surface area, thin, moist and permeable;

Anaerobic

(e) understand that respiration may be aerobic or anaerobic depending on the availability of oxygen;

- ***Anaerobic respiration compared with aerobic respiration in terms of energy released and the product ethanol in yeast (word equation only required).***

Smoking and Health

(f) find out how cigarette smoke affects health, including:

- tar as a trigger for lung cancer;
- nicotine contributing to heart disease, irregular and increasing heartbeat;
- carbon monoxide displacement of O_2 in red blood cells;
- passive smoking;

Transport

Pupils should have opportunities to:

(a) understand that substances pass into and out of cells in a number of ways, including:

- diffusion – as the means by which gases move in and out of cells;
- osmosis – as a special case of diffusion where water passes through a partially permeable membrane (details of osmotic, water and pressure potential are not required). The role of the cell wall in limiting entry of water into a plant cell;
- ***active uptake – a process involving the expenditure of energy and the transport of substances against a concentration gradient as exemplified by the absorption of ions by an epidermal cell of the root of a plant.***

Plants

(b) find out how substances are transported in plants, including:

- water and mineral salts in xylem from root to all parts of plants;
- food from leaves, where it is made, in phloem to all parts of plants;

(c) understand the role of water in plants, including transport, support ***and transpiration;***

- ***The potometer as a means of measuring water uptake;***
- ***Factors affecting the rate of transpiration; temperature, wind speed, humidity and surface area;***

Animals

Circulatory System

(d) be introduced to the structure and functions of the component parts of the circulatory system in humans, including:

- structure of the blood: red blood cells (transport of oxygen), white blood cells (defence), plasma (transport of food, waste in solution), platelets (blood clotting);
- the heart, limited to names of the four chambers and the direction of blood flow; double circulation;
- blood vessels – arteries carrying blood away from the heart and veins carrying blood to the heart;

(e) extend their knowledge of the circulatory system in humans to include the names of the main blood vessels entering and leaving the heart and the main organs of the body, limited to the lungs, kidney, liver and intestine;

Defence

(f) understand the defence mechanisms of the body including the role of the:

- that disease can be caused by viruses, eg AIDS (HIV), bacteria, eg Gonorrhoea, Salmonella, fungi, eg Athlete's foot.
- skin;
- blood-clotting; antibodies and antigens; active and passive immunity;
- mucous membranes in the respiratory system;

Heart Disease

(g) find out the relationship between diet, fitness and circulatory disorders, including:

- obesity and increased blood pressure;
- investigate the effects of exercise on heart rate;
- heart attack as reduced coronary circulation.

Reproduction

Plants

Pupils should have the opportunity to:

(a) learn about the structure and functions of the component parts of the flower, limited to a named dicotyledonous plant including:

- name the parts – sepals, petals, nectaries, stamens, (anthers and filaments) and carpels (stigma, style, ovary), receptacle;
- self and cross-pollination – their advantages and disadvantages;
- insects and wind as agents of pollination;
- ***growth of pollen tube and its entry into the ovule followed by fertilisation. Haploid nuclei in gametes, diploid in zygotes.***
- fruit and seed dispersal-wind, animals, water and explosive mechanisms;
- seed structure (radicle, plumule, cotyledon, testa, endosperm);
- seed germination (a hypogeal seed);
- investigate the conditions which affect germination (temperature, adequate water, oxygen supply);

Animals

Reproductive System

(b) be introduced to the structure and functions of the component parts of the reproductive systems in humans, including:

- the male system – testes, scrotum, sperm ducts, prostate gland, urethra and penis – know their functions;
- the female system – ovaries, oviducts, uterus, cervix, vagina and vulva – know their functions;
- fertilization in the oviduct;
- development, by cell division, into a ball of cells which implants in the uterus lining;
- name the placenta, umbilical cord, amnion and amniotic fluid;
- birth limited to contraction of the uterus, dilation of the cervix and rupture of the amniotic membrane;

(c) ***extend their knowledge of the reproductive system to explain the role of the placenta, umbilical cord, amnion and amniotic fluid.***

(d) find out about the requirements to maintain healthy bodies and healthy babies during pregnancy, including diet, Rubella, smoking, alcohol and drugs;

(e) learn about the needs of young children in the early stages of their development, including breast feeding, balanced diet, immunisation programme (specific details of vaccine and time-table not required), parental care and a loving environment.

Puberty

(f) learn about the physical and emotional changes which take place during adolescence, including:

- girls – growth spurt, development of body hair (armpits and pubic region), growth of breast and menstruation (no detail of hormone control needed);
- boys – growth spurt, body hair (armpits and pubic region) facial hair, voice deepening and growth of testes and penis.

(g) learn about the need for a responsible attitude to sexual behaviour, including:

- interpersonal relationships;
- prevention of sexually transmitted diseases – the cause, transmission, treatment and prevention of AIDS and gonorrhoea;
- contraception – natural, mechanical, chemical and surgical methods.

Excretion

Excretory System

Pupils should have opportunities to learn:

- excretion as the elimination of metabolic waste products and toxic materials taken in from the environment;
- an outline of the structure of the human urinary system to include: kidney, ureter, bladder, sphincter muscle, urethra, renal artery and vein;

Sensitivity and response

Plants

Pupils should have opportunity to:

(a) understand the role of hormones in plants, including:

- phototropism as a growth movement in the response to light;

Animals

(b) find out that behaviour can be explained in terms of receptors, co-ordinators and effectors, including:

- receptors – the eye; structure and function of the conjunctiva, cornea, pupil, iris, lens, retina and optic nerve;

- ***skin, including temperature control; (details of skin structure not required);***
- co-ordinators – the simple function of the brain and spinal cord in co-ordinating responses; ***a reflex arc; voluntary and reflex actions; reflex arc in terms of sensory association and motor neurones;***
- effectors – the antagonistic action and function of muscles at a joint, limited to the elbow joint;

(c) ***understand the function and role of hormones in co-ordination in humans, including:***

- ***insulin control of blood sugar levels; (diabetes as a condition in which this mechanism breaks down);***
- ***adrenaline in preparation for flight or fight;***

Drugs

(d) discuss the effects of alcohol, drug and solvent abuse on society, including:

- addiction;
- cost to society.

THE LIVING WORLD – ENVIRONMENT AND GENETICS

Environment

Habitat study

Candidates are expected to have carried out fieldwork using sampling techniques eg quadrats and pitfall traps.

Pupils should have opportunity to:

(a) find out by the study of a local habitat that physical factors affect the distribution and type of living organism found in a local habitat, including:

- changes in seasonal temperature;
- availability of light;
- availability of water;

Classification

(b) assign organisms to their major groups using keys and observable features, including:

- fungi: spores, no chlorophyll;
- flowering plants: root, stem and leaves, flowers and seed production;
- annelids – segmentation;
- arthropods (insects only): exoskeleton, 3 pairs of jointed legs, two pairs of wings;
- molluscs: possession of a shell;
- chordates: animals with backbones;
- bony fish: gills, fins, scales;
- amphibians: lungs in adult, moist skin, eggs laid in water, young a tadpole;
- reptiles: scales, shelled eggs laid on land, parental care;
- birds: feathers, shelled eggs, parental care;
- mammals: mammary glands, hair, ear pinna, parental care;

Life cycles

(c) learn about the stages in the life cycle of some living things including a flowering plant, a butterfly and a frog;

Adaptation

(d) learn that living organisms are adapted to survive in the environment, for example, adaptations to life on land, and in the water.

(e) understand the components of food chains and food webs, including:

- sun as a primary source of energy;
- producers;
- consumers (primary, secondary and tertiary);
- decomposers (the role of bacteria and fungi);
- nature of energy flow;

Cycles

(f) understand that materials are recycled to maintain the balance in the environment, including: carbon cycle; photosynthesis, respiration, combustion and fossilization;

- ***nitrogen cycle – cycling of protein to include decay and decomposition, nitrification, nitrogen fixation and denitrification (no specific name of bacteria required);***

Pollution

(g) find out that human activity can damage the environment and affect the plants and animals living there, including:

- air
  - effects of pollution by soot and sulphur dioxide on plants;
- land
  - deforestation;
  - household refuse;
  - biodegradable and non biodegradable materials;
- water
  - sewage treated and untreated, eutrophication;
  - effluent from water cooling processes;

Conservation

(h) find out that Man may contribute to improving the environment for himself, and the plants and animals which live there, including:

- air – smokeless fuels, alternative fuels;
- land – reafforestation;
- water – sewage disposal (detail of plant treatment not required).

(i) explain the meaning of the terms pyramid of numbers and pyramid biomass;

(j) ***explain how materials for growth and energy are transferred through an ecosystem, including assigning organisms to their trophic level;***

Energy losses between trophic levels;

The advantages of short food chains in relation to the feeding of man.

(k) ***understand how food production involves the management of ecosystems to improve the efficiency of energy transfer, including the management of fish stocks, eg herring stock in the North Sea.***

(l) understand how population growth and decline are related to environmental resources including the effects of birth rate, death rate, emigration, immigration, food supply, predation and diseases.

GENETICS

Variation

The cell

Pupils should have opportunities to:

(a) learn that plants and animals are composed of cells;

- use of the microscope and slide to study the structure and function of a typical plant and animal cell including nucleus, cytoplasm, cell membrane, nuclear membrane, cell wall, chloroplast, permanent vacuole and chromosomes;
- Similarities: cytoplasm, nucleus and membranes as features common to most;
- Differences: cell wall and large vacuole as distinguishing features of most plant cells;
- Cancer as abnormal cell division.

Specialisation

(b) understand that cells become specialised to carry out different functions to include the root hair in plants; sperm cell, ***ciliated epithelium in animals;***

Levels of Organisation

(c) understand that cells are the building units of tissues, organs, organ systems and organisms in a flowering plant and a mammal;

Genetics

(d) learn that genetic information is carried in the form of genes alleles on chromosomes in the nucleus of cells, eg eye colour and tongue rolling

- ***genes as short lengths of DNA***

(e) ***understand how genetic information is passed from cell to cell and generation to generation, including:***

- ***mitosis; outline in terms of the exact duplication of chromosomes (names of phases and details of DNA replication not required);***
- ***meiosis as reduction division (diploid to haploid) and as a process which re-assorts the chromosomes (omitting crossing over and names of phases), fertilisation as a means of restoring the diploid number and combining different sets of chromosomes.***

(f) understand the principles of a simple monohybrid cross (co-dominance not required). Use of Punnett squares to determine genotype frequencies. Distinction between genotype and phenotype, heterozygous and homozygous, dominant and recessive alleles. ***Use of backcross to determine genotype.***

(g) explain the way in which sex is determined in humans. (No detail of sex linked characters required);

(h) know that some diseases can be inherited, limited to cystic fibrosis and Downs syndrome: no details of symptoms required;

(i) know that radiation can cause genetic mutation to include the role of U-V light and skin cancer;

(j) ***understand how DNA controls protein synthesis, (limited to DNA as a double helix linked by base pairs and lengths of DNA which code for specific proteins).***

Understand how proteins can be obtained from genetically engineered bacteria, eg human insulin.

Selection

(k) find out that variation can be measured in living organisms including height as an example of continuous variation and tongue rolling as an example of discontinuous variation.

(l) know that variation in living organisms has both a genetic and environmental basis, eg height in humans;

(m) ***understand that sexual reproduction is a source of genetic variation, while asexual reproduction produces clones;***

(n) ***know that cloning results in genetically identical offspring, for example, cuttings and runners in asexual reproduction in plants, tissue culture; (no details of experimental technique required).***

(o) ***understand how variation and selection may lead to evolution or extinction;***

natural selection as variation within phenotypes and competition for resources leading to differential survival.

(p) ***understand the use of artificial selection in plant and animal breeding leading to increased yield, food value, hardiness and disease resistance.***

USING MATERIALS AND UNDERSTANDING REACTIONS

Investigating materials

Candidates should be able to:

Hazard symbols	1.1	Recognise and know the value of common hazard symbols on containers, ie, flammable, toxic, corrosive, explosive, harmful/irritant (distinction between supply symbols, convenience labels and safety signs not required).
Uses of materials	1.2	Relate knowledge of the properties of materials to their everyday use, eg metals in saucepans, pipes, bridges etc, wood in tables, window frames, chairs etc, glass in windows, bottles etc, plastics as alternatives to glass, wood and metals.
Man-made materials	1.3	Relate knowledge of the properties of the different classes of man-made materials to everyday use, taking account of social, cultural, economic, environmental and health and safety issues.
		Specific examples of man-made materials should include: metals – iron, aluminium, copper, lead and zinc; ceramics – pottery, tiles; glass – soda glass, heat resistant glass; plastics – thermosetting, eg melamine bakelite, epoxy resins, thermosoftening, eg polythene, PVC, polystyrene; fibres – nylon.
		Structures and methods of manufacture are not required unless specifically mentioned in the syllabus.
Composite materials	1.4	***Evaluate the relative advantages and disadvantages of composite materials, eg glass fibre (boats, car bodies), reinforced glass (windows), reinforced concrete (beams), glass-reinforced plastic and bone.***
	1.5	***Describe a composite material as one which combines the properties of more than one material to produce a more useful material for particular purposes.***
Separation techniques	1.6	Give an account of various techniques for separating and purifying mixtures, and choose an appropriate technique in a given situation.
		The techniques should include filtration, crystallisation, centrifugation, simple and fractional distillation, chromatography, use of a separating funnel.
		Appropriate situations can be laboratory, industrial or domestic.
Solids, liquids and gases	1.7	Classify materials as solids, liquids or gases on the basis of their properties, ie shape, hardness, "movement", effect of heating or cooling.
	1.8	Recognise that when materials change their state there is no change in the substance of which they are made, for example, melting blocks of ice.
	1.9	Demonstrate knowledge of the sequence of changes of state (including sublimation) that results from heating or cooling.
Gases	1.10	Recognise that gases have weight and that they spread out to fill the space available, eg, diffusion of bromine.
	1.11	Give examples which show that gases are compressible and how this characteristic is used in everyday life, eg, fire extinguishers, aerosol sprays.
Solubility	1.12	Understand the terms: solvent, solute, solution, saturated, hydrated and dehydration.
	1.13	Recognise the factors affecting solution, ie, heat, surface area, stirring, volume of solvent.
	1.14	Understand the qualitative effect of temperature on the solubility of gases in water.

Particles and Bonds

Candidates should be able to:

Kinetic theory	2.1	Recognise that it is helpful to imagine that everything is made of very small particles.
	2.2	Give examples of situations which indicate that these small particles move. Examples should include diffusion, dilution and mixing experiments and also Brownian Motion.

	2.3	Explain the differences between solids, liquids and gases in terms of proximity and motion of particles.
	2.4	Recognise that energy transfers are associated with changes of state and with changes within a particular state, such as expansion, eg, expansion of metals, freezing of water.
	2.5	Use developing ideas about the constitution of matter and relate them to everyday examples involving changes of state and solubility, eg, ice, water, water vapour, steam, melting solder, solubilities of sodium chloride, copper sulphate, ethanol, oxygen and carbon dioxide in water.
	2.6	Explain changes of state and energy changes associated with them, diffusion and dissolving, in terms of simple kinetic theory.
	2.7	Recognise that the volume of a gas depends upon pressure and temperature. (Qualitative treatment only).
	2.8	***Use the relationship between the volume of a gas and its pressure and temperature to solve simple problems, ie PV/T = constant (conversion to STP not required). Quantitative practical details not required.***
Atomic Structure	2.9	Understand the terms: elements, compounds, atoms, ions and molecules and their interrelation.
	2.10	Describe the structure of atoms in terms of protons, electrons and neutrons.
	2.11	Describe the structure of ions in terms of protons, electrons and neutrons.
	2.12	State the relative charge and relative mass of a proton, an electron and a neutron.
	2.13	Understand the terms atomic number and mass number.
	2.14	Explain the existence of isotopes and distinguish between isotopes, eg ^{35}Cl and ^{37}Cl.
	2.15	Describe the arrangement of electrons in shells for the first twenty elements.
Elements, compounds and mixtures	2.16	Classify substances as elements (metallic or non-metallic), compounds or mixtures and distinguish between them according to their properties.
Ionic bonding	2.17	Describe the formation of an ionic bond in terms of electron transfer and recognise that bond formation is the result of attraction between ions of opposite charge and is typical of metal compounds. Examples should include MgO, NaCl and $CaCl_2$.
Covalent bonding	2.18	***Describe the formation of a covalent bond in terms of sharing electron pairs. Examples should include Cl_2, O_2, H_2O and CH_4.***
	2.19	***Recognise covalent bonding as typical of non-metal elements and compounds.***
Bonding in metals	2.20	***Describe in simple terms, the bonding in metals.***
Bonding and structure	2.21	***Classify substances in terms of their properties as metallic; ionic; covalent molecular or giant covalent (including graphite, diamond and quartz).***
	2.22	***Explain the properties and uses of typical ionic, covalent (simple and giant) and metallic substances in terms of their chemical bonding and structures.***
	2.23	***Relate the properties of metals, ceramics, glass, plastics and fibres to simple models of their structures.***

Understanding chemical reactions

Candidates should be able to:

Chemical nomenclature	3.1	Recognise and use symbols for common elements.
	3.2	Use chemical names for simple compounds.
	3.3	Construct simple word equations to describe reactions.
	3.4	Give symbolic representations for some elements and deduce the formulae of simple compounds. Limited to elements both of whose valencies in the compound can be established from their positions in the Periodic Table and those groups (hydroxide, sulphate, nitrate, carbonate, hydrogen carbonate, ammonium) whose symbols and valencies are given in a Data Leaflet provided for candidates.
	3.5	Interpret chemical formulae.
	3.6	Write symbolic equations.
	3.7	***Use state symbols (s, l, g and aq).***
	3.8	***Write balanced symbolic equations.***
	3.9	***Write ionic equations, eg, to describe electrolysis processes.***
Chemical change	3.10	Recognise that when new compounds are formed through a permanent change chemical reaction has occurred and that the new substances formed have distinctive properties, eg, rusting, thermal decomposition, combustion, displacement.
Rusting	3.11	Demonstrate an understanding of the causes of rusting and its economic and environmental implications, and the ways of controlling and preventing the process. Rusting as the reaction of iron with a combination of water and air. Rust prevention by painting, oiling, greasing, galvanising, tin plating, chromium, plating, using stainless steel. ***Rust as hydrated iron (III) oxide. Sacrificial protection related to the reactivity series.***
Redox	3.12	Recognise oxidation as the addition of oxygen to, or removal of hydrogen from, a substance.
	3.13	Recognise reduction as the reversal of oxidation.
	3.14	Relate important oxidation and reduction reactions to everyday examples ***and manufacturing processes.*** Limited to rusting, combustion of fuels, *Aluminium and iron manufacture,* ***Haber Process. (Iron manufacture, Haber Process terminal papers only).***
Hard water	3.15	Identify a sample of water as being hard or soft.
	3.16	Describe the effects of hard water on soap and detergents.
	3.17	Recognise characteristics of a hard water region including advantages associated with hard water.
	3.18	Give examples of advantages and disadvantages associated with hard water.
	3.19	Explain the differences between temporary and permanent hardness.
	3.20	Recognise methods of water softening. ie by boiling, addition of washing soda and by ion exchange.
	3.21	***Explain in terms of ions the causes and effects of water hardness.***
	3.22	***Outline methods of softening water.***
	3.23	***Explain precipitation in terms of ions and relate this to processes of separation and purification, eg, use of washing soda to soften water.***
Energetics	3.24	Recognise that heat or light can bring about permanent change in materials, eg, photography, photosynthesis.
	3.25	Recognise that chemical reactions involve the transfer of energy.

3.26 Demonstrate a knowledge that materials can be decomposed by heat including the effect of heat on hydrated copper (II) sulphate and thermal decomposition of metal carbonates. Decomposition of limestone and ***thermal cracking of hydrocarbons (details of plant not required).***

3.27 Describe combustion as the combination of fuels and oxygen to release energy and form oxides, ie, fuel + oxygen → carbon dioxide + water + energy.

3.28 Recognise that fossil fuel impurities lead to SO_2 pollution and to acid rain.

3.29 Give and recognise examples of simple exothermic and endothermic reactions, eg combustion, photosynthesis, dissolving, displacement, hydration of $CuSO_4$, neutralisation.

3.30 ***Recognise that the energy transferred in a chemical reaction is associated with breaking and making of chemical bonds. (Qualitative treatment only)***

Electrolysis

3.31 Give a simple explanation of electrolysis and examples of its use, ie recognise that some substances can be broken down into simpler substances by an electric current. This is called electrolysis and can happen when the substance is molten or dissolved in water.

3.32 Understand the terms anode, cathode and electrolyte.

3.33 ***Predict the products of simple electrolytic reactions. Examples should include the molten halide salts LiCl and $PbBr_2$ and solutions limited to sulphuric acid (dilute) and sodium chloride (concentrated) (inert electrodes in all above).***

3.34 ***Describe and explain the processes involved in the purification of copper by electrolysis of copper sulphate solution using copper electrodes and the extraction of aluminium from pure aluminium oxide. (Details of processes required but no details of plant).***

3.35 ***Recognise that, in electrolysis, conduction occurs through the movement of ions, that positive ions are discharged at the cathode and that negative ions are discharged at the anode. The idea of preferential discharge is limited to the electrolysis of sulphuric acid (dilute) and sodium chloride (concentrated).***

3.36 ***Describe electrolysis in terms of ionic reactions. Any stoichiometrically correct equations for cathode and anode reactions will be accepted. Examples should be drawn from electrolyses processes specifically covered in the syllabus.***

PATTERNS, PROBLEMS, PROCESSES

Finding patterns, solving problems

Candidates should be able to:

Acids and bases

4.1 Recall the use of indicators to classify aqueous solutions as acidic, alkaline or neutral. Indicators should include litmus and universal/pH indicators.

4.2 Measure the pH of aqueous solutions and use the pH scale to classify solutions as acidic/alkaline and to indicate relative strengths of these solutions.

4.3 Recognise that acids dissolve in water, producing hydrogen ions (H^+ (aq)), that alkalis dissolve in water producing hydroxide ions (OH^-(aq)) and that neutralisation is the combination of these ions to form water.

$H^+(aq) + OH^-(aq) \rightarrow H_2O$ (l)

4.4 Recognise that a base is a metal oxide or hydroxide and that an alkali is a soluble base.

4.5 Recognise that metal oxides are basic and that non-metal oxides are acidic, but understand that there are limitations to different systems of classification, for example, oxide classification in terms of acid/base behaviour.

4.6 Give examples of reactions of acids with: metals, bases (including sodium hydroxide and copper(II)oxide) and metal carbonates to form salts. Examples limited to those reactions mentioned elsewhere in the syllabus.

Reactivity series

4.7 Make predictions from the reactivity series of metals, ie, K, Na, Ca, Mg, Al, Zn, Fe, Cu based on reactions with oxygen, water/steam, and dilute acids (hydrochloric and sulphuric) as appropriate, displacement reactions.

	4.8	Predict where an unfamiliar element should be placed in the series based on comparative information.
	4.9	***Relate the position of metals in the reactivity series to the method of extraction from their ores.***
Reaction rates	4.10	Describe the qualitative effects of temperature, concentration, particle size, catalysis and, as appropriate, light on the rate of chemical reactions.
	4.11	***Identify the significant factors which control the rates of reaction and, where appropriate, their quantitative effects. Quantitative effects limited to the interpretation of data, eg, drawing graphs and making predictions about how the rate may change when the factors listed are altered. Give a simple explanation of how the factors identified above influence the rate in terms of collisions and the energies of the reacting particles.***
	4.12	Relate the factors which control rates of chemical reactions to practical problems associated with manufacturing processes in industry.
Periodic Table	4.13	Demonstrate a knowledge that the Periodic Table groups together elements with similar properties, eg, the Alkali Metals as a group of reactive metals, the Halogens as a group of reactive non-metals, the Noble Gases as a group of unreactive non-metals.
	4.14	Outline the work of Mendeleev in the development of the Periodic Table.
	4.15	Relate the position of selected elements in the Periodic Table and their properties to their electronic structure. (Limited to the first 20 elements)
	4.16	***Describe simple trends in the properties of elements within Groups (I, II, VII) and across Periods (2 and 3) of the Periodic Table.***
	4.17	***Use the Periodic Table to predict the properties of certain unfamiliar elements. Elements limited to Groups I, II, VII and properties to relative atomic mass, atomic size, metallic and non-metallic characteristics, valency and chemical reactivity with oxygen, water and dilute acids, as appropriate.***
Chemical calculations	4.18	Understand the term relative atomic mass and use this to determine relative formula masses (relative molecular masses).
	4.19	***Understand that one mole of different substances contains equal numbers of specified particles.***
	4.20	***Use relative formula mass to determine the number of moles present in a given mass of material.***
	4.21	***Carry out calculations involving reaction masses from given balanced equations. Calculations relating to moles will be limited to use of the relationship: mass(m) = number of moles(n) X relative molecular (atomic) mas (RMM or RAM).***
	4.22	***Understand the term concentration of a solution expressed in moles per litre (mol/dm3). Questions on titrations will not be asked. Calculations on molarity will not be asked but concentrations of chemicals in solution may be given in moles per litre if this is appropriate, eg in work relating to rates of reaction.***

METALS, NON-METALS AND THEIR COMPOUNDS

Candidates should be able to:

METALS

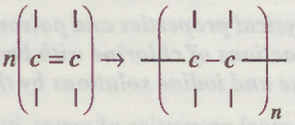
Physical properties of metals	5.1	Describe the important physical properties of a range of metals: sodium, calcium, magnesium, iron and copper. Physical properties of metals to include electrical and thermal conductivity, malleability, ductility, lustre, strength, melting point (qualitative treatment).
Chemical properties of metals	5.2	Describe the important chemical properties of a range of metals: sodium, calcium, magnesium, iron and copper. Limited to their reactions with oxygen, water/steam, dilute hydrochloric and sulphuric acids as appropriate.
Physical properties of metal compounds	5.3	Describe the typical properties of ionic solids ie hard, brittle, high melting, crystalline solids which conduct electricity when molten or in solution. Also to include solubilities of chlorides, nitrates, sulphates, carbonates, hydroxides and oxides as provided in the data leaflet supplied to candidates.
Chemical properties of metal compounds	5.4	Recognise oxides and hydroxides as bases (NaOH, CaO, $Ca(OH)_2$, CuO) and describe their reactions with water and with dilute hydrochloric and sulphuric acids as appropriate.
	5.5	Describe the reactions of carbonates ($CaCO_3$, Na_2CO_3) with acid and the thermal decomposition of carbonates ($CaCO_3$, $CuCO_3$).
Uses of metals	5.6	Recall important uses of metals. To include: Magnesium: high strength alloys for aircraft; flares. Aluminium: electrical wiring; saucepans; alloys. Zinc: galvanising; brass. Iron: red blood cells; structures. Copper: electrical wiring; plumbing; brass; coinage. Lead: roofing; batteries; solder; anti-knock.
Gases	5.7	Describe tests to identify the gases: hydrogen, oxygen and carbon dioxide and recognise the diatomicity of hydrogen, oxygen, nitrogen and ***chlorine*** gases.
Hydrogen	5.8	Describe the physical properties and reactions of hydrogen with oxygen forming water, as a reducing agent, eg with copper(II) oxide ***and with nitrogen forming ammonia.***
Carbon	5.9	Describe the combustion of carbon to CO and CO_2 and recognise in simple terms the toxic effects of incomplete combustion of fuels.
Nitrogen	5.10	Describe the physical properties and lack of reactivity of nitrogen ***and its reaction with hydrogen in the manufacture of ammonia (Haber-Bosch Process), ie name of catalyst, approximate temperature and pressure. Equilibrium aspects will not be examined.***
Oxygen	5.11	Describe the physical properties of oxygen and recognise its importance in combustion and respiration.
Sulphur	5.12	Describe the physical properties of sulphur, its combustion to form SO_2 and the reaction of sulphur with iron. Effects of SO_2 pollution (acid rain).
Noble gases	5.13	Recognise that helium, neon and argon are chemically inert gases.
Chlorine	5.14	***Describe the physical properties and poisonous nature of chlorine. Describe displacement reactions of chlorine with bromides and iodides (and recognise aqueous bromine and iodine solutions by their colour).***
Water	5.15	Describe the physical properties of water, its use as a common solvent, the use of anhydrous copper(II) sulphate to test for the presence of water and understand the term "water of crystallisation" and its removal by action of heat.
	5.16	Describe the water cycle and recognise the pollution of water by detergents (phosphates) and fertilizers (nitrates and phosphates). Describe the role of filtration and chlorination in water treatment.

Carbon dioxide	5.17	Describe the physical properties of carbon dioxide, the causes and effects of carbon dioxide pollution (green house effect), its reactions with water ***and sodium hydroxide.***
Uses of non-metals	5.18	Recall important uses of non-metals and their compounds to include:

Hydrogen:	meteorological balloons; rocket engines; potential as a clean fuel.
Carbon:	as a fuel; electrodes in aluminium manufacture.
Nitrogen:	coolant; food packaging.
Oxygen:	hospitals – breathing; welding; steel making
Sulphur:	vulcanising of rubber; fungicide.
Chlorine:	PVC manufacture; water sterilisation.
Carbon dioxide:	fire extinguishers; carbonated drinks; dry ice.
Ammonia:	fertilizers; nitric acid manufacture; nylon.
Sulphuric acid:	car batteries; manufacture of detergents; fibres; pigments.

ORGANIC CHEMISTRY

Sources of organic chemicals	5.19	Relate that fossil fuels and biological substances are carbon-based compounds. Recall that oil is the major source of organic chemicals and that chemicals obtained from oil are hydrocarbons.
	5.20	Give examples of fossil fuels: Natural gas, LPG, petrol, diesel, paraffin, candle wax, peat, lignite, coal, coke, recognise that fossil fuels are non-renewable resources and describe the combustion of fossil fuel as: fossil fuel + oxygen → carbon dioxide + water + heat energy.
	5.21	***Explain how chemicals are obtained from oil by fractionation and cracking. Social, cultural, economic, environmental, health and safety and energy factors involved in these processes.***
Homologous series	5.22	***Recognise an homologous series as one in which the chemicals have: the same general formula, similar chemical properties and a gradation in their physical properties.***
Alkanes	5.23	***Recall the names, molecular and structural formulae, and physical state of first four alkanes. Describe the complete combustion of alkanes and recognise their use as fuels.***
Alkenes	5.24	***Recall the names, molecular and structural formulae, and physical state of first two alkenes. Describe the complete combustion of alkenes and the manufacture of ethanol from ethene and steam.***
	5.25	***Describe the use of bromine water to distinguish alkanes/alkenes (equations not required).***
	5.26	***Recognise examples of the use of alkenes in the manufacture of commercially important addition polymers, (specific conditions not required) and to the social, cultural, economic, environmental, health and safety factors involved. Limited to polythene, PVC, polypropene. Give uses of these polymers. Represent addition polymerisation as:***



Ethanol	5.27	***Recall the molecular and structural formula and physical state of ethanol. Describe the complete combustion of ethanol and its formation by fermentation (equation not required). Give uses for ethanol as a fuel, in alcoholic beverages and as a solvent.***
Ethanoic acid	5.28	***Recall the molecular and structural formula of ethanoic acid. Give examples of reactions of ethanoic acid as a typical dilute acid ie with metals, bases and carbonates. Reaction with ethanol to form an ester. (Test-tube scale). Formula and structure of ethyl ethanoate.***

SCIENCE AT WORK

Candidates should be able to:

Human influences	6.1	Identify the positive and negative effects of the exploitation of raw materials, including the harmful effects on the physical and living environments. Limited to limestone quarrying, peat cutting, lignite mining and solution mining of salt.
	6.2	Explain how the impact of human activity on the Earth is related to economic factors and industrial requirements and recognise pollution control as a national and international responsibility.
Industrial processes	6.3	***Use scientific knowledge and information to evaluate the social, economic and environmental factors associated with the manufacturing processes involved in cracking oil, the chlor-alkali Industry, the production of plastics and fertilizers and the manufacture of aluminium and iron. Specific chemistry limited to that given elsewhere in the syllabus.***
Manufacture of iron	6.4	***Describe the production of iron in the blast furnace. Outline the essential chemistry and conditions of the process and demonstrate an understanding of the energy factors involved. Details of plant not required.***
Radioactivity	6.5	***Describe the properties of different types of ionising radiation and relate these to their uses. Alpha decay illustrated by uranium-238 and beta decay illustrated by carbon-14. Properties of alpha and beta particles and gamma rays to include their charge, mass and relative penetrating power in air.***
	6.6	***Describe radioactivity and nuclear fission in terms of the atomic model, eg recognise the products formed on alpha or beta decay of given radioactive isotopes and write simple nuclear equations to illustrate alpha and beta decay.***
	6.7	***Demonstrate an understanding of half-life including simple calculations.***

FORCES AND ENERGY

Candidates should be able to:

Forms of energy	1.1	Recall the following forms of energy; chemical heat, electrical, sound, light, magnetic, nuclear, kinetic and potential (gravitational and strain).
	1.2	Recall that energy is measured in joules.
Energy resources	1.3	Recall that there is a variety of energy resources, to include, oil, gas, coal, nuclear, biomass, wind, wave, solar, geothermal, tidal and hydroelectric.
	1.4	Understand that energy sources, such as wind and fossil fuels, are ultimately dependent on the sun's energy.
	1.5	Recall the difference between renewable and non-renewable energy resources.
	1.6	***Describe the economic and environmental implications of the use of energy resources, limited to generation of electricity by fossil fuels, nuclear fuel, wind farms, waves and tides. Appreciate the effect on the environment of the use of these energy resources limited to the greenhouse effect (brief outline only), land/sea use, nuclear waste.***
	1.7	***Identify and evaluate the financial costs of using various energy resources to generate electricity and evaluate these costs against the benefits to society. This should take into consideration: reliability, how quickly the different types of power station can respond to changes in demand, the costs of building, operating and de-commissioning power stations and any additional information, including quantitative information with which they are provided.***
Work and power	1.8	Recall and use the relationship; work = force × distance moved in the same direction as the force, and that work is measured in joules.
	1.9	***Recall and use the formula; power = work done/time taken.***
	1.10	***Recall that power is measured in watts.***
Energy changes	1.11	Describe energy changes in a range of domestic contexts and in familiar devices.
Conservation of energy	1.12	Understand that energy is conserved and describe energy changes in terms of the principle of conservation of energy.
	1.13	Understand that energy may be dissipated and become less useful and appreciate the role that friction plays in this.

	1.14	***Recall and use the quantitative relationships for kinetic energy (1/2 mv^2), gravitational potential energy (mgh) and power, in the context of the conservation of energy.***
Efficiency	1.15	Recall that global resources are limited and understand why energy should be used efficiently.
	1.16	Recall that efficiency is a measure of how much energy is transferred in an intended way and calculate as the ratio of useful output energy to input energy.
Heat transfer	1.17	Recall that temperature is a measure of how hot an object is and that it is measured in degrees Celsius (°C) whereas heat is a form of energy.
	1.18	Describe the processes of heat transfer in solids, liquids and gases.
	1.19	Describe the uses of good thermal conductors and thermal insulators.
	1.20	***Describe the thermal conduction in good conductors and in insulators in terms of the movement of electrons and vibrational movement of atoms/molecules.***
	1.21	Describe convection in liquids and gases in terms of currents.
	1.22	***Describe convection in liquids and gases in terms of the movement of the molecules of the liquid or gas.***
	1.23	Describe the effect that the nature of a surface has on the emission and absorption of radiant heat, including some applications.
	1.24	Describe methods of reducing heat loss from the home.
Effects of a force	2.1	Recall that forces can: change the shape of things; start objects moving; cause moving objects to stop; change the direction of motion; cause objects to turn.
	2.2	Recall that force is measured in newtons.
	2.3	Recall that the movement of an object depends on the size and direction of the forces exerted on it.
	2.4	Understand Newton's first law i.e. that change in movement or direction results from unbalanced forces and that balanced forces produce no change.
	2.5	Appreciate that friction is a force that opposes motion.
Mass and weight	2.6	Distinguish between mass and weight, in that, mass is an unchanging property of an object whereas weight is a force that depends on how strong gravity is.
	2.7	Recall that mass is measured in kilogrammes.
	2.8	Recall that, on the Earth, gravity exerts a force of 10 N on every kilogramme of mass and be able to carry out simple calculations involving mass and weight.
Hooke's Law	2.9	Investigate experimentally the relationship between force and the extension of a helical spring.
	2.10	State and use Hooke's law and use it to solve simple problems.
	2.11	Understand the meaning of elastic limit.
Moments	2.12	Understand how the turning effect of a force depends on its size and where it is applied.
	2.13	Describe some practical applications of levers.
	2.14	***Calculate the moment of a force as force times perpendicular distance from the pivot.***
	2.15	***State the principle of moments and use it to solve simple problems. Calculations limited to two forces other than that acting at the pivot. Perpendicular distances only will be given.***
Centre of gravity	2.16	***Understand the term centre of gravity and how the stability of an object depends on the position of the centre of gravity and the width of its base.***
Pressure	2.17	Understand how pressure depends on force and area.
	2.18	Describe some practical applications of pressure (excluding the pressure due to a liquid and the transmission of pressure of in liquids.)
	2.19	Calculate pressure using P = F/A; recall that pressure is measured in Pascals. (Problems may be set in which N/cm^2 and N/mm^2 are used. There will be no interchange of units).

Motion	2.20	Calculate average speed from measurements of distance and time and from linear distance – time graphs.
	2.21	***Distinguish between distance and displacement, speed and velocity.***
	2.22	***Recall and use the quantitative relationships between*** (i) ***displacement, time and average velocity;*** (ii) ***initial velocity, final velocity, acceleration and time. (Problems will only be set on motion in one direction. Equations of motion will not be examined.)***
Displacement	2.23	***Use graphical methods to determine velocity, acceleration and displacement; recall that the slope of a displacement-time graph is the velocity and that the slope of a velocity-time graph is the acceleration and that the area under the graph is the displacement.***
Newton's 2nd law	2.24	***Recall and use the quantitative relationships between force, mass and acceleration in the form $F = ma$, where F is the resultant force.***
	2.25	***Appreciate that, in the absence of all other forces, objects near the surface of the earth fall with the same acceleration and recall that this acceleration is known as the acceleration of free fall.***
	2.26	***Recognise and use the equation: weight = mass × acceleration of free fall. Experimental determination of acceleration of free fall is not required.***
Momentum	2.27	***Recall that momentum is the product of mass and velocity. Conservation of momentum is not required.***
Circular motion	2.28	Recall some examples of circular motion.
	2.29	***Recall that an object moving in a circle requires a centripetal force.***
	2.30	***Recall that if this force is removed the object will fly off at a tangent to the circle.***

WAVES, LIGHT AND SOUND

Waves	3.1	Understand that waves transfer energy from one point to another.
	3.2	Distinguish between transverse and longitudinal waves in terms of the motion of the particles of the medium.
	3.3	Recall examples of transverse and longitudinal waves.
	3.4	Describe, using simple wavefront diagrams, how waves are reflected and refracted, restricted to plane wavefronts, plane barriers and plane boundaries. (Geometrical constructions not required).
	3.5	Recall the meaning of frequency, wavelength and amplitude of a wave.
	3.6	***Recall and use the quantitative relationship between frequency, wavelength and speed of a wave.***
Resonance	3.7	***Recall that a vibrating object has a natural frequency of vibration and, if forced to vibrate at this frequency, resonant oscillations occur which can be sometimes advantageous and at other times not.***
Sound	3.8	Recall that sounds are produced by vibrations.
	3.9	Recall that sound can travel through different materials at different speeds but cannot travel through a vacuum.
	3.10	Recall how the loudness of a sound is related qualitatively to the amplitude of the vibration causing the sound.
	3.11	Recall how the pitch of a sound is related qualitatively to the frequency of the vibration causing the sound.
	3.12	***Relate pitch, loudness and the quality of sound to its waveform displayed on a CRO.***
	3.13	Recall that the range of human hearing is 20 Hz to 20 kHz and that the upper limit decreases with age.

	3.14	Recall that frequencies greater than 20 kHz are called ultrasound.
	3.15	Recall damaging effects of loud sounds on the ear and understand the need to control noise levels in the environment.
	3.16	Recall that sound is reflected so that the angle of incidence = the angle of reflection.
	3.17	Recall some application of echoes and carry out simple calculations on the echo principle.
	3.18	***Recall some applications of ultrasound in industry and medicine.***
Light	3.19	Recall that luminous objects are seen by the light they emit and that all other objects are seen by the light they reflect.
	3.20	Recall that light travels in straight lines at a finite speed.
	3.21	Explain with the help of ray diagrams the formation of shadows by point and extended sources of light.
	3.22	Recall that light is reflected from plane surfaces so that the angle of incidence = the angle of reflection.
	3.23	Recall that a change of speed causes light to be refracted at air/glass, glass/air, air/water, and water/air boundaries.
	3.24	Recall that when light slows it is bent towards the normal and the converse. A knowledge of Snell's law or total internal reflection is not expected.
	3.25	***Use a wave model to explain refraction of light at a plane surface using simple plane wavefront diagrams.*** **(See also 3.4)**
	3.26	Recall how light is dispersed by prisms and understand that a spectrum can be produced because different colours of light are refracted by different amounts.
The electromagnetic spectrum	3.27	Recall that the electromagnetic spectrum includes radio waves, microwaves/ radar, infrared, visible light, ultraviolet waves, X-rays and gamma-rays and be able to arrange them in order of decreasing wavelength.
	3.28	Recall some uses and dangers of microwaves, infrared and ultraviolet waves in domestic situations.
	3.29	Recall some uses of radio waves, microwaves, infrared and visible light in communications.
	3.30	Recall some uses of X-rays and gamma-rays in medicine. (Excluding detection of various regions of the spectrum).

ELECTRICITY AND MAGNETISM

Static charge	4.1	Recall that insulating materials can be charged by friction.
	4.2	Recall that like-charged objects repel each other and unlike-charged objects attract each other.
	4.3	Recall that positively charged objects have a deficiency of electrons and negatively charged objects have a surplus of electrons.
	4.4	Recall the dangers and use of electrostatic charge generated in everyday contexts.
Charge flow	4.5	Understand that an electric current is a flow of electrons and that it is in the opposite direction to that of a conventional current.
	4.6	***Recall that charge is measured in coulombs.***
	4.7	***Recall and use the quantitative relationship between current, charge and time.***
Electric circuits	4.8	Understand the role of conductors, insulators and switches in simple series and parallel circuits.
	4.9	Recall the effects of varying the current on bulb brightness, motor speed and heater output.
	4.10	Describe and record diagrammatically simple electric circuits.
	4.11	Measure current and voltage in series circuits.

	4.12	Recall that current is measured in amperes and voltage in volts.
	4.13	***Measure current and voltage in parallel circuits.***
	4.14	Recall that in a series circuit the current is the same everywhere.
	4.15	Recall that in a series circuit the sum of the voltages is equal to the voltage across the whole circuit.
	4.16	***Recall that in a parallel circuit the sum of the currents in the branches is equal to the current entering the parallel section.***
	4.17	***Recall that voltages across components in parallel are equal.***
	4.18	Calculate the total resistance of resistors in series.
	4.19	Calculate the resistance of two equal resistors in parallel.
	4.20	***Calculate simple combinations of resistors (no more than three resistors which may include two equal resistors in parallel).***
Ohm's Law	4.21	Plot and interpret voltage – current graphs for metallic conductors at constant temperature.
	4.22	State and use Ohm's law in the form V/I = R, where R is the resistance.
	4.23	Recall that resistance is measured in ohms.
	4.24	***Plot and interpret voltage-current graphs for a filament bulb.***
	4.25	***Recall how the resistance of a thermistor (n.t.c.) varies with temperature.***
	4.26	***Understand that voltage is the energy transferred per unit charge.***
	4.27	***Recall and use the quantitative relationships between power, energy, current, voltage and time.***
Using electricity	4.28	Understand one-way and two-way switching.
	4.29	Recall that fuses and earth wires protect the user.
	4.30	Describe how to wire a fused three pin plug.
	4.31	***Understand the functions of live and neutral wires and how the earth wire and fuse protect the user from electric shock.***
	4.32	***Understand how double insulation protects the user.***
	4.33	***Understand the positioning of switches and fuses on the live side of appliances.***
	4.34	Calculate the costs of using electricity from meter readings.
	4.35	***Understand the meaning of the kilowatt-hour and calculate the cost of using electrical appliances using their power rating.***
Magnetism	4.36	Recall that magnets have two poles, north and south and that the magnetic force is strongest at these points.
	4.37	Recall that like magnetic poles repel and that unlike magnetic poles attract.
	4.38	Describe the shape and direction of the magnetic field pattern produced by an isolated bar magnet.
Electromagnetism	4.39	Describe how to make a simple electromagnet and recall how the strength of the electromagnet is affected by: (i) the number of turns; (ii) the current; (iii) the material used for the core.
	4.40	Describe the shape and direction of the magnetic field pattern produced by the current in a solenoid and relate the current direction to the polarity.
	4.41	Describe how the simple make and break electric doorbell and the electromagnetic relay work.
Electromagnetic induction	4.42	***Recall that current may be induced in a conductor by its motion relative to a magnet and by changing the current in a neighbouring conductor.***
	4.43	***Know the difference between a.c. and d.c.***

	4.44	***Recall that a.c. generators are used in the generation of electricity. (Details of construction not required.)***
	4.45	***Recall how step-up and step-down transformers are used in the transmission of electricity. Details of construction and turns ratio not required.***
Generation and transmission of electricity	4.46	***Recall that stepping up the voltage reduces energy losses in the grid.***

EARTH IN SPACE

Day and Night length	5.1	Explain day and night in terms of the Year rotation of the Earth on its axis and year length in terms of the movement of the Earth round the sun.
Seasons	5.2	Explain changes in day length, seasonal changes and changes in the elevation of the sun in terms of the tilt of the Earth's axis and its movement around the sun.
Solar system	5.3	Recall the position of the sun and planets within the solar system and how they move relative to each other.
Gravitation	5.4	***Recall that gravitational force acts towards the centre of every astronomical object and that this force determines the motion of the planets and comets round the Sun and satellites round the planets.***
	5.5	***Recall that gravitational forces act between all masses and know that the magnitude diminishes with distance and increases with mass.***
	5.6	***Describe the nebular (gas cloud) model for the formation of the solar system.***
Galaxy Universe	5.7	Recall that the solar system forms part of a galaxy which is part of a larger system called the Universe.
Big bang and steady state	5.8	***Describe the Big Bang and steady state models for the formation of the universe.***
	5.9	***Consider the possibilities and limitations of space exploration in terms of distances and speed of travel.***
Stars	5.10	***Describe how stars are formed, the life cycle of stars is not required.***
	5.11	***Recall that stars are powered by nuclear fusion processes.***

SCIENCE: GEOLOGY

1 INTRODUCTION

1.1 Geology contributes to the development of an understanding and appreciation of the Earth and its resources. Through the study of rocks, minerals and fossils, the subject provides a means of reconstructing the history of the Earth.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Science.

1.3 A course based on this syllabus will help to facilitate the further study of Geology at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 The syllabus has been designed to be as free as possible from ethnic, gender, religious, political and other forms of bias.

2 AIMS

The aims set out below describe the educational purpose of following a course in Geology suitable for candidates of both sexes of the ability range appropriate to the GCSE examination. Some of these aims are reflected in assessment objectives; others are not because they cannot readily be translated into measurable objectives.

The aims of the syllabus are:

2.1 **To provide, through well-designed studies of experimental and practical Geology, a worthwhile educational experience for all pupils whether or not they will study Geology beyond the GCSE and, in particular, to enable them to acquire sufficient understanding and knowledge to:**

(a) become confident citizens in a technological world, able to take or develop an informed interest in matters of scientific import;

(b) recognise the usefulness, and limitations, of the scientific method in laboratory and fieldwork, and appreciate its applicability in other disciplines and in everyday life;

(c) be suitably prepared for studies beyond the GCSE in Geology.

2.2 **To develop an appreciation of:**

(a) Geology as a natural integrating science;

(b) the three-dimensional nature of Geology;

(c) the scale of geological time;

(d) the link between present-day processes, features and organisms and those in the past.

2.3 **To develop abilities and skills that:**

(a) are relevant to the study and practice of Geology;

(b) are useful in everyday life;

(c) encourage safe practice.

2.4 **To stimulate:**

(a) curiosity, interest and enjoyment in Geology and its methods of enquiry;

(b) an awareness of the significance of Geology to the development of the environment in general and the human environment in particular.

2.5 **To promote an awareness:**

(a) that the study and practice of Geology are co-operative and cumulative activities and are subject to social, economic, technological, ethical and cultural influences and limitations;

(b) of the finite nature of earth's resources and the need for conservation.

2.6 **To encourage good field practice including an awareness of the problems of preservation, access and safety.**

2.7 **To promote Geology as a lasting enjoyable leisure activity.**

3 ASSESSMENT OBJECTIVES

The assessment objectives listed below reflect those aspects of the educational aims as appear to be measurable.

Candidates will be expected to demonstrate:

3.1 **Knowledge and understanding of:**

3.1.1 geological facts, laws, definitions, concepts, theories, terminology and conventions;

3.1.2 geological phenomena, processes and relationships;

3.1.3 the three-dimensional form of geological structures;

3.1.4 the significance of geological time in rock forming processes;

3.1.5 appropriate scientific instruments and apparatus, including techniques of operation and aspects of safety;

3.1.6 scientific quantities and their determination;

3.1.7 applications of Geology with their technological, social, economic and environmental implications;

3.1.8 the importance of Geology in the location and extraction of resources.

3.2 **Knowledge and understanding in:**

3.2.1 making decisions based on evidence and arguments;

3.2.2 explaining geological facts, observations and phenomena in terms of appropriate laws, theories and models;

3.2.3 suggesting geological explanations of unfamiliar facts, observations and phenomena;

3.2.4 explaining applications of Geology and evaluating associated technological, social, economic and environmental implications.

3.3 **The skills and processes to:**

3.3.1 observe, measure and record accurately and systematically;

3.3.2 follow instructions accurately for the safe conduct of experiments and fieldwork;

3.3.3 communicate geological observations, ideas and arguments logically, concisely and in various forms;

3.3.4 translate information from one form to another;

3.3.5 select and interpret relevant observations from fieldwork, geological maps, specimens, photographs, diagrams and from written and tabulated information;

3.3.6 use experimental data, recognise patterns in such data, form hypotheses and deduce relationships;

3.3.7 draw conclusions from, and evaluate critically, laboratory and field observations and other data;

3.3.8 identify geological features, minerals, rocks and fossils;

3.3.9 recognise and explain variability and unreliability in experimental measurements;

3.3.10 devise and carry out experimental or other tests to check the validity of data, conclusions and generalisations;

3.3.11 devise and carry out experiments or other tests for particular purposes, selecting suitable apparatus and using it effectively and safely;

3.3.12 apply scientific ideas and methods to solve qualitative and quantitative problems;

3.3.13 recognise that the study and practice of Geology are subject to various limitations and uncertainties.

4 CLASSIFICATION OF ASSESSMENT OBJECTIVES

The assessment objectives are organised within two broad groups:

4.1 those testing knowledge and understanding (assessment objectives 3.1.1 to 3.2.4).

4.2 those testing skills and processes (assessment objectives 3.3.1 to 3.3.13).

4.3 Approximately 15% of the total marks will be allocated to assessments relating to technological applications and social, economic and environmental issues, with the greatest emphasis being given to technological applications. Questions on technological applications will be set in such a way that they can only be answered by a knowledge of the appropriate subject content specified in Sections 6 and 7 of the syllabus. The opportunity the subject offers to explore technological, social, economic and environmental applications can also be pursued through fieldwork.

4.4 The relationships between the aims and the grouped assessment objectives are given in Table 4.4. The proportion of marks allocated to the assessment(s) of knowledge and understanding and of skills and processes, will be of the order of 60% and 40% respectively of the total marks available for each of the assessment components.

Table 4.4

Grouped Assessment Objectives	Aims	Assessment Objectives
Knowledge and understanding	2.1 (a to c) 2.2 (a to d)	3.1
Skills and Processes		
(a) Observing	2.3 (a) 2.4 (a)	3.3 (1, 2, 6, 8, 9, 13)
(b) Investigating	2.1 (b) 2.3 (a, c) 2.4 (a)	3.3 (1, 2, 6, 7, 9, 10, 11, 13)
(c) Searching for patterns	2.1 (b, c) 2.2 (b, c, d) 2.3 (a)	3.3 (4, 5, 6, 7, 9, 10, 11, 12, 13)
(d) Interpreting	2.1 (b) 2.5 (a)	3.3 (6, 7, 9)
(e) Applying	All	3.3 (1 to 13)
(f) Communicating	2.1 (c) 2.3 (b) 2.5 (a)	3.3 (1, 3, 4, 5, 6, 7, 8, 9, 12)

5 SCHEME OF ASSESSMENT

5.1 The scheme of assessment is designed to enable candidates to demonstrate their attainment across the assessment objectives and the content.

5.2 Differentiation will be achieved through the Terminal Examination comprising of tiered papers – each tier targeted at a particular range of grades. Differentiation in coursework will be achieved by outcome and by the setting of tasks appropriate to the individual levels of ability of the candidates.

5.3 There will be two tiers of entry for the examination:

Foundation Tier: Grades C, D, E, F, G
Higher Tier: Grades A*, A, B, C, D, (E)

Candidates must be entered for one tier only at the time of entry. Centres are recommended to enter for Higher Tier only those candidates considered capable of achieving one of the upper grades. Candidates who fail to attain the lowest mark required for a Grade D may be awarded Grade E if the performance merits that award, otherwise they will be ungraded.

5.4 The allocation of marks to the various components will be as follows: Paper 1: 35%, Paper 2: 35%, Coursework: 30%.

5.5 The percentage weightings of the grouped assessment objectives for both options are given in Table 5.3.

Table 5.3

	Knowledge and Understanding	Skills and Processes	Technological etc.
Grades A*–D (E) Papers and Coursework	60%	40%	Approx. 15% spread across both sets of grouped assessment objectives.
Grades C–G Papers and Coursework	60%	40%	Approx. 15% spread across both sets of grouped assessment objectives.

5.6 **Examination components:**

Foundation Tier

PAPER 1 (1½ hours) will contain a number of compulsory structured questions. Spelling, punctuation and grammar will be assessed in this component.

PAPER 2 (1½ hours) will take the form of a practical test involving integrated problem-solving exercises based on field data, actual rock and mineral specimens. All questions will be compulsory.

Higher Tier

PAPER 1 (2 hours) will be presented in three sections. Spelling, punctuation and grammar will be assessed in this component.

Section A will contain compulsory short-answer questions designed to last 30 minutes.

Section B will contain a single compulsory structured question designed to last 30 minutes.

Section C will contain four longer-type questions of which candidates will be required to answer any two. Each question will be designed to last 30 minutes.

PAPER 2 (1½ hours) will take the form of a practical test involving integrated problem-solving exercises based on field data, actual rock and mineral specimens. All questions will be compulsory.

COURSEWORK (30% of the total marks)

Coursework will be based on laboratory and field activities which arise from the normal teaching of the course. It will be assessed by the teacher and be externally moderated by the Council. A memorandum containing full details and guidance on teacher marking of coursework accompanies the syllabus. It is essential that teachers carefully study the memorandum before engaging in the assessment of coursework.

6 BACKGROUND KNOWLEDGE

6.1 It will be assumed that candidates will have a working knowledge of the following scientific concepts:

(i) element, compound;

(ii) crustal abundance of major elements;

(iii) states of matter: solid, liquid, gas;

(iv) changes with heat and pressure.

6.2 Candidates will be required to have a working knowledge of the mathematical topics listed below:

Topic	Further Details
Number	Whole numbers (odd, even, multiple, factor and square). Vulgar and decimal fractions and percentages. (Candidates may be required to calculate percentages).
Approximation	Estimation: approximation to obtain reasonable answers; limits of accuracy appropriate to given data.
Computation	The four rules of number applied to whole numbers and decimal fractions.
Proportion and variation	Elementary ideas and notation of ratio. Scales. Elementary ideas and applications of direct proportion. Common measures of rate.
Measures	Measures of mass, length, area, capacity and time. Index notation for units of measurement.
Application	Use of tables and charts. Reading of clocks and dials.
Graphs	Cartesian coordinates. Drawing, interpretation and use of graphs in practical situations. Drawing graphs from given data.
Formulae	The use of letters for generalised numbers. Substitution of numbers for words and letters in formulae.
Statistics and probability	Collection, classification and tabulation of statistical data: construction and interpretation of bar charts, pie charts and pictograms. Measures of average and the purposes for which they are used. Construction and use of simple frequency distributions. Reading, interpreting and drawing simple inferences from tables and statistical diagrams.

7 CONTENT

Section	Topics	Details	Practical Skills
1 Minerals	(a) Definition and methods of distinguishing between naturally occurring substances	Definition, and determination of: colour, density, hardness, reaction with cold dilute HC1, streak, lustre, cleavage, fracture, habit	Description and identification using simple tests of the following minerals: quartz, feldspar, mica, hornblende, augite, olivine, garnet, calcite, gypsum, pyrite, galena, sphalerite, hematite e, fluorite, barite, halite.
	(b) Occurrence	Common occurrences and uses of the following minerals: quartz, garnet, galena, hematite, barite, halite, calcite and gypsum.	
2 Earth's formation	Structure of the earth	Simple description of composition, density, temperature and pressure of continental and oceanic crust, upper and lower mantle, inner and outer core, asthenosphere (cf lithosphere).	
		Determination of the earth's internal structure from earthquake records – based on the characteristics of P, S and L waves.	
3 Processes of igneous rock formation	(a) Magmas	The generation of acid and basic magmas at plate margins, simple chemical and physical differences.	Comparison of acid and basic rocks using colour index, density and mineralogy.
	(b) Igneous rock types	Classification of igneous rocks by crystal size and mineralogy; igneous textures, porphyritic, equigranular and glassy.	Description and identification of the following igneous rocks in hand specimens: granite, gabbro, microgranite, dolerite, rhyolite, basalt, obsidian.
	(c) Igneous intrusions	Form, scale, characteristic rocks and typical field occurrences of igneous intrusions: sill, dyke, plug, pluton, batholith.	Recognition of igneous intrusion on simple problem maps and photographs.
	(d) Volcanic processes	Occurrence and characteristic features of active volcanic areas: flows, explosions, fissure eruptions, ash falls, pillow lavas. Products of vulcanism; lava, pyroclastic, volatiles. Comparison with ancient volcanic areas, especially NE Ireland.	

Section	Topics	Details	Practical Skills
4 Processes of sedimentary rock formation	(a) The sedimentary cycle	Formation of clastic sediment by the processes of weathering and erosion. Definition of weathering: physical and chemical. Definition of erosion: solution, attrition, abrasion, plucking, hydraulic action.	
		Transportation of sediment as particles or in solution by water, wind, ice and mass movements.	
		Modification of sediment during transportation in terms of grain size, grain shape, size sorting.	
		Depositional processes: accumulation of clastic and non-clastic sediments.	
		Lithification: compaction, cementation.	
	(b) Sedimentary structures	Definition of bedding, cross-bedding, graded bedding, ripple marks, mud cracks and burrows.	
	(c) Sedimentary rock types	Description and identification of the main sedimentary rock types as listed in the adjacent column.	Description and identification of the following sedimentary rocks in hand specimens: conglomerate, breccia, sandstone, siltstone, mudstone, shale, bioclastic and oolitic limestones, coal, lignite, rock salt and flint.
	(d) Uniformitarianism	Investigate how studies of recent depositional environments (river channels, deltas, beaches) can be used to explain how similar ancient deposits were formed.	
5 Processes of metamorphic rock	(a) Metamorphic processes	Description of contact (thermal) and regional metamorphism. High temperature, high pressure and movement as factors leading to growth of crystals. The textural changes and alignment of minerals not originally present.	
	(b) Metamorphic rock types	Description and identification of the main metamorphic rock types as listed in the adjacent column.	Description and identification of the following metamorphic rocks in hand specimens: slate, schist, gneiss, metaquartzite, marble, hornfels.

Section	Topics	Details	Practical Skills
6 Geological structures	(a) Basic structural information	Stratification, dip and strike, way-up criteria using the structures listed in 4(b).	Interpretation of solid and drift problem maps to determine and describe basic geological structures and relationships, stratigraphic succession and outline geological history. Description of exposure. Field measurement and recording.
	(b) Folding and faulting	Description of tensional and compressional stresses; brittle and plastic behaviour. Simple folding: limbs, hinge, axis, symmetry, anticlines and synclines, overturned and recumbent folds. Gentle, tight and isoclinal folds. Faulting: fault plane, normal, reverse and wrench faults, determination of direction and amount of displacement. Simple field evidence of folding and faulting: outcrop patterns, local topography.	Investigation of brittle and plastic behaviour when stress is applied to common substances. Construction of cross-sections from simple problem maps (strike lines **not** required).
	(c) Minor structures	Description of nature and identification of joints and cleavage.	Description and annotation of geological structures illustrated on photographs, sketches and cross-sections.
7 Geology and landscape in Northern Ireland		Analyse the ways in which the geology of an area can influence the shaping of the landscape using the following landforms to illustrate the relationship: fault valleys, plateaus, landslips, drumlins, corries, "U" shaped valleys, raised beaches, caves, sea-stacks, potholes, caverns and limestone pavement.	
8 Life in the past	(a) The nature of fossil evidence	Definition of fossil; modes of preservation; body fossils; trace fossils.	
	(b) Fossil classification	Simple taxonomy (phylum, class, genus). Classification of fossils by morphology.	Identification by phylum or class level of typical examples of the invertebrate groups listed in 8(c).

Section	Topics	Details	Practical Skills
	(c) Morphological features of invertebrate groups	Morphological features which are used to (a) identify, and (b) suggest the mode of life of the following invertebrate groups: corals, brachiopods, trilobites, bivalves, gastropods, ammonites.	Identification of and description, using labelled diagrams and keys of the listed morphological features of the following: Corals: Solitary and colonial corals: corallite, septa, columella, tabulae, dissepiments. Brachiopods: Brachial, pedicle valves, umbo, foramen, hinge line, growth lines, ribs. Trilobites: Head shield, body tail, segments, glabella, eyes, cheek, facial suture, spines. Bivalves: Valves, umbo, growth lines, ribs, ligament pit, teeth and sockets, muscle scars, pallial line, pallial sinus. Gastropods: Apex, spire, spiral coiling, suture, whorl, aperture, lip, siphonal canal. Ammonites: whorl, aperture, venter, keel, suture lines, chambers, ribs.
	(d) Use of fossils	(i) Sediment formers: corals, crinoids, plants. (ii) Indicators of past conditions: littoral, shallow marine, open ocean. (iii) Correlation and relative dating of strata: graptolites, ammonites as zone fossils. (iv) Evidence for evolution: graptolites, ammonites.	Use of fossils drawings and specimens to solve problems of correlation, relative age (eras and periods) and depositional environment on sketch maps or borehole.
9 Geological relationships	(a) Stratigraphic relationships	Principles of stratigraphy: superposition of strata, conformable and unconformable sequences, correlation. Relative and absolute chronology (qualitative knowledge only); the stratigraphic column: eras and periods.	Determination of stratigraphic sequences and unconformable relationships from problem maps, photographs, field sketches and cross-sections.

Section	Topics	Details	Practical Skills
	(b) Rock associations and relationships	Characteristic rock sequences, and associated flora and fauna, deposited in a range of environments: fluvial deltaic, littoral, desert, shallow and deep marine, illustrated, as far as possible, by local examples. The relative dating of igneous and metamorphic rocks in the stratigraphic succession.	
	(c) Plate tectonics	Global distribution of recent geological activity: volcanic, seismic, orogenic. Outline of plate tectonic theory; sea-floor spreading; features of constructive, destructive and conservative plate margins.	
10 Geology and Society	(a) Energy sources	Formation of fossil fuels: coal, oil, natural gas; geothermal energy. The geological occurrence of oil and natural gas: source rocks, migration, cap-rocks and reservoir rocks; types of trap. Distribution of energy sources in the British Isles and continental shelf.	Identification and location of the major areas of coal, oil and natural gas production in the British Isles and its continental shelf on simple sketch maps and cross-sections.
	(b) Water supply	The water cycle; ground water; porous, pervious and permeable rocks; water table; aquifers; wells, springs and artesian water; quality of water (hardness). Possible aquifers in Northern Ireland.	
	(c) Industrial raw materials	The total dependence of society on materials derived from the earth illustrated by the following: iron and lead ores for metals; salt deposits and hydrocarbons for the chemical industry; china clay, barites and quartz for manufacturing; granite, sandstone, limestone and slate in the construction industry; basalt, gravel, aggregate in civil engineering; rare and desirable minerals (eg garnet) for specialised applications in commerce and jewellery.	

Section	Topics	Details	Practical Skills
	(d) Exploration and exploitation	The role of the geologist in the extractive industries. Description of methods of exploration: geological mapping, seismic and magnetic surveys (theoretical knowledge not required). Open-cast and underground mineral workings: geological problems: faults, stability, flooding, subsidence.	
	(e) Environmental impact	Environmental aspects of mineral extraction. Limitations on Man's use of the earth's physical resources (as illustrated by one of the studies above).	

8 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates can carry out field and laboratory investigations and, where appropriate, propose and carry out suitable experiments/investigations which involve only a few factors; record observations and measurements in tables and graphs; offer simple explanations consistent with the evidence obtained.

Candidates use simple apparatus to make measurements appropriate to the task.

Candidates recall a limited range of information, for example, they state the main differences between the three rock groups.

Candidates use and apply knowledge and understanding in some specific everyday contexts, for example, explain that fossil fuels are energy resources and that energy is sometimes "wasted".

Candidates obtain information from simple tables, charts, photographs, maps and graphs and identify simple patterns in information and observations.

Candidates link cause and effect in simple geological contexts; make some use of scientific and technical vocabulary and make simple generalisations from information.

Grade C

Candidates use geological knowledge and understanding to identify key factors and, where appropriate, to make predictions; present data systematically, in graphs where appropriate; draw conclusions consistent with their evidence and explain these using scientific knowledge and understanding.

Candidates use a range of apparatus to make careful and precise measurements and systematic observations and recognise when it is necessary to repeat measurements and observations.

Candidates recall a range of geological information from all areas of the syllabus, for example, they recall the main properties of P, S and L waves.

Candidates use and apply geological knowledge and understanding to make inferences and identify and explain patterns within data; explain patterns in data, photographs and maps.

Candidates describe links between related phenomena in different contexts; use diagrams, photographs, maps, charts and graphs to support arguments; use appropriate scientific and technical vocabulary in a range of contexts.

Grade A

Candidates use geological knowledge and understanding to select an appropriate strategy for a task, identifying the key factors to be considered and making predictions where appropriate; they select a method of presenting data appropriate to the task, they use information from a range of sources where it is appropriate to do so; they identify and explain anomalous observations and measurements and the salient features of graphs; use geological knowledge and understanding to draw conclusions from their evidence; identify shortcomings in the evidence.

Candidates use a range of apparatus with precision and skill; make appropriate measurements; make systematic observations in qualitative work; decide which observations are relevant to the task in hand.

Candidates recall a wide range of knowledge from all areas of the syllabus.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF COURSEWORK

1 INTRODUCTION

1.1 The scheme of assessment in Geology carries a 30% weighting for coursework which requires each candidate to undertake:

(a) field activities 9%

(b) laboratory activities 9%

(c) investigative study and report 12%

1.2 The internal assessment will be carried out by the student's own teacher. This will enable an assessment to be made of those skills which are best assessed in the "field" or the laboratory, eg the skill to use fieldwork techniques equipment, to carry out tests to identify a mineral.

2 BACKGROUND

2.1 The coursework has been designed to give students the opportunity to demonstrate what they know, understand and can do in Geology without the constraints imposed by formal examinations.

2.2 Coursework provides the opportunity for practical work in the laboratory and the field. It should be conducted in the spirit of scientific enquiry.

2.3 During coursework a variety of skills will be assessed:

2.3.1 Manipulative skills, eg the use of equipment.

2.3.2 Observational skills, eg observing geological phenomena.

2.3.3 Interpretative skills, eg analysis of environment.

2.3.4 Planning skills, eg designing experiments.

2.3.5 Communication skills, eg recording data and writing reports.

2.4 The relationship between the assessment objectives (paragraph 3 of the syllabus), the various skills (paragraph 2.3 above) and the marks to be awarded to each (paragraph 7 of this document) are given in Table 2.4.

Table 2.4

Assessment Objectives	Skills	Marking Criteria
3.1 (5 and 6) 3.3.2	Manipulative	7(a) (1, 4) 7(b) (1, 4) 7(c) (2, 3)
3.3 (1, 5, 8, 9)	Observational	7(a) (1, 2, 3) 7(b) (3) 7(c) (2, 3)
3.2 (1, 2, 3, 4) 3.3 (4, 5, 6, 7, 9, 13)	Interpretative	7(a) (5, 6) 7(b) (4, 5) 7(c) (2, 3, 4)
3.3 (10, 11, 12)	Planning	7(c) (2) 7(c) (1, 2, 5)
3.3 (3, 4)	Communication	7(a) (2, 3) 7(c) (4, 5)

3 NATURE OF FIELD ACTIVITIES

3.1 The following is a brief expansion to illustrate the main features of the criteria to be used in the assessment (see paragraph 6). The fieldwork programme should be structured to allow candidates the opportunity to practice these skills in a range of different geological environments. It is unlikely that the objectives could be assessed adequately without visiting at least three areas of contrasting geology.

3.2 **Skills in using equipment: eg Ability to use**

(1) simple clinometer

(2) hand lens

(3) hammer

(4) tape measure/measuring rod.

3.3 **Use of field notebook to record data following a set pattern: for**

(1) locality – name and grid reference

(2) field description of rocks present

(3) field description of:

(a) bedding – description plus strike/dip measurements

(b) tectonics/eg faults/folds/joints – description plus measurements of dip, strike etc.

(4) fossils – type, abundance, mode of preservation

(5) sketches/photographs, appropriately labelled

(6) sample numbers (if collected).

3.4 **Use of field maps, log sheets, simple graphic logs, etc:**

Clear and accurate recording of geological features, correctly located on the map or measured section, including representation of rock types, use of appropriate symbols to show dip and strike of beds, faults and fold axes; correct labelling of any unconformities; annotation of maps to show relationship of topography, vegetation and drainage to geology.

3.5 **Safety practices:**

Use of helmet and goggles when and where necessary; proper care when hammering rocks; avoidance of hazardous areas and dangerous activities.

3.6 **Environment/Conservation:**

Awareness of, and attention to, the fieldwork code. Appreciation of the value of careful sampling; problems of oversampling and sampling in sensitive areas.

3.7 **Field interpretation:**

Preliminary interpretation of data in the field; awareness of the relationship of the locality to the general area of the field study; use of initial observations to formulate hypothesis for testing and to direct further enquiry.

4 NATURE OF LABORATORY ACTIVITIES

4.1 This involves the study of: minerals; rocks; fossils; geological maps and photographs plus the refining of fieldwork data.

4.2 **Use of equipment: eg hand lens, acid bottles, hardness tests, streak plate.**

4.3 **Description, recognition and classification of:**

(a) Minerals: colour, lustre, streak, hardness, density, cleavage, fracture, acid tests for specific minerals.

(b) Rocks: colour, grain size, texture, density, mineral composition, fossil content, structures present, use of these features to make a simple classification of rocks.

(c) Fossils: drawing and labelling adequately; use of scale, measurement as part of the description; identification and simple classification of fossils by the use of key characteristics.

4.4 **Skills used in map interpretation:**

Interpretation of geological structure and geological history including determining dip direction, stratigraphic sequence, simple tectonic structures (including type of fault movement) and unconformities by inspection and by the use of:

- drawing stratigraphic columns and simple cross-sections;
- interpretation of age relationship.

4.5 **Experimental skills as assessed during simple experiments, eg**

Measuring the density of minerals/rocks;

Measuring grain size in sediments;

Observation of sediment settling;

Measurements of amount of insoluble residues in limestones, etc;

Laboratory production of sedimentary structures.

5 NATURE OF INVESTIGATIVE STUDY

5.1 It is essential that the task undertaken by each candidate is appropriate to the candidate's individual standard of ability.

5.2 Candidates will be required to complete a personal report of not more than 1,000 words.

5.3 There must be clear evidence of first-hand enquiry having been carried out by the candidate in the field with his/her field notebook included as an integral part of the report.

5.4 The stages of enquiry outlined below should be followed for each investigation.

(i) A topic for study is recognised through observation, discussion, reading or pervious study, and the objectives of the investigation are defined in specific terms, eg questions to be answered, problems served, hypotheses to be tested.

As far as possible, the title of the study should be couched in terms of either a problem to be solved or an assertion to be tested. General descriptions of the geology of an area are to be avoided.

(ii) Decisions are made concerning:

(a) what data are relevant to the investigation;

(b) how they can be collected.

(iii) Data are collected.

(iv) Data are refined and presented.

(v) Data are analysed and interpreted.

(vi) Conclusions are reached relating to the original objectives.

(vii) Communication of results and conclusions in an appropriate form.

6 ASSESSMENT PROCEDURE

6.1 It is recognised that work in the field is often carried out as a group activity. The abilities assessed during group activities are most likely to be:

(i) the skills demonstrated in selecting and/or compiling appropriate investigational material; and

(ii) the use of chosen techniques/equipment.

When making assessments during group activities, the teacher must clearly identify the contribution made by each individual candidate.

6.2 Details on the mark allocated to each of the coursework components are given in paragraph 7 which follows. Within each component candidates should be assessed on the mark range given against each of the abilities/skills listed.

A zero mark should be awarded only when a candidate:

(i) refuses to undertake the task or;

(ii) demonstrates no ability despite constant direction.

With practical and observational skills, full marks should be awarded where competence is shown in the handling of equipment and in making accurate observations. Where interpretation, planning and communication skills are involved, full marks should be awarded where there is a demonstration of a high standard of competence.

7 ASSESSMENT CRITERIA

For the purpose of assessment coursework will be marked in accordance with the following criteria:

(a) **Field activities**

1 Use of field equipment to gather data, eg Simple clinometer, hand lens; hammer; measuring rod (maximum 3 marks)

0	1	2	3

2 Use of field notebook
(maximum 12 marks)

Locates exposures with map or grid reference	0	1	–	–
Gives complete and accurate description or rock types	0	1	2	3
Uses labelled field sketches	0	1	2	3
Gives accurate field descriptions of structures	0	1	2	3
Uses quantitative data where appropriate	0	1	2	–

3 Use of field sheets and maps
(maximum 5 marks)

Locates and records data clearly and accurately	0	1	2	3
Appropriate use of symbols and scale	0	1	2	–

4 Safety practices
(maximum 2 marks)

Uses of equipment, eg hammer and correct behaviour in field	0	1	2

5 Environmental/conservation aspects
(maximum 2 marks)

Awareness of fieldwork code and appreciation of the value of conservation	0	1	2

6 Field interpretation
(maximum 3 marks)

Records own interpretation as well as data	0	1	2	3

(b) **Laboratory activities**

1 Use of equipment
(maximum 2 marks)

Correct use of laboratory equipment, eg hand lens, streak plate, acid bottle	0	1	2

2 Identification of unnamed mineral, rock and fossil specimens.
(maximum 4 marks)

Selects appropriate tests and methods for identification	0	1	2
Correctly identifies unnamed specimen	0	1	2

3 Classification and description of mineral, rock and fossil specimens
(maximum 9 marks)

Writes complete and accurate descriptions	0	1	2	3
Applies classification system for rocks	0	1	2	–
Applies classification system to distinguish between different fossils	0	1	2	–
Correctly and accurately labels drawings of fossils	0	1	2	–

4 Interpretation of geological problem maps
(maximum 10 marks)

Extracts data from maps/photographs	0	1	2	3
Determines sequence	0	1	2	–
Constructs geological cross-sections from maps	0	1	2	–
Determines relationships between geological structures	0	1	2	3

5 Experimental skills
(maximum 2 marks)

Records and interprets the results of simple laboratory experiments	0	1	2

(c) **Investigative study**

1 Definition of aims of study and selection of appropriate techniques
(maximum 2 marks)

Shows ability to plan a scientific enquiry	0	1
Suggests appropriate techniques	0	1

2 Conduct of the investigation
(maximum 6 marks)

Plans fieldwork/data collection efficiently	0	1	–	–
Records data clearly and consistently in: field notes and sketches	0	1	2	3
Appropriate use and annotation of maps	0	1	2	–

3 Analysis and refinement of data
(maximum 6 marks)

Since a wide range of techniques could be employed, it is inappropriate to give a specific marking key. Students will be expected to carry out some post-fieldwork analysis, which might include things such as:

- study of rock specimens to produce more detailed descriptions of mineralogy and texture;
- cleaning, drawing and simple identification of fossils collected;
- statistical and graphical analysis of data.

Marks should be awarded in accordance with the following general criteria:

0 No attempt to process or refine data.

1–2 Employs simple techniques with considerable guidance and limited results.

3–4 Employs a range of appropriate techniques, given some guidance in their selection and use. Treatment of data is uncritical.

5–6 Employs a wide range of appropriate techniques, using own initiative. Understands techniques and concepts involved and makes critical appraisal of the data collected.

4 Interpretation and discussion of data used in the report
(maximum 10 marks)

Provides discussion going beyond a simple description of data	0	1	2
Reaches valid conclusions based on the work done	0	1	2
Relates the results to the wider field of study (eg Stratigraphic position: introduces relevant theory)	0	1	2
Shows awareness of the limitations of study/conclusions	0	1	2
Discusses any technological and other applications or further studies which could arise from the investigation	0	1	2

5 Presentation of the results and report
(maximum 12 marks)

Outline of aims of investigation	0	1	–	–
Description of methods employed	0	1	2	–
Summary of data	0	1	2	–
Maps and/or diagrams to support data	0	1	2	3
Statement of conclusions	0	1	2	–
Presentation of report	0	1	2	–

8 RECORDING FORMAL ASSESSMENTS

8.1 Each coursework component must be marked against the assessment criteria listed in paragraph 7 and the mark awarded to each criterion recorded in the appropriate box of the Candidate Record Sheet which will be supplied by the Council.

8.2 **Authentication**

Teachers are responsible for warning candidates that they are forbidden to indulge in unfair practices during the preparation of their investigative study. Where teachers know or suspect candidates of using unfair means, they must not sign the certification for the work and must report the matter to the Council.

8.3 **Annotation**

Each candidate's assessed coursework should show how the marks have been awarded in relation to the marking criteria. The annotation should be provided in the form of meaningful comments on the Candidate Record Sheet and on the work directly. Annotation helps in achieving internal standardisation and most importantly provides the moderators with essential information about the marking. This annotation should be clear and unambiguous, provide information on how the task was presented to the candidates, indicate the extent to which each assessment criterion has been met and provide details of any assistance given to the candidate. Annotation may also be used to highlight those parts of the coursework which clearly meet the assessment criteria and provide feedback to the candidate.

9 MODERATION PROCEDURES

9.1 **Agreement Trials**

Agreement Trials will be conducted annually, usually early in the Spring Term prior to the date of the examination where teachers are briefed on the application of the assessment criteria and engage in trial marking.

9.2 **Supplementary Guidance Materials**

Supplementary Guidance Materials in the form of advice on assessment and exemplar material will be issued to all centres.

9.3 **Support Service and Advice**

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for Assistant Coursework Moderators to support groups of centres and arrangement can be made for the support moderator to discuss issues arising from the coursework with the teacher(s) by means of a visit if necessary.

9.4 **Internal Centre Standardisation**

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marking of individual teachers to bring their assessments into line with those of other teachers in the department and to match the standards promulgated at the Agreement Trial. Where such an adjustment is necessary the total/final mark recorded on the Candidates' Record Sheets should be amended.

9.5 **External Moderation**

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, will scrutinise samples of coursework drawn from each centre in accordance with instructions issued by the Council. Full instructions about the details of the moderation procedures and the nature of sampling required will be issued by the Council at the appropriate time. Following the issue of results centres will receive a statement of any adjustments made and a report outlining the reasons for the adjustments.

9.6 For all candidates included in the sample, it is necessary to submit all work used for assessment purposes, including work carried out in the classroom or laboratory.

10 THE ROLE OF THE TEACHER

10.1 Teachers will be expected to give students guidance as they conduct their coursework so as to ensure that:

- it is a reasonable task for the individual student to undertake and can be completed effectively in the time available;
- it can be appropriately marked using the assessment criteria;
- it relates classwork to a geological investigation;
- the investigative study clearly arises from an identifiable element of the syllabus;
- except in as far as the student receives appropriate guidance from the teacher, it is the unaided work of the student.

10.2 Teachers will be required to sign a declaration to certify that to the best of their knowledge all the work submitted for assessment is the candidate's own.

SCIENCE: PHYSICS

To accord with the regulations laid down by the Department of Education for Northern Ireland (DENI), students who have not yet completed Key Stage 4 of the Northern Ireland Curriculum must be entered for all three of the separate examinations in Biology, Chemistry and Physics in the same series of examinations and with the same examining group. The Department's regulation is in keeping with a similar regulation which applies to the separate sciences in England and Wales.

This regulation does not apply to students who have completed Key Stage 4 or to mature students who are older than the compulsory school leaving age.

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 The syllabus supports the view that Science: Physics should foster interest, enthusiasm, understanding and critical evaluation through exploration and investigation. The syllabus also allows the opportunity to develop communication skills and students' appreciation of the scientific, social, economic, environmental and technological contributions and applications of Physics.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for GCSE Physics. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4 Science.

1.3 A course based on this syllabus will help to facilitate the further study of Physics at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

1.6 The subject content is set out in the following sections:

Energy

Forces

Waves

Sound

Light

Electricity and Magnetism

Radioactivity

Earth in Space

As far as possible the material is arranged both within and between each tier to give progression in each topic.

1.7 Syllabus content for the Foundation tier is set out in normal type. ***Syllabus text content dealing with Higher Tier only is set out in bold italics.***

1.8 The nature of Attainment Target 1 is such that it pervades the Science curriculum, and it is considered appropriate to have it assessed, for the major part, as teacher-assessed coursework.

2 AIMS

The aims set out below describe the educational purposes of a course in GCSE Science: Physics. Some of these aims are reflected in the assessment objectives; others cannot readily be assessed.

The aims of the syllabus are to:

2.1 provide through the exploration and study of Physics a coherent educational experience in Science for all candidates which enables them to acquire sufficient understanding and knowledge to:

2.1.1 become confident citizens in a technological world, able to take or develop an informed interest in matters of scientific import;

2.1.2 recognise the usefulness and limitations of scientific methods and appreciate their applicability in other disciplines and in everyday life;

2.1.3 be encouraged to pursue and be suitably prepared for further studies in science.

2.2 To develop abilities and skills that:

2.2.1 are relevant to the study, practice and application of science;

2.2.2 are useful in everyday life;

2.2.3 encourage safe practice.

2.3 To stimulate:

2.3.1 curiosity, interest and enjoyment in science and its methods of enquiry;

2.3.2 interest in, and care for, the environment.

2.4 To promote an awareness that:

2.4.1 the study and practice of science are co-operative and cumulative activities and are subject to social, economic, technological, ethical and cultural influences and limitations.

2.4.2 the application of Physics may be both beneficial and detrimental to the individual, the community and the environment;

2.4.3 the concepts, principles and models of science are of a developing and sometimes transient nature.

2.5 To provide a body of knowledge and expertise appropriate for students not studying the subject beyond Key Stage 4.

3 ASSESSMENT OBJECTIVES

The assessment objectives indicate the skills and abilities which will be assessed.

Candidates will be assessed on their ability to:

3.1 develop the intellectual and practical skills that allow them to explore Physics and to develop a fuller understanding of scientific phenomena and the procedures of scientific exploration and investigation. This work should take place in the context of practical activities that require a progressively more systematic and quantified approach and which draw upon an increasing knowledge and understanding of Physics. The knowledge, skills and understanding specified by the syllabus should be used to enable candidates to demonstrate the ability to:

3.1.1 carry out experimental and investigative work in which they plan procedures, use precise and systematic ways of making measurements and observations, analyse and evaluate evidence, and relate this to scientific knowledge and understanding.

3.1.2 recall, understand, use and apply the scientific knowledge set out in the syllabus;

3.1.3 communicate scientific observations, ideas and arguments using a range of scientific and technical vocabulary and appropriate scientific and mathematical conventions;

3.1.4 evaluate relevant scientific information and make informed judgements from it.

The relationship between aims and assessment objectives is illustrated in Table 3.1.4.

Table 3.1.4

	Aims					Assessment Objectives
Experimental skills and abilities	2.1 (1,2,3,4)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1)	2.5	3.1.1
Knowledge and understanding	2.1 (1,2,3,4)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1,2,3)	2.5	3.1.2–3.1.4

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment consists of coursework assessment and a terminal examination. Differentiation will be achieved by having the papers targeted at different levels of ability.

4.2 Two entry options are available, giving access to different tiers as shown in Table 4.2:

Table 4.2

Tier	Grades covered
Foundation	C–G
Higher	A*–D(E)

Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade D but who demonstrate the qualities associated with a grade E performance.

Candidates enter for one tier only. Questions set on the Foundation Tier will be confined to syllabus content at that level only. Questions set on the Higher Tier will sample the whole syllabus.

4.3 Candidates at each tier of entry will take two papers. The duration, type and number of questions in each paper is shown at Table 4.3:

Table 4.3

	Foundation Tier	Higher Tier
Paper 1	1 hour 20 objective questions 20 short answer questions	1 hour 45 mins 5 structured questions
Paper 2	1 hour 30 mins 6 structured questions	1 hour 45 mins 4 structured questions 1 free response question

4.4 The weighting of each written paper and the coursework is shown in Table 4.4;

Table 4.4

	Foundation Tier	Higher Tier
Paper 1	30%	37.5%
Paper 2	45%	37.5%
Coursework	25%	25%

Approximately 50% of the material tested at the higher tier of entry will be drawn from foundation material.

4.5 Coursework will attract 25%, with the various categories weighted approximately as shown in Table 4.5:

Table 4.5

	Assessment Category	Weighting
A	Planning experimental procedures	7%
B	Obtaining evidence	7%
C	Interpreting and evaluating	11%

Further details on the assessment of coursework may be found in the coursework memorandum section of the syllabus.

4.6 The relationship between assessment objectives and the assessment components are shown in Table 4.6;

Table 4.6

Component	Assessment Objectives				Total
	3.1.1	3.1.2	3.1.3	3.1.4	
Terminal Papers	–	60%	7.5%	7.5%	75%
Coursework	25%	–	–	–	25%
Total	25%	60%	7.5%	7.5%	100%

5 CERTIFICATION

GCSE certificates will only be awarded for achievement at grades A*–G.

6 GRADE DESCRIPTIONS

6.1 Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates devise fair tests in contexts which involve only a few factors; record observations and measurements in tables and graphs; offer simple explanations consistent with the evidence obtained.

Candidates use simple apparatus to make measurements appropriate to the task.

Candidates recall a limited range of information, for example, suggest ways in which insulation is used in domestic contexts.

Candidates use and apply knowledge and understanding in some specific everyday contexts, for example, explain that fuels are energy resources and that energy is sometimes "wasted".

Candidates obtain information from simple tables, charts and graphs and identify simple patterns in information and observations.

Candidates link cause and effect in simple contexts; make some use of scientific and technical vocabulary and make simple generalisations from information.

Grade C

Candidates use scientific knowledge and understanding to identify key factors to vary and control and where appropriate to make predictions; present data systematically, in graphs where appropriate, and use lines of best fit; draw conclusions consistent with their evidence and explain these using scientific knowledge and understanding.

Candidates use a range of apparatus to make careful and precise measurements and systematic observations and recognise when it is necessary to repeat measurements and observations.

Candidates recall a range of scientific information from all areas of the syllabus, for example, recall correct units for quantities.

Candidates use and apply scientific knowledge and understanding in some contexts, for example, use quantitative relationships between physical quantities to perform calculations.

Candidates use scientific knowledge and understanding to make inferences and identify and explain patterns within data; make predictions from patterns in data.

Candidates describe links between related phenomena in different contexts; use diagrams, charts and graphs to support arguments; use appropriate scientific and technical vocabulary in a range of contexts.

Grade A

Candidates use scientific knowledge and understanding to select an appropriate strategy for a task, identifying the key factors to be considered and making predictions where appropriate; they select a method of presenting data appropriate to the task; they use information from a range of sources where it is appropriate to do so; they identify and explain anomalous observations and measurements and the salient features of graphs; use scientific knowledge and understanding to draw conclusions from their evidence; identify shortcomings in the evidence.

Candidates decide the level of precision needed in measurements and use a range of apparatus with precision and skill; make appropriately precise measurements; make systematic observations in qualitative work; decide which observations are relevant to the task in hand.

Candidates recall a wide range of knowledge from all areas of the syllabus.

Candidates use detailed scientific knowledge and understanding in a range of applications relating to scientific systems or phenomena, for example, use a wide range of relationships between physical quantities to carry out calculations effectively.

Candidates use scientific knowledge and understanding to identify patterns and draw conclusions by combining data of more than one kind or from more than one source.

Candidates draw together and communicate knowledge from more than one area; use routinely scientific or mathematics conventions in support of arguments; use a wide range of scientific and technical vocabulary through out their work.

7 UNITS AND BACKGROUND SKILLS AND ABILITIES IN MATHEMATICS

The units, conventions, nomenclature, symbols and notation used in the examination papers will be in accord with those given in *SI Units, Signs, Symbols and Abbreviations*, published by the Association for Science Education (1995). Candidates taking the GCSE Science: Physics examination will be expected to be familiar with the units and mathematical requirements appropriate to their selected tier of entry. Other units in common use may be included in the examination papers but candidates will not be required to convert between such units or from such units to SI units.

7.1 Units

(a) Base Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
length	metre	m
mass	kilogram	kg
time	second	s
electric current	ampere	A
temperature	kelvin	K

(b) Derived Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
frequency	hertz	Hz
force	newton	N
work, energy, heat	joule	J
power	watt	W
electric potential difference electromotive force	volt	V
electrical resistance	ohm	+

(c) Non-SI Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
energy	Kilowatt hour	kWh
temperature	degree Celsius degree Centigrade	°C
volume	cubic centimetre	cm^3

(d) Prefixes for SI Units

Sub-multiple	Prefix	Symbol	Multiple	Prefix	Symbol
10^{-2}	centi	c	10^3	kilo	k
10^{-3}	milli	m	10^6	mega	M
10^{-6}	micro	μ			
10^{-9}	nano	n			
10^{-12}	pico	p			

7.2 Mathematical Requirements

The mathematical skills required by candidates will be appropriate to the tier of entry and should include the following:

Topic	Tier	Further Detail
Number	F	Whole numbers (odd, even, multiple, factor and square). Vulgar and decimal fractions and percentages. (Candidates will be required to calculate percentages)
	H	***Express numbers in standard index form using positive and negative integers powers of 10***
Approximation	F	Estimation; approximation to obtain reasonable answers.
Computation	F	The four rules of number applied to whole numbers and decimal fractions.
Proportion and Variation	F	Elementary ideas and notation of ratio. Scales. Elementary ideas and applications of direct proportion. Common measures of rate.
	H	***Inverse proportion***
Measures	F	Measures of mass, length, area, volume and time.
Application	F	Use of tables and charts. Reading of clocks and dials.
Graphs	F	Cartesian co-ordinates. Drawing, interpretation and use of graphs in practical situations. Gradient. Drawing graphs from given data.
Formulae	F	The use of letters for generalised numbers. Substitution of numbers for words and letters in formulae. Transformation of simple formulae.
Equations	F	Simple linear equations in one unknown.
Statistics	F	Collection, classification and tabulation of statistical data: construction and interpretation of bar charts, pie charts and pictograms. Measures of average and the purposes for which they are used. Construction and use of simple frequency distributions. Reading, interpreting and drawing simple inferences from tables and statistical diagrams.

8 BACKGROUND SKILLS AND ABILITIES IN ENGLISH

The English abilities required of candidates will be appropriate to their tier of entry.

Candidates should be able to:

- communicate formally, orally and in writing, matching content and style to audience and purpose with due regard to spelling, punctuation and grammar;
- interact with others in group discussion, explore ideas, discuss issues, listen to, take account of and increasingly evaluate other people's opinion and views;
- use source materials and contemporary topics as the basis for hypothesis, reasoning debate and argument, sorting out evidence and identifying bias;
- read and discuss some materials which will challenge or extend them as readers;

- select information from texts with which they are working, and reorder and rework it for a specific purpose and audience;
- plan and draft written work through discussion, gathering and organising ideas, preparing outlines and developing an appropriate science vocabulary;
- in writing be aware of the need for match between form and purpose; forms to include descriptions, organised note-making, reports and essays.

9 PROHIBITED COMBINATIONS

Candidates presenting this subject are not permitted to take any of the following subjects in the same series of examinations:

Science: Double Award (Modular)

Science: Double Award (Non-Modular)

Science: Single Award (Modular)

Science: Single Award (Non-Modular)

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The scheme for coursework assessment is based on the programme of study for experimental and investigative science at key stage four. Candidates will be assessed on three skill areas:

- Planning experimental procedures
- Obtaining evidence
- Interpreting and evaluating

1.2 The internal assessment of candidates' performance in the three skills should be made as part of normal class routine and should be an integral part of the scheme of work. It is not necessary to assess all students at the same time nor when carrying out the same experiment or investigation.

1.3 Internal assessment of coursework is subject to moderation by the Council.

1.4 It is left to teachers to decide whether or not individual students should be informed that a particular assessment is being made, although it would seem to be appropriate to inform them at the start of a course that internal assessment of practical coursework will be undertaken. Teachers may give feedback on the results of assessments to their students. In such cases students should be informed that marks are subject to moderation and hence are subject to change.

1.5 Notes for guidance and exemplar material are published separately from this memorandum.

2 SKILL AREAS

Students should develop the intellectual and practical skills that allow them to explore science and to develop a fuller understanding of scientific exploration and investigation. This work should take place in the context of activities that require a progressively more systematic and quantitative approach and which draw upon an increasing knowledge and understanding of science.

Skill Area P – Planning experimental procedures

This concerns the ability of candidates to formulate questions which can be tested, predict the outcome of a set of experimental procedures and devise investigations to test their ideas. It includes the ability to decide on what measurements to take, how to take them, and on how to consider factors which need to be taken into account in order to ensure that their investigation is valid.

Skill Area C – Obtaining evidence

This concerns the extent to which candidates can use apparatus and materials safely and effectively to make observations and measurements with increasing levels of discrimination and precision. It also involves the ability to record data in a systematic manner using an appropriate range of forms. At the higher levels candidates should be aware of sources of error and limits of accuracy.

Skill Area I – Interpreting and evaluating

This concerns the ability of candidates to recognise and explain patterns in data, to handle data in an increasingly quantitative manner and to draw valid conclusions from the results of their investigations. It also involves the ability to report their experimental work systematically and with clarity, using scientific language and notation as appropriate. At the higher levels candidates should be able to account for anomalous results evaluate their experiment or investigation and suggest improvements.

3 CONDUCT OF THE ASSESSMENT

3.1 Assessment must be carried out by the teacher in the context of experimental and investigative work which should arise naturally out of the normal teaching programme for a course.

Teachers should identify in advance which skill areas are to be assessed within the practical situation. The teacher must ensure that the work is that of the student(s) being assessed.

3.2 Assessment may take place in a variety of experimental situations, but at least one of the marks contributing to the final assessment must come from a whole investigation.

3.3 It is recognised that practical work is often carried out as a group activity. When assessments are being made during group activity the teacher will have to identify separately the contribution made by an individual student and care must be taken to ensure that a student does not always adopt a more or less dominant role.

3.4 Experimental and investigative work should be carried out across the full range of contexts provided by each area of the syllabus.

3.5 All practical work should be conducted in accordance with current regulations and recommendations relating to safety in the laboratory and in the field.

4 ARRIVAL AT SKILL AREA MARKS

4.1 **Mark descriptions** comprising a number of **statements** are provided in each skill area. Activities chosen for assessment should, wherever possible, provide opportunities for all the statements in a mark description to be addressed. It should be noted that some of the statements in a mark description contain a phrase as "where appropriate" and therefore may not apply to a particular activity.

4.2 Whenever assessments are made, the mark descriptions should be used to judge which mark **best fits** the candidate's performance. The statements should not be taken as discrete and literal hurdles, all of which must be fulfilled for a mark to be awarded.

4.3 The mark descriptions within a skill area are designed to be hierarchical. This means that, in general, a description at a particular mark subsumes those at lower marks. It is assumed that activities which access

higher marks will involve a more sophisticated approach and/or a more complex treatment. Adjacent descriptions should be considered when making judgements and use made of the **intermediate marks** (ie 3, 5 and 7) where performance exceeds one description and only partially satisfies the next.

4.4 A candidate who fails to meet the requirements for 2 marks, but who has made a creditworthy attempt in a skill area should be given 1 mark for that skill. Zero marks should only be awarded for a skill area in the unlikely event of a candidate failing to demonstrate any achievement in that skill.

The **professional judgement** of the teacher in making these judgements is important.

5 ARRIVAL AT THE FINAL MARK SUBMITTED

5.1 Centres are required to award each candidate a mark for each of the three Skill Areas. These marks should represent a candidate's best performance during the course.

5.2 However, to satisfy the Council's Criteria for Science, the following requirements must be met:

(a) The Skill Area marks must have been obtained from at least two pieces of work set in the context of the syllabus content.

(b) At least one of the Skill Area marks must have been obtained from a whole investigation carried out by the candidate, ie a piece of work which covers all three Skill Areas.

In consequence, the minimum evidence must be two pieces of work.

5.3 Care should be taken to avoid a situation where, in order to meet the requirements, a candidate's best performance is not reflected in the final marks awarded.

6 RECORDING ASSESSMENT

6.1 Teachers must keep a record of the assessment of the work of their students.

6.2 The Candidate's Record Sheet must be used to record the marks for the skill areas being assessed.

6.3 When submitting candidates' work, teachers must clearly indicate those activities/investigations which were used for assessment purposes. Assessed work must be clearly annotated to identify, as precisely as possible, where in the work the relevant criteria have been satisfied so that the reasons why marks have been awarded are clear. An indication must also be given at the appropriate point in the evidence, or in accompanying information, of any further guidance given by the teacher which has significant assessment implications.

7 ASSESSMENT CRITERIA

7.1 Descriptions of the performance required for the award of marks in each of the skill areas are set out overleaf. Criteria are specified for the award of 2, 4, 6 and 8 marks.

7.2 The assessment criteria must be interpreted in the context of the programme of study for key stage four

Pupils should be encouraged to develop their experimental and investigative skills and their understanding of science through systematic experimentation and investigation. Work within Attainment Target 1 should be introduced through the knowledge and understanding covered within Attainment Targets 2, 3 and 4.

They should have opportunities to participate in increasingly complex activities which involve the application of scientific knowledge, understanding and skills.

While there should be opportunities throughout the key stage for pupils to undertake complete investigations, it will be appropriate in some cases to focus on particular aspects of the investigative process. On some occasions, the whole process of investigating an idea should be carried out by the pupils working on their own.

The skill areas to be assessed, the relevant areas from the programme of study, and mark descriptions are given opposite.

Skill Area P: Planning experimental procedures

Programme of Study Requirements
Candidates should be taught to:
(a) use their scientific knowledge and understanding to turn ideas into a form that can be investigated;
(b) make predictions where appropriate to do so;
(c) consider the factors which need to be taken into account in investigations;
(d) draw up procedures for the investigation taking into account the observations or measurements which need to be made and how these are to be used;
(e) select appropriate apparatus, instruments and techniques for the investigation, taking into account criteria, for example, the range and accuracy of the measurements and observations required, and the need for safe working procedures.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	P.2a	plan a simple safe procedure.	▼
4 marks	P.4a	plan a fair test or a practical procedure, making a prediction where appropriate.	
	P.4b	select appropriate equipment.	
6 marks	P.6a	use scientific knowledge and understanding to plan a procedure, to identify key factors to vary, control or take into account, and to make a prediction where appropriate.	
	P.6b	decide on a suitable number and range of observations or measurements to be made.	
8 marks	P.8a	use detailed scientific knowledge and understanding to plan an appropriate strategy taking into account the need to produce precise and reliable evidence and to justify a prediction where appropriate.	
	P.8b	include a strategy for dealing with results.	

Skill Area O: Obtaining evidence

Programme of Study Requirements
Candidates should be taught to: (a) use apparatus and materials in a safe and competent manner; (b) use apparatus and instruments to make observations and measurements to an appropriate degree of accuracy; (c) understand the need, where appropriate, to repeat measurements; (d) record observations or measurements systematically using methods appropriate to the information collected and to the purpose of the investigation.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

		Candidates should be taught to:	Increasing demand of activity
2 marks	O.2a	use simple equipment safely to make some observations or measurements.	↓
4 marks	O.4a	make appropriate observations or measurements which are adequate for the activity.	
	O.4b	record the observations or measurements.	
6 marks	O.6a	make sufficient systematic and accurate observations or measurements and repeat them when appropriate.	
	O.6b	record clearly and accurately the observations or measurements.	
8 marks	O.8a	use equipment with precision and skill to obtain and record reliable evidence which involves an appropriate number and range of observations or measurements.	

Skill Area I: Interpreting and Evaluating

Programme of Study Requirements
Candidates should be taught to:
(a) present results in ways appropriate to the data collected and the purpose of the investigation, including, where appropriate, the use of graphs;
(b) interpret and evaluate results using, where appropriate, mathematical relationships;
(c) identify any trends, patterns and conclusions emerging from consideration of the results;
(d) draw valid conclusions and decide whether these conclusions agree with the original idea;
(e) explain the conclusions in the light of their scientific knowledge and understanding;
(f) consider their observations and measurements, including anomalies and sources of error, and suggest, where appropriate, improvements that could be made if they were to repeat their investigation;
(g) produce a written report of their investigation, using appropriate scientific vocabulary.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	I.2a	explain simply what has been found out.	▼
4 marks	I.4a	present findings in the form of simple diagrams, charts or graphs.	
	I.4b	identify trends and patterns in observations or measurements.	
6 marks	I.6a	construct and use appropriate diagrams, charts, graphs (with lines of best fit), or use numerical methods, to process evidence for conclusions.	
	I.6b	draw conclusions consistent with their evidence and relate these to relevant scientific knowledge and understanding	
	I.6c	comment on the suitability of the procedures and, where appropriate, suggest changes to improve the reliability of the evidence.	
8 marks	I.8a	use detailed scientific knowledge and understanding to explain valid conclusions drawn from processed evidence.	
	I.8b	explain how results support or undermine the original prediction when one has been made.	
	I.8c	comment on the reliability of the evidence, accounting for any anomalies or explain whether the evidence is sufficient to support a firm conclusion.	▼

8 MODERATION

8.1 Agreement Trials

Agreement Trials are conducted annually where teachers are briefed on the application of the assessment criteria and engage in trial marking.

8.2 Supplementary Training Materials

Supplementary training materials in the form of advice on assessment and exemplar materials are issued to all centres.

8.3 Support Service and Advice

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising from the coursework with the teachers concerned by means of a visit if necessary.

8.4 Internal Standardisation

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marks assigned by individual teachers to bring their assessments into line with those of the other teachers in the department and to match the standards promulgated at the Agreement Trial.

8.5 External Moderation

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, scrutinise samples of coursework drawn from each teaching group within a centre in accordance with instructions issued by the Council. The Assistant Coursework Moderators determine whether internal standardisation has been achieved within the centre, whether the assessments are consistent across the levels and whether an adjustment is necessary to bring the assessments into line with the standards agreed at the Agreement Trials. The recommendations of each Assistant Coursework Moderator are summarised and are reviewed by two other Assistant Coursework Moderators working independently. Any cases of disagreement are referred to the Coursework Moderator for resolution. Following the issue of results, all centres receive a statement of the adjustments made, if any.

INFORMATION TECHNOLOGY

Pupils should use, where appropriate, information technology to store, process, retrieve and present information. They should have opportunities to use databases and spreadsheets in their work and to use, where appropriate, sensors to monitor changes occurring during their practical work.

Syllabus content for the Foundation Tier is set out in normal type.

Syllabus text content dealing with Higher Tier only is set out in bold italics.

1 ENERGY

Candidates should be able to:

Forms of energy	1.1	recall the following forms of energy; chemical, heat, electrical, sound, light, magnetic and nuclear, kinetic, potential (gravitational and strain).
	1.2	recall that energy is measured in joules.
Energy resources	1.3	recall that there is a variety of energy resources, to include, oil, gas, coal, nuclear, biomass, wind, wave, solar, geothermal, tidal and hydroelectric.
	1.4	understand that energy sources such as wind, fossil fuels, are ultimately dependent on the sun's energy.
	1.5	recall the difference between renewable and non-renewable energy resources.
	1.6	***describe the environmental implications of the use of energy resources, limited to generation of electricity by fossil fuels, nuclear fuels, hydroelectric power, wind farms, waves and tides. This to be limited to, the greenhouse effect (brief outline only), land/sea use and nuclear waste.***
	1.7	***identify and evaluate the financial costs of using various energy resources to generate electricity and evaluate these costs against the benefits to society. This should take into consideration: reliability, how quickly the different types of power station can respond to changes in demand, the costs of building, operating and de-commissioning power stations and any additional information, including quantitative information with which they are provided.***
Work and Power	1.8	recall and use the relationship; work = force x distance moved in the same direction as the force and that work is measured in joules.
	1.9	***recall and use the formula; power = work done/time taken.***
	1.10	***recall that power is measured in watts.***
	1.11	***describe simple experiments to measure personal power and the power of an electric motor.***
	1.12	***use the relationships between force, distance, time, work and power to describe and explain the function of everyday machines.***
Transfer of energy	1.13	describe energy changes in a range of domestic contexts and in familiar devices.
	1.14	recognise the distinctive features of pulleys and levers which make these machines useful in everyday life.
Conservation of energy	1.15	understand that energy is conserved and describe energy changes in terms of the principle of conservation of energy.
	1.16	understand that energy may be dissipated and become less useful.
	1.17	***recall and use the quantitative relationships for work done, kinetic energy, gravitational potential energy and power, in the context of the conservation of energy.***
Efficiency	1.18	recall that global resources are limited and understand why energy should be used efficiently.
	1.19	recall that efficiency is a measure of how much energy is transferred in an intended way and calculate efficiency as the ratio of useful output energy to input energy.
	1.20	apply the concept of efficiency to machines.

Heat transfer	1.21	recall that temperature is a measure of how hot an object is and that it is measured in degrees Celsius (+C) whereas heat is a form of energy.
	1.22	describe the processes of heat transfer in solids, liquids and gases.
	1.23	describe the uses of good thermal conductors and thermal insulators.
	1.24	describe experiments to show the difference between good thermal conductors and good thermal insulators.
	1.25	***describe thermal conduction in good conductors and in insulators in terms of the movement of particles.***
	1.26	describe convection in liquids and gases in terms of currents.
	1.27	describe experiments to show convection in liquids and gases.
	1.28	***describe convection in liquids and gases in terms of the movement of theparticles of the liquid or gas.***
	1.29	describe the effect the nature of a surface has on the emission and absorption of radiant heat.
	1.30	describe experiments to show the effect the nature of a surface has on the emission and absorption of radiant heat.
Expansion	1.31	describe methods of reducing heat loss from the home.
	1.32	recall that most solids, liquids and gases expand when heated and that the expansion of gases is very much greater than the expansion of liquids which is greater than the expansion of solids.
	1.33	recall and understand that expansion and contraction produces large forces and how allowance for this is made.
	1.34	explain and describe uses made of the expansion in solids and liquids in everyday life.
	1.35	explain and describe the use of the bimetal strip in a range of devices such as thermostats and fire alarms.

2 FORCES

Candidates should be able to:

Effects of a force	2.1	recall that forces can: change the shape of things; start objects moving;cause moving objects to stop; change the direction of motion; cause objects to turn.
	2.2	recall that force is measured in newtons.
	2.3	recall that the movement of an object depends on the size and direction of the forces exerted on it.
	2.4	understand that change in movement or direction results from unbalanced forces and that balanced forces produce no change.
	2.5	appreciate that friction is a force that opposes motion.
Mass and weight	2.6	distinguish between mass and weight, in that mass is an unchanging property of an object whereas weight is a force that depends on how strong gravity is.
	2.7	recall that mass is measured in kilogrammes.
	2.8	recall that on the Earth gravity exerts a force of 10 N on every kilogram of mass and be able to carry out simple calculations involving mass and weight.
Density	2.9	state and using the equation; density = mass/volume, to solve simple problems.
	2.10	recall the units of density as kg/m3 and g/cm3
	2.11	describe experiments to measure the density of liquids, regular and irregular solids.
Hooke's Law	2.12	investigate experimentally the relationship between force and the extension of a helical spring.
	2.13	state and use Hooke's law and use it to solve simple problems.
	2.14	understand the meaning of elastic limit.
Moments	2.15	understand how the turning effect of a force depends on its size and where it is applied.
	2.16	describe some practical applications of levers
	2.17	***calculate the moment of a force as force x perpendicular distance from the pivot.***
	2.18	***state the principle of moments and use it to solve simple problems when an object is balanced under the turning effects of; two forces (for an object with a pivot at its centre of mass); the weight of the object and one other force when the pivot is not at the centre of mass.***
Centre of Gravity	2.19	***understand the term centre of gravity and how the stability of an object depends on the position of the centre of gravity and the width of its base.***
	2.20	***describe an experiment to locate the centre of gravity of an irregular lamina.***
Pressure	2.21	understand how pressure depends on force and area.
	2.22	describe some practical applications of pressure, excluding the transmission of pressure of liquids
	2.23	***calculate pressure using P =F/A; recall that pressure is measured in pascals. Problems may be set in which N/cm² and N/mm² are used.***
Hydraulic machines	2.24	describe how the transmission of pressure by liquids is applied in simple hydraulic machines.
	2.25	***carry out simple calculations on hydraulic machines, hrg is not required.***
Motion	2.26	calculate average speed from measurements of distance and time and from linear distance–time graphs.
	2.27	***distinguish between distance and displacement, speed and velocity.***

Equations of motion	2.28	***recall and use the quantitative relationships between*** ***(i) distance, time and average speed,*** ***(ii) displacement, time and average velocity,*** ***(iii) initial velocity, final velocity, acceleration and time.***
	2.29	***Problems will only be set on motion in one direction.*** ***recall and use the equations of motion;*** ***$v = u + at$, $s = ut + \frac{1}{2}at^2$, $v^2 = u^2 + 2as$, $s = \frac{1}{2}(u + v)t$***
Displacement-time graphs **Velocity-time graphs**	2.30	***use graphical methods to determine velocity, acceleration and displacement; recall that the slope of a displacement-time graph is the velocity and that the slope of a velocity-time graph is the acceleration and that the area under the graph is the displacement.***
Newtons 2nd law of motion	2.31	***recall and use the quantitative relationships between force mass and acceleration in the form $F = ma$, where F is the resultant force.***
	2.32	***describe experiments to investigate the relationship between resultant force, mass and acceleration.***
Acceleration of free fall	2.33	***appreciate that in the absence of all other forces objects near the surface of the earth fall with the same acceleration and recall that this acceleration is known as the acceleration of free fall.***
	2.34	***recall and use the equation ; weight = mass x acceleration of free fall.***
	2.35	***describe an experiment to measure the acceleration of free fall.***
Momentum	2.36	recall that momentum is the product of mass and velocity.
Conservation of momentum	2.37	***recall and use the conservation of momentum to solve simple problems involving one dimensional inelastic collisions..***
Circular motion	2.38	recall some examples of circular motion.
	2.39	***recall that an object moving in a circle requires a centripetal force.***
	2.40	***recall that the centripetal force needed is greater:*** ***the greater the mass of the object;*** ***the greater the speed of the object;*** ***the smaller the radius of the circle.***
	2.41	***recall that if this force is removed the object will fly off at a tangent to the circle.***

3 WAVES, SOUND AND LIGHT

Candidates should be able to:

Waves	3.1	understand that waves transfer energy from one point to another.
	3.2	distinguish between transverse and longitudinal waves in terms of the motion of the particles of the medium.
	3.3	recall examples of transverse and longitudinal waves.
	3.4	describe, using simple wavefront diagrams, how plane waves are reflected at a plane barrier, refracted at a plane boundary and diffracted by a narrow opening.
	3.5	recall the meaning of frequency, wavelength and amplitude of a wave.
	3.6	***recall and use the quantitative relationship between frequency, wavelength and speed of a wave.***
Resonance	3.7	***recall that a vibrating object has a natural frequency of vibration and if forced to vibrate at this frequency resonant oscillations occur which can be sometimes advantageous and at other times not.***
Sound	3.8	recall that sounds are produced by vibrations.
	3.9	recall that sound can travel through different materials at different speeds but cannot travel through a vacuum.
	3.10	recall how the loudness of a sound is related qualitatively to the amplitude of the vibration causing the sound.
	3.11	recall how the pitch of a sound is related qualitatively to the frequency of the vibration causing the sound.
	3.12	***relate pitch, loudness and the quality of sound to its waveform displayed on the CRO.***
	3.13	recall that the range of human hearing is 20 Hz to 20 kHz and that the upper limit decreases with age.
	3.14	recall that frequencies greater than 20 kHz are called ultrasound.
	3.15	recall that loud sounds damage the ear and cause progressive deafness and understand the need to control noise levels in the environment.
	3.16	recall that sound is reflected so that the angle of incidence = the angle of reflection.
	3.17	recall some applications of echoes and carry out simple calculations on the echo principle.
	3.18	describe a direct method of measuring the speed of sound.
	3.19	***recall some applications of ultrasound in industry and medicine.***
Light	3.20	recall that luminous objects are seen by the light they emit and that all other objects are seen by the light they reflect.
	3.21	recall that light travels in straight lines at a finite speed.
	3.22	explain with the help of ray diagrams the formation of shadows by point and extended sources of light.
Reflection	3.23	recall that light is reflected from plane surfaces so that the angle of incidence equals the angle of reflection.
	3.24	describe an experiment to show that for plane mirrors light is reflected so that the angle of incidence equals the angle of reflection.
	3.25	describe an experiment to show that the image in a plane mirror is the same distance behind the mirror as the object is in front
	3.26	recall other properties of the image in a plane mirror.
	3.27	draw ray diagrams for plane mirrors and use them to solve simple problems.

Refraction	3.28	recall that a change of speed causes light to be refracted at air/glass, glass/air, air/water, and water/air boundaries.
	3.29	recall what when light slows it is bent towards the normal and theconverse. A knowledge of Snell's law is not expected.
	3.30	***recall that for light travelling from glass or water into air, when the angle of incidence exceeds a certain value total internal reflection occurs.***
	3.31	***explain how optical fibre works.***
	3.32	***use a wave model to explain refraction of light at a plane surface using simple plane wavefront diagrams.***
	3.33	recall how light is dispersed by prisms and understand that a spectrum can be produced because different colours of light are refracted by different amounts.
The electromagnetic spectrum	3.34	recall that the electromagnetic spectrum includes radio waves, microwaves, infrared, visible light, ultraviolet waves, X-rays and gamma-rays and be able to arrange them in order of decreasing wavelength.
	3.35	recall that electromagnetic waves require no medium for propagation and that all travel at the same speed in air.
	3.36	recall some uses and dangers of microwaves, infrared and ultraviolet waves in domestic situations.
	3.37	recall some uses of radio waves, microwaves, infrared and visible light in communications. Recall some uses of X-rays and gamma-rays in medicine.
Lenses	3.38	distinguish between the action of converging and diverging lenses (qualitative treatment only).
	3.39	define the focal length of a converging lens.
	3.40	describe an experiment to measure the focal length of a converging lens using a distant object.
	3.41	***describe an experiment to measure the focal length of a converging lens using a plane mirror.***
	3.42	***draw ray diagrams to show converging lenses form real and virtual images.***
	3.43	***use ray diagrams to explain how the simple camera, the projector and the magnifying glass work.***
	3.44	give an account of the structure and function of the eye to include; retina, optic nerve, accommodation and the iris.
	3.45	***explain the use converging and diverging lenses to correct short-sight and long-sight. (qualitative treatment only by diagrams).***

4 ELECTRICITY AND MAGNETISM

Candidates should be able to:

Static charge	4.1	recall that insulating materials can be charged by friction.
	4.2	recall that like-charged objects repel each other and unlike-charged objects attract each other.
	4.3	recall that positively charged objects have a deficiency of electrons and negatively charged objects have a surplus of electrons.
Charge flow	4.4	recall the dangers and use of electrostatic charge generated in everyday contexts.
	4.5	understand the difference between conductors and insulators in terms of free electrons and recall that an electric current is a flow of electrons and that it is in the opposite direction to that of the conventional current.
	4.6	***recall and use the quantitative relationship between current, charge and time.***
	4.7	***recall that charge is measured in coulombs.***
Electric circuits	4.8	understand the role of conductors, insulators and switches in simple series and parallel circuits.
	4.9	recall the effects of varying the current on bulb brightness, motor speed and heater output.
	4.10	describe and record diagrammatically simple electric circuits.
	4.11	measure current and voltage in series circuits.
	4.12	recall that current is measured in amperes and voltage in volts.
	4.13	***measure current and voltage in parallel circuits.***
	4.14	recall that in a series circuit the current is the same everywhere.
	4.15	recall that in a series circuit the sum of the voltages is equal to the voltage across the whole circuit.
	4.16	***recall that in a parallel circuit the sum of the currents in the branches is equal to the current entering the parallel section.***
	4.17	***recall that voltages across components in parallel are equal.***
	4.18	calculate the total resistance of resistors in series.
	4.19	calculate the resistance of two equal resistors in parallel.
	4.20	***calculate the combined resistance of any number of resistors in parallel.***
	4.21	***calculate the combined resistance of circuits with series and parallel sections.***
Ohm's law	4.22	describe an experiment to obtain a voltage and current measurements for a metallic conductor at constant temperature.
	4.23	plot and interpret voltage–current graphs for metallic conductors at constant temperature.
	4.24	state and use Ohm's law in the form V/I = R, where R is the resistance.
	4.25	recall that resistance is measured in ohms.
	4.26	recall, in qualitative terms, how the resistance of a metallic conductor at constant temperature, depends on length and area of cross section.
	4.27	***state and use the equation;*** ***resistance = resistivity x length/area of cross section***
	4.28	***recall the units of resistivity as ohm metre***
	4.29	***describe an experiment to obtain a voltage and current measurements for a filament bulb.***
	4.30	***plot and interpret voltage-current graphs for a filament bulb.***
	4.31	***recall how the resistance of a thermistor (n.t.c) varies with temperature.***
	4.32	***understand that voltage is the energy transferred per unit charge.***
	4.33	***recall and use the quantitative relationships between power, energy, current, voltage and time.***

Electricity in the home	4.34	understand one way and two way switching
	4.35	recall that fuses and earth wires protect the user.
	4.36	describe how to wire a fused three pin plug.
	4.37	***understand the function of live and neutral wires and how the earth wire and fuse protect the user from electric shock.***
	4.38	***understand how double insulation protects the user.***
	4.39	***understand the positioning of switches and fuses on the live side of appliances.***
	4.40	calculate the costs of using electricity from meter readings.
	4.41	***understand the meaning of the kilowatt-hour and calculate the cost of using electrical appliances using their power rating.***
	4.42	***solve problems involving the rating of a fuse to be selected for a given set of conditions.***
Magnetism	4.43	recall that magnets have two poles, north and south and that the magnetic force is strongest at these points.
	4.44	recall that like magnetic poles repel and that unlike magnetic poles attract.
	4.45	describe the shape and direction of the magnetic field pattern produced by an isolated bar magnet.
Electromagnetism	4.46	describe how to make a simple electromagnet and recall, qualitatively, how the strength of the electromagnet is affected by; (i) the number of turns, (ii) the current, (iii) the material used for the core.
	4.47	describe the shape and direction of the magnetic field pattern produced by the current in a solenoid and relate the current direction to the polarity.
	4.48	describe how the simple make and break electric doorbell and the electromagnetic relay work.
	4.49	recall that a current carrying conductor in a magnetic field experiences a force perpendicular to both the current and magnetic field directions, and that reversing the current direction reverses the direction of the force. Fleming's left-hand rule is not required.
	4.50	describe how a loudspeaker and electric motor work. (Questions will not be set on the operation of the split ring commutator)
Electromagnetic induction	4.51	***recall that current may be induced in a conductor by its motion relative to a magnet and by changing the current in a neighbouring conductor.***
	4.52	***describe how a moving coil microphone works.***
Generation and transmission of electricity	4.53	***know the difference between a.c. and d.c.***
	4.54	***recall that a.c. generators are used in the generation of electricity.***
	4.55	***describe the construction of a simple a.c. generator, including the magnet, coil, slip rings and brushes***
	4.56	***recall how step-up and step-down transformers are used in the transmission of electricity.***
	4.57	***recall that stepping up the voltage reduces energy losses in the grid.***
	4.58	***describe the construction of a transformer, including the primary coil, secondary coil and core.***
	4.59	***state and use the turns-ratio equation, $N_s/N_p = V_s/V_p$***

5 RADIOACTIVITY

Candidates should be able to:

Radioactivity	5.1	describe the structure of atoms in terms of protons, neutrons and electrons.
	5.2	***describe a nucleus in terms atomic number Z, mass number A, using the notation*** $^{Z}_{A}X$
	5.3	recall what an isotope is.
	5.4	recall that some combinations of neutrons and protons are unstable and disintegrate, such nuclei being described as radioactive.
	5.5	recall that radioactive nuclei emit alpha, beta and gamma radiation and state the nature of each.
	5.6	***describe these disintegrations in terms of equations involving mass numbers and atomic numbers.***
	5.7	describe simple experiments to measure the range of each of these radiations in air, paper, aluminium and lead.
	5.8	recall that alpha radiation is stopped by a few centimetres of air or a sheet of paper, that beta radiation is stopped by several metres of air or a thin sheet of aluminium and that gamma radiation easily passes through all of these but that lead is an effective shield.
	5.9	recall what background activity is and its source.
	5.10	recall the dangers of radioactivity and steps taken to minimize the risk to those who use it.
	5.11	recall the meaning of half life.
	5.12	***be able to carry out simple calculations involving half-life.***
	5.13	***recall some uses of radioactivity in industry, medicine and agriculture.***
	5.14	***describe nuclear fission in simple terms and be aware that it is a form of energy used in the generation of electricity.***
	5.15	***describe nuclear fusion in simple terms and be aware that it is the source of a star's energy.***

6 EARTH IN SPACE

Candidates should be able to:

Day and night **Year length**	6.1	explain day and night in terms of the rotation of the Earth on its axis and year length in terms of the movement of the Earth round the Sun.
Seasons	6.2	explain changes in day length, seasonal changes and changes in the elevation of the Sun in terms of the tilt of the Earth's axis and its movement around the Sun.
Solar system	6.3	recall the position of the sun and planets within the solar system and how they move relative to each other.
Gravitation	6.4	***recall that gravitational force acts towards the centre of every astronomical object and that this force determines the motion of the planets and comets round the Sun and satellites round the planets.***
	6.6	***recall that gravitational forces act between all masses and know that the magnitude diminishes with distance and increases with mass.***
	6.7	***describe the nebular(gas cloud) model for the formation of the solar system.***
Galaxy **Universe**	6.8	recall that the solar system forms part of a galaxy which is part of a larger system called the Universe.
Big Bang and Steady State	6.9	***describe the Big Bang model for the formation of the universe.***
	6.10	***recall that evidence for the Big Bang includes that light from other galaxies is shifted to the red end of the spectrum and that this can be explained by these galaxies moving away from us.***
Stars	6.11	***consider the possibilities and limitations of space exploration in terms of distances and speed of travel.***
	6.12	***describe how stars are formed. (Lifecycle of stars is not required).***
	6.13	***recall that stars are powered by nuclear fusion processes.***

SCIENCE: SINGLE AWARD (Modular)

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 The syllabus supports the view that Science should foster interest, enthusiasm, understanding and critical evaluation through exploration and investigation. The syllabus also allows opportunity to develop communication skills and the ability to discuss the environmental, technological and social aspects of Science.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Science: Single Award (Modular). It also meets the requirements of the Northern Ireland programme of study for Key Stage 4 Science (Single Award).

1.3 A course based on this syllabus will help to facilitate the further study of Science at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

1.6 The module titles and their associated Attainment Targets are as follows in Table 1.6:

Table 1.6

Module Title	Single Science Attainment Targets
Staying Alive Maintaining the Species	2
Materials Chemical Reactions	3
Energy and Space Light, Forces and Energy	4

1.7 This modular syllabus is based on the ***Science at Work*** series published by Longman Education. The content of each module is drawn from the programme of study for specific attainment targets.

2 AIMS

The aims set out below describe the educational purposes of following a course in GCSE Science: Single Award. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

The aims of the syllabus are to:

2.1 provide through the exploration and study of science a coherent educational experience for all candidates which enables them to acquire sufficient understanding and knowledge to:

2.1.1 become confident citizens in a technological world, able to take or develop an informed interest in matters of scientific import;

2.1.2 recognise the usefulness and limitations, of scientific methods and appreciate their applicability in other disciplines and in everyday life;

2.2 To develop abilities and skills that:

2.2.1 are relevant to the study, practice and application of science;

2.2.2 are useful in everyday life;

2.2.3 encourage safe practice.

2.3 To stimulate:

2.3.1 curiosity, interest and enjoyment in science and its methods of enquiry;

2.3.2 interest in, and care for, the environment.

2.4 To promote an awareness that:

2.4.1 the study and practice of science are co-operative and cumulative activities and are subject to social, economic, technological, ethical and cultural influences and limitations;

2.4.2 the application of science maybe both beneficial and detrimental to the individual, the community and the environment;

2.4.3 the concepts of science are of a developing and sometimes transient nature.

3 ASSESSMENT OBJECTIVES

The assessment objectives indicate the skills and abilities which will be assessed.

Candidates will be assessed on their ability to:

3.1 develop the intellectual and practical skills that allow them to explore science and develop a fuller understanding of scientific phenomena and the procedures of scientific exploration and investigation. This work should take place in the context of activities that require a progressively more systematic and quantified approach and which draw upon an increasing knowledge and understanding of science. The knowledge, skills and understanding specified by the syllabus should be used to enable candidates to demonstrate the ability to:

3.1.1 carry out experimental and investigative work in which they plan procedures, use precise and

systematic ways of making measurements and observations, analyse and evaluate evidence, and relate this to scientific knowledge and understanding;

3.1.2 recall, understand, use and apply the scientific knowledge set out in the syllabus;

3.1.3 communicate scientific observations, ideas and arguments using a range of scientific and technical vocabulary and appropriate scientific and mathematical conventions;

3.14 evaluate relevant scientific information and make informed judgements from it.

The relationship between aims and assessment objectives is illustrated in Table 3.1.4:

Table 3.1.4

	Aims				Assessment Objectives
Experimental skills and abilities	2.1 (1,2,3)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1)	3.1.1
Knowledge with understanding	2.1 (1,2,3)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1,2,3)	3.1.2–3.1.4

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment consists of end of module tests, a terminal examination and coursework. Their relative weightings are shown in Table 4.1:

Table 4.1

Components	Weighting
End of module tests	50%
Terminal examination	25%
Coursework	25%

4.2 The six modules presented in the syllabus will be assessed through end of module tests as follows:

(a) Staying alive;

(b) Maintaining the species;

(c) Materials;

(d) Chemical reaction;

(e) Energy and Space;

(f) Light, forces and energy.

These tests have to be taken within a schedule produced by the Council up to May of year 12 (Form 5).

The following modules are available on each test date in Form 4 (Year 11):

Staying Alive

Materials

Energy and Space

The following modules will be available on each test date in Form 5 (Year 12)

Maintaining the species

Chemical Reactions

Light, forces and energy

4.3 The format of each end of module test will be as follows:

Duration	Question Type
45 min	6 short answer

4.4 The end of module tests will be externally set and externally marked.

4.5 The terminal examination comprises two elements as follows:

(i) the final end-of-module test, 45 minutes, 10%;

(ii) an end-of-course examination, 1½ hours, 15%, which will test all areas of the syllabus content as shown in the table below.

Terminal paper: 1½ hrs

Syllabus Content	Question Type	Weighting
Staying Alive, Maintaining the Species	1 structured	5%
Materials, Chemical Reactions	1 structured	5%
Energy and Space, Light, Forces and Energy	1 structured	5%

The questions will have some emphasis on data handling.

4.6 Coursework Assessment (25%).

For the purposes of coursework assessment SSAT1 is divided into 3 assessment categories.

The approximate weighting for each category is shown below in Table 4.6:

Table 4.6

Assessment Category	Weighting
A Planning experimental procedures	7%
B Obtaining evidence	7%
C Interpreting and evaluating	11%

4.7 The weightings assigned to assessment objectives 3.1.1, 3.1.2–3.1.4 within the terminal papers and coursework are shown in Table 4.7 below:

Table 4.7

Component	Assessment Objectives				Total
	3.1.1	3.1.2	3.1.3	3.1.4	
Terminal Papers	–	60%	7.5%	7.5%	75%
Coursework	25%	–	–	–	25%
Total	25%	60%	7.5%	7.5%	100%

4.8 A portion of the total available credit will be allocated to assessment relating to technological application and social, economic and environmental implications.

No more than 25% of the total available credit is allocated to the assessment of recall of knowledge. "Understanding" is assessed extensively through the demonstration of skills and abilities covered by assessment objectives 3.1.2–3.1.4.

4.9 Further details on the assessment of the skills and abilities of the coursework component may be found in the coursework memorandum section of the syllabus.

4.10 All written papers may contain questions/parts of questions on practical aspects of science which students are likely to have covered during the course.

5 CERTIFICATION

GCSE certificates will only be awarded for achievement at grades C–G.

6 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus. They are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates devise fair tests in contexts which involve only a few factors; record observations and measurements in tables and graphs; offer simple explanations consistent with the evidence obtained.

Candidates use simple apparatus to make measurements appropriate to the task.

Candidates recall a limited range of information, for example, they state the main functions of organs of the human body and flowering plants; state some uses of materials obtained from oil; suggest ways in which insulation is used in domestic contexts.

Candidates use and apply knowledge and understanding in some specific everyday contexts, for example, they describe how a reduction in the population of one organism in a habitat can affect another organism, suggest a way of speeding up a particular chemical reaction; explain that fuels are energy resources and that energy is sometimes "wasted".

Candidates obtain information from simple tables, charts and graphs and identify simple patterns in information and observations.

Candidates link cause and effect in simple contexts; make some use of scientific and technical vocabulary and make simple generalisations from information.

Grade C

Candidates use scientific knowledge and understanding to identify key factors to vary and control and where appropriate to make predictions; present data systematically, in graphs where appropriate, and use lines of best fit; draw conclusions consistent with their evidence and explain these using knowledge and understanding.

Candidates use a range of apparatus to make careful and precise measurements and systematic observations and recognise when it is necessary to repeat measurements and observations.

Candidates recall a range of scientific information from all areas of the syllabus, for example, they describe how some organ systems in living organisms carry out life processes; recall simple chemical symbols and formulae; recall correct units for quantities.

Candidates use and apply scientific knowledge and understanding in some general context, for example, they describe how a cell is adapted to its functions; use simple balanced equations; use quantitative relationships between physical quantities to perform calculations.

Candidates use scientific knowledge and understanding to make inferences and identify and explain patterns within data; make predictions from patterns in data.

Candidates describe links between related phenomena in different contexts; use diagrams, charts and graphs to support arguments; use appropriate scientific and technical vocabulary in a range of contexts.

7 UNITS AND BACKGROUND SKILLS AND ABILITIES IN MATHEMATICS

The units, conventions, nomenclature, symbols and notation used in the examination papers will be in accord with those given in "SI Units, Signs, Symbols and Abbreviations", published by the Association for Science Education (1995). Other units in common use may be included in the examination papers but candidates will not be required to convert between such units or from such units to SI units.

7.1 Units

(i) Base Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
length	metre	m
mass	kilogram	kg
time	second	s
electric current	ampere	A

(ii) Derived Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
force	newton	N
work, energy, heat	joule	J
power	watt	W
electric potential difference, electromotive force	volt	V

(iii) Non-SI units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
energy	kilowatt hour	kWh
temperature	degree Celsius, degree Centigrade	°C
volume	litre	l

7.2 Mathematical Requirements

The references given to the attainment targets and statements of attainment for the Northern Ireland Curriculum Mathematics are not exhaustive, but should act as a guide as to the mathematical abilities expected from candidates at different levels. The mathematical skills required by candidates should include the following:

Topic	Further Details
Number	Whole numbers (odd, even, multiple, factor and square). Vulgar and decimal fractions and percentages. (candidates will be required to calculate percentages.)
Approximation	Estimation; approximation to obtain reasonable answers; limits of accuracy appropriate to given data.
Computation	The four rules of number applied to whole numbers and decimal fractions.
Proportion and variation	Elementary ideas and notation of ratio. Scales. Common measures of rate.
Measures	Measures of mass, length, area and time.
Application	Use of tables and charts. Reading of clocks and dials.
Graphs	Drawing, interpretation and use of graphs in practical situations. Drawing graphs from given data.
Formulae	The use of letters for generalised numbers. Substitution of numbers for words and letters in formulae. Transformation of simple formulae.
Equations	Simple linear equations in one unknown.
Statistics and Probability	Collection, classification and tabulation of statistical data: construction and interpretation of bar charts, pie charts and pictograms. Measures of average and the purposes for which they are used. Reading, interpreting and drawing simple inferences from tables and statistical diagrams.

8 BACKGROUND SKILLS AND ABILITIES IN ENGLISH

Candidates should be able to:

- communicate formally, orally and in writing, matching content and style to audience and purpose with due regard to spelling, punctuation and grammar;
- interact with others in group discussion, explore ideas, discuss issues, listen to, take account of and increasingly evaluate other people's opinion and views;
- use source materials and contemporary topics as the basis for hypothesis, reasoning, debate and argument sorting out evidence and identifying bias;
- read and discuss some material which will challenge or extend them as readers;
- select information from texts with which they are working, and reorder and re-work it for a specific purpose and audience;
- plan and draft written work through discussion, gathering and organising ideas, preparing outlines and developing an appropriate science vocabulary;
- in writing be aware of the need for match between form and purpose; forms to include descriptions, organised note-making, reports and essays;

9 PROHIBITED COMBINATIONS

Candidates presenting this subject are not permitted to take of the following subjects in the same series of examinations:

Science: Biology;

Science: Chemistry;

Science: Physics;

Science: Double Award (Modular and Non-Modular);

Science: Single Award (Non-Modular).

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The scheme for coursework assessment is based on the programme of study for experimental and investigative science at key stage four. Candidates will be assessed on three skill areas:

- Planning experimental procedures
- Obtaining evidence
- Interpreting and evaluating

1.2 The internal assessment of candidates' performance in the three skills should be made as part of normal class routine and should be an integral part of the scheme of work. It is not necessary to assess all students at the same time nor when carrying out the same experiment or investigation.

1.3 Internal assessment of coursework is subject to moderation by the Council.

1.4 It is left to teachers to decide whether or not individual students should be informed that a particular assessment is being made, although it would seem to be appropriate to inform them at the start of a course that internal assessment of practical coursework will be undertaken. Teachers may give feedback on the results of assessments to their students. In such cases students should be informed that marks are subject to moderation and hence are subject to change.

1.5 Notes for guidance and exemplar material are published separately from this memorandum.

2 SKILL AREAS

Students should develop the intellectual and practical skills that allow them to explore science and to develop a fuller understanding of scientific exploration and investigation. This work should take place in the context of activities that require a progressively more systematic and quantitative approach and which draw upon an increasing knowledge and understanding of science.

Skill Area P – Planning experimental procedures

This concerns the ability of candidates to formulate questions which can be tested, predict the outcome of a set of experimental procedures and devise investigations to test their ideas. It includes the ability to decide on what measurements to take, how to take them, and on how to consider factors which need to be taken into account in order to ensure that their investigation is valid.

Skill Area C – Obtaining evidence

This concerns the extent to which candidates can use apparatus and materials safely and effectively to make observations and measurements with increasing levels of discrimination and precision. It also involves the ability to record data in a systematic manner using an appropriate range of forms. At the higher levels candidates should be aware of sources of error and limits of accuracy.

Skill Area I – Interpreting and evaluating

This concerns the ability of candidates to recognise and explain patterns in data, to handle data in an increasingly quantitative manner and to draw valid conclusions from the results of their investigations. It also involves the ability to report their experimental work systematically and with clarity, using scientific language and notation as appropriate. At the higher levels candidates should be able to account for anomalous results evaluate their experiment or investigation and suggest improvements.

3 CONDUCT OF THE ASSESSMENT

3.1 Assessment must be carried out by the teacher in the context of experimental and investigative work which should arise naturally out of the normal teaching programme for a course.

Teachers should identify in advance which skill areas are to be assessed within the practical situation. The teacher must ensure that the work is that of the student(s) being assessed.

3.2 Assessment may take place in a variety of experimental situations, but at least one of the marks contributing to the final assessment must come from a whole investigation.

3.3 It is recognised that practical work is often carried out as a group activity. When assessments are being made during group activity the teacher will have to identify separately the contribution made by an individual student and care must be taken to ensure that a student does not always adopt a more or less dominant role.

3.4 Experimental and investigative work should be carried out across the full range of contexts provided by Living Organisms and Life Processes, Materials and their Uses and Physical Processes.

3.5 All practical work should be conducted in accordance with current regulations and recommendations relating to safety in the laboratory and in the field.

4 ARRIVAL AT SKILL AREA MARKS

4.1 **Mark descriptions** comprising a number of **statements** are provided in each skill area. Activities chosen for assessment should, wherever possible, provide opportunities for all the statements in a mark description to be addressed. It should be noted that some of the statements in a mark description contain a phrase as "where appropriate" and therefore may not apply to a particular activity.

4.2 Whenever assessments are made, the mark descriptions should be used to judge which mark **best fits** the candidate's performance. The statements should not be taken as discrete and literal hurdles, all of which must be fulfilled for a mark to be awarded.

4.3 The mark descriptions within a skill area are designed to be hierarchical. This means that, in general, a description at a particular mark subsumes those at

lower marks. It is assumed that activities which access higher marks will involve a more sophisticated approach and/or a more complex treatment. Adjacent descriptions should be considered when making judgements and use made of the **intermediate marks** (ie 3, 5 and 7) where performance exceeds one description and only partially satisfies the next.

4.4 A candidate who fails to meet the requirements for 2 marks, but who has made a creditworthy attempt in a skill area should be given 1 mark for that skill. Zero marks should only be awarded for a skill area in the unlikely event of a candidate failing to demonstrate any achievement in that skill.

The **professional judgement** of the teacher in making these judgements is important.

5 ARRIVAL AT THE FINAL MARK SUBMITTED

5.1 Centres are required to award each candidate a mark for each of the three Skill Areas. These marks should represent a candidate's best performance during the course.

5.2 However, to satisfy the Council's Criteria for Science, the following requirements must be met:

(a) There must be at least one Skill Area mark obtained from work in the context of two of Living Organisms and Life Processes, Materials and their Uses and Physical Processes.

(b) At least one of the Skill Area marks must have been obtained from a whole investigation carried out by the candidate, ie a piece of work which covers all three Skill Areas. This can represent work in one of Living Organisms and Life Processes, Materials and their Uses and Physical Processes.

In consequence, the minimum evidence must be two pieces of work.

5.3 Care should be taken to avoid a situation where, in order to meet the requirements, a candidate's best performance is not reflected in the final marks awarded.

6 RECORDING ASSESSMENT

6.1 Teachers must keep a record of the assessment of the work of their students.

6.2 The Candidate's Record Sheet must be used to record the marks for the skill areas being assessed.

6.3 When submitting candidates' work, teachers must clearly indicate those activities/investigations which were used for assessment purposes. Assessed work must be clearly annotated to identify, as precisely as possible, where in the work the relevant criteria have been satisfied so that the reasons why marks have been awarded are clear. An indication must also be given at the appropriate point in the evidence, or in accompanying information, of any further guidance given by the teacher which has significant assessment implications.

7 ASSESSMENT CRITERIA

7.1 Descriptions of the performance required for the award of marks in each of the skill areas are set out opposite. Criteria are specified for the award of 2, 4, 6 and 8 marks.

7.2 The assessment criteria must be interpreted in the context of the programme of study for key stage four.

Pupils should be encouraged to develop their experimental and investigative skills and their understanding of science through systematic experimentation and investigation. Work within Attainment Target 1 should be introduced through the knowledge and understanding covered within Attainment Targets 2, 3 and 4.

They should have opportunities to participate in increasingly complex activities which involve the application of scientific knowledge, understanding and skills.

While there should be opportunities throughout the key stage for pupils to undertake complete investigations, it will be appropriate in some cases to focus on particular aspects of the investigative process. On some occasions, the whole process of investigating an idea should be carried out by the pupils working on their own.

The skill areas to be assessed, the relevant areas from the programme of study and mark descriptions are given opposite.

Skill Area P: Planning experimental procedures

Programme of Study Requirements
Pupils should have opportunities to: (a) use their scientific knowledge and understanding to turn ideas into a form that can be investigated; (b) make predictions where appropriate to do so; (c) consider the factors which need to be taken into account in investigations; (d) draw up procedures for the investigation taking into account the observations or measurements which need to be made and how these are to be used; (e) select appropriate apparatus, instruments and techniques for the investigation, taking into account criteria, for example, the range and accuracy of the measurements and observations required, and the need for safe working procedures.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	P.2a	plan a simple safe procedure.	↓
4 marks	P.4a	plan a fair test or a practical procedure, making a prediction where appropriate.	
	P.4b	select appropriate equipment.	
6 marks	P.6a	use scientific knowledge and understanding to plan a procedure, to identify key factors to vary, control or take into account, and to make a prediction where appropriate.	
	P.6b	decide on a suitable number and range of observations or measurements to be made.	
8 marks	P.8a	use detailed scientific knowledge and understanding to plan an appropriate strategy taking into account the need to produce precise and reliable evidence and to justify a prediction where appropriate.	
	P.8b	include a strategy for dealing with results.	

Skill Area O: Obtaining evidence

Programme of Study Requirements
Pupils should have opportunities to: (a) use apparatus and materials in a safe and competent manner; (b) use apparatus and instruments to make observations and measurements to an appropriate degree of accuracy; (c) understand the need, where appropriate, to repeat measurements; (d) record observations or measurements systematically using methods appropriate to the information collected and to the purpose of the investigation.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	O.2a	use simple equipment safely to make some observations or measurements.	▼
4 marks	O.4a	make appropriate observations or measurements which are adequate for the activity.	
	O.4b	record the observations or measurements.	
6 marks	O.6a	make sufficient systematic and accurate observations or measurements and repeat them when appropriate.	
	O.6b	record clearly and accurately the observations or measurements.	
8 marks	O.8a	use equipment with precision and skill to obtain and record reliable evidence which involves an appropriate number and range of observations or measurements.	

Skill Area I: Interpreting and Evaluating

Programme of Study Requirements
Pupils should have opportunities to:
(a) present results in ways appropriate to the data collected and the purpose of the investigation, including, where appropriate, the use of graphs;
(b) interpret and evaluate results using, where appropriate, mathematical relationships;
(c) identify any trends, patterns and conclusions emerging from consideration of the results;
(d) draw valid conclusions and decide whether these conclusions agree with the original idea;
(e) explain the conclusions in the light of their scientific knowledge and understanding;
(f) consider their observations and measurements, including anomalies and sources of error, and suggest, where appropriate, improvements that could be made if they were to repeat their investigation;
(g) produce a written report of their investigation, using appropriate scientific vocabulary.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	I.2a	explain simply what has been found out.	▼
4 marks	I.4a	present findings in the form of simple diagrams, charts or graphs.	
	I.4b	identify trends and patterns in observations or measurements.	
6 marks	I.6a	construct and use appropriate diagrams, charts, graphs (with lines of best fit), or use numerical methods, to process evidence for conclusions.	
	I.6b	draw conclusions consistent with their evidence and relate these to relevant scientific knowledge and understanding	
	I.6c	comment on the suitability of the procedures and, where appropriate, suggest changes to improve the reliability of the evidence.	
8 marks	I.8a	use detailed scientific knowledge and understanding to explain valid conclusions drawn from processed evidence.	
	I.8b	explain how results support or undermine the original prediction when one has been made.	
	I.8c	comment on the reliability of the evidence, accounting for any anomalies or explain whether the evidence is sufficient to support a firm conclusion.	

8 MODERATION

8.1 Agreement Trials

Agreement Trials are conducted annually usually in the spring term where teachers are briefed on the application of the assessment criteria and engage in trial marking.

8.2 Supplementary Training Materials

Supplementary training materials in the form of advice on assessment and exemplar materials are issued to all centres.

8.3 Support Service and Advice

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising from the coursework with the teachers concerned by means of a visit if necessary.

8.4 Internal Standardisation

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marks assigned by individual teachers to bring their assessments into line with those of the other teachers in the department and to match the standards promulgated at the Agreement Trial.

8.5 External Moderation

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, scrutinise samples of coursework drawn from each teaching group within a centre in accordance with instructions issued by the Council. The Assistant Coursework Moderators determine whether internal standardisation has been achieved within the centre, whether the assessments are consistent across the levels and whether an adjustment is necessary to bring the assessments into line with the standards agreed at the Agreement Trials. The recommendations of each Assistant Coursework Moderator are summarised and are reviewed by two other Assistant Coursework Moderators working independently. Any cases of disagreement are referred to the Coursework Moderator for resolution. Following the issue of results, all centres receive a statement of the adjustments made, if any.

INFORMATION TECHNOLOGY

Pupils should use, where appropriate, information technology to store, process, retrieve and present information. They should have opportunities to use databases and spreadsheets in their work and to use, where appropriate, sensors to monitor changes occurring during their practical work.

STAYING ALIVE		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Variation	Candidates should be able to: • Use a microscope to look at slides; • Recall parts of plant and animal cells including nucleus, cytoplasm, cell nuclear membrane, cell wall, permanent vacuole and chromosomes; • Recognise different types of cells exemplified by: nerve cell, human sex cell, plant guard cell, onion epidermis cell. Candidates should know: • What tissues. organs and organ systems are exemplified by Tissues – muscle and xylem; Organs – heart and leaf; Systems – breathing and reproductive (human).	Use of microscope to look at a selection of prepared slides. Preparing a microscope slides of onion epidermal cells.
Nutrition	Candidates should recall that: • Nutrients in diet include: proteins for growth and repair; carbohydrates and fats for energy; vitamins, water, minerals and fibre for health. (Vitamins: C and D only; minerals: calcium and iron only) Candidates should be able to: Compare the energy content of different foods Candidates should be able: • To compare the relative energy content of two different meals – eg one high in energy and the other low in energy; • To relate energy needs to activity, age and gender.	Interpretation of data, eg HEA booklet "Healthy eating". Measurement of energy in peanut. Comparison of energy in meals using data sheets from text books.
Dental Care	Candidates should know: • Types of teeth, number of each type of tooth, function of each type of tooth; • The role of bacteria and sugar in tooth decay; • How tooth decay is prevented, with special reference to the role of fluoride and enamel; • Milk teeth and permanent teeth (tooth structure not required).	Survey of incidence of dental decay in class. Data relating to fluoride in addition to drinking water and dental decay.

STAYING ALIVE		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Digestive System	Candidates should know: • The major parts and functions of digestive system, namely mouth, oesophagus, stomach, ileum, (liver), colon, appendix, rectum and anus; • The role of enzymes in breaking down food (specific enzymes not required); • The importance of fibre.	Model gut. Investigation of changes to starch in presence of amylase.
Transport	Candidates should know: • Constituents of blood-plasma, red blood cells, white blood cells and platelets; • Role of haemoglobin, and white blood cells; • Circulatory system – role of arteries, veins and capillaries; • Heart structure and role as a pump; • The meaning of the term pulse rate; • Effect of exercise on heart beat; • Importance of exercise with special reference to dangers of blocked blood vessels causing heart attacks.	Counting pulse beats. Effects of exercise on heart rate.
Respiration	Candidates should know: • The word equation for respiration; • The difference between the air breathed in and out; • Respiration as the release of energy from food; • The structure of the breathing system to include – trachea, bronchi, alveoli, lungs; • The role of ribs and diaphragm in breathing and out; • That gas exchange occurs at the alveoli; • The role of the blood system in gas transport.	Investigation of expired air.
Nervous System	Candidates should know: • The structure of the nervous system (brain and spinal cord only); • A simple reflex arc.	Limited to arm jerk.

STAYING ALIVE		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Drugs and Health	Candidates should know: • The contents of tobacco smoke to include: tar, carbon monoxide and nicotine; • The disease connected with smoking to include: heart disease, cancers, bronchitis; • The meaning of the term "drug" – beneficial and harmful; • Problems of addiction; • That alcohol is a drug which can be harmful. Candidates should: • Be able to describe the effects of alcohol on road safety, drug abuse, risk of AIDS, addiction.	Health Education Authority leaflets "Change of Heart" campaign.

MAINTAINING THE SPECIES		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Classification	Candidates should know how plants and animals are grouped, to be restricted to: • Flowering and non-flowering plants as exemplified by mosses/ferns and one flowering plant; • Animals – vertebrates and invertebrates. Candidates should: • Be able to assign organisms to the following groups using the specified characteristics; non-flowering plants, eg, mosses and ferns that produce spores; flowering plants that reproduce by seeds; invertebrates – animals without backbones; vertebrates – animals with backbones. Group vertebrates into mammals, fish, reptiles, amphibians and birds. Group invertebrates into annelids (worms) and arthropods (insects). Use keys to identify organisms.	Examination of mosses, ferns and flowering plants.
	Candidates should: Study a local habitat and the factors affecting environmental change (temperature and light).	Use of a quadrat, pooter, etc.
Photosynthesis	Recount that water, light energy and carbon dioxide are needed for photosynthesis, that sugars and starch are produced and that oxygen is a by-product. Candidates should: • Be able to express photosynthesis as a simple word equation (details of leaf structure not required)	Testing green leaf for presence of starch.
Food Chains	Candidates should: • Understand the components of food chains and webs including: • sun as a primary source of energy; • producers; • consumers; • decomposers.	Culture of microbes. What can microbes break down?
Cycles	Candidates should: • Understand that materials are recycled to maintain the balances in the environment, including: • carbon cycle: photosynthesis, respiration, combustion and fossilisation;	Simplified diagrams of the carbon cycle and the nitrogen cycle. Relationship between photosynthesis and respiration.

MAINTAINING THE SPECIES		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Pollution	Find out that human activity can damage the environment and affect the plants and animals living there, including: • air – effects of pollution by soot and sulphur dioxide on plants; • land – deforestation; – household refuse: biodegradable and non-biodegradable materials; • water – sewage; – effluent from water cooling processes;	Grow cress seeds in an atmosphere of sulphur dioxide.
Conservation	Find out that Man may contribute to improving the environment for himself, and the plants and animals which live there, including: • air – afterburners; • land – reafforestation; • water – sewage disposal (detail of plant treatment not required). Candidates should know the: • Role of decomposers (bacteria and fungi); • Role of humus and chemical fertilisers. Recall the key factors in the process of decay (temperature, microbes, compactness, moisture) and how this process is important in the cycling of biological materials in everyday life. Candidates should know: • The main groups of microbes, restricted to fungi, bacteria and viruses; • The importance of good laboratory practice when dealing with microbes;	

MAINTAINING THE SPECIES		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Reproduction		
Plants	Candidates should: learn about the structure and functions of the component parts of the flower, including: • name the parts – sepals, petals, nectaries, stamens, (anthers and filaments) and carpels (stigma, style, ovary), receptacle; • self and cross-pollination; • insects and wind as agents of pollination; • fruit and seed dispersal – wind, animals, water and explosive mechanisms; • seed structure (radicle, plumule, colyledon, testa, endosperm); • seed germination (a hypogeal seed); • investigate the conditions which affect germination (temperature, adequate water, oxygen supply);	Dissect a flowering plant.
Animals	be introduced to the structure and functions of the component parts of the reproductive systems in humans, including: • naming the parts of the male system – testes, scrotum, sperm ducts, prostate gland, urethra and penis; • naming the parts of the female system – ovaries, oviducts, uterus, cervix, vagina and vulva; • intercourse (including the structure of sperm andora); • fertilisation in the oviduct; • development by cell division, into a ball of cells which implants in the uterus lining; • birth limited to contraction of the uterus and dilation of the cervix; find out about the requirements to maintain healthy bodies and healthy babies during pregnancy, including diet, Rubella, smoking, alcohol, and drugs;	Germinate cress seedlings in different conditions.
Childhood	Candidates should know: • the developing child needs food and oxygen supplied by mother's blood before birth (the role of the placenta); • after birth a balanced diet and parental care are required.	

MAINTAINING THE SPECIES		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Puberty	Report on the physical and emotional changes that take place during adolescence and explain the need to have a moral and responsible attitude to sexual behaviour (prevention of sexually transmitted diseases and contraception). Puberty Candidates should know the: • Physical changes in boys and girls at puberty to include: girls – height increase, breasts grow, pubic hair, periods, ovulation; boys – height increase, voice deepens, penis and testes enlargement, sperm production, pubic hair and facial hair growth; • Hormone changes leading to emotional changes.	
Variation	Measure variations in living organisms. Variations to include height, eye colour, ear lobes, tongue rolling, continuous and discontinuous variation. Relate that information in the form of genes is passed on from one generation to the next. Candidates should be able to describe: • Chromosomes; • Gene as a section of a chromosome; • Genes controlling characteristics. Describe an example of variation in living organisms which have both genetic and environmental causes (limited to height in humans).	Measurement of differences, eg ear lobes, tongue rolling, height.

MATERIALS		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Properties and uses	Candidates should: • Be able to classify materials as natural or synthetic.	Sort an exhibition of materials into two groups. (natural and synthetic).
	Candidates should be able to: Make comparisons between materials on the basis of investigation and measurement of simple properties for example, strength, hardness, flexibility, thermal conductivity and electrical conductivity.	Test the strength of fibres. Use a scratch test on materials. Test the flexibility of materials. Test the thermal conductivity and electrical conductivity of materials
	Candidates should know: • Some common uses of materials and why they are used; • PVC in clothing because it is a soft and flexible material; • wood as a building material because of its strength and durability; • diamond in cutting tools because of its hardness; • copper for making electrical cable because it conducts electricity; • aluminium in aircraft manufacture because of its strength and density.	
	Candidates should be able to identify common cases such as hydrogen, oxygen and carbon dioxide.	Tests to identify hydrogen, oxygen and carbon dioxide.
Environment	Give examples of some waste materials which can be re-cycled and suggest reasons why this is desirable. Candidates should know: • that glass, paper and aluminium cans are easily re-cycled; • how certain materials are recycled.	
	Explain the economic importance of re-cycling.	Details of recycling plant
	Candidates should understand: • that a large amount of the waste that is put into rubbish tips can be re-cycled or used as fuel; • that glass, paper and metals can be re-cycled easily and that re-cycling keeps costs down and saves using raw materials;	
	• the positive and negative effects of the exploitation of raw materials, for example, limestone extraction on the local community;	Navan fort.
	• the causes and effects of water hardness (both types) and learn about methods of softening hard water.	Removing temporary hardness by boiling and permanent hardness by adding washing soda. Effects limited to scum on bath sides and blockage of pipes. Causes limited to calcium compounds in water.

MATERIALS		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Classification	Candidates should recall: • that materials exist in three states – either solid, liquid or gas; • The properties of solids, liquids and gases; – solids: fixed shape, fixed volume, difficult to compress; – liquids: no fixed shape, fixed volume, difficult to compress; – gases: no fixed shape, no fixed volume, easily compressed; • that some materials such as sand and shaving foam are hard to classify.	
	Candidates should know: • that materials can be classified as elements, compounds or mixtures; • the meaning of the terms elements compounds and mixture; • that the element iron has different properties from the element sulphur (properties to include, appearance, effect of a magnet, reaction with acid, whether it floats or sinks in water); • that we can use some of these properties to separate a mixture of iron and sulphur.	Compare the properties of iron with the properties of sulphur. Separate an iron/sulphur mixture.
	Candidates should understand: • that compounds can be made by chemically reacting elements together for example heating a mixture of iron and sulphur produces iron sulphide.	Make iron sulphide from iron filings and sulphur.
Kinetic theory	Candidates should know the meaning of: • melting, freezing, boiling, condensing.	Investigate changes of state (water only) and the water cycle.
	Recognise that it is helpful to imagine that everything is made up of very small particles.	
	Candidates should be able: • to use particle theory to explain: – the differences between solid, liquid and gas; – changes of state; – solubility of solids in liquids.	Use kinetic theory model kit to explain the differences between solids, liquids and gases and change of state. Use computer simulation to demonstrate same (eg "Moving Molecules"). Dissolve coloured solids in water. Dilution experiments.

MATERIALS		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
	Candidates should recall: • that the properties of a mixture are the same as its ingredients; • that the properties of a compound are different from the elements from which it was made. Candidates should know: • the word equations: – iron + sulphur gives iron sulphide; – magnesium + oxygen gives magnesium oxide.	Compare the properties of iron sulphide to those of iron and sulphur. Compare the properties of sodium metal, chlorine gas and sodium chloride.
Separating mixtures	Candidates should recognise: • that making pure materials is very important in many industries such as the food, cosmetic, drug and paint industries, so separation of mixtures is used widely; • that the method of separation depends on the properties of the mixture. Candidates should be able: • to describe the separation techniques: – dissolving; – filtering; – evaporating; – distilling; – magnetic attraction; – chromatography.	Prepare pure salt from rock salt. Separate pure water from muddy or salty water. Separate coloured inks.

CHEMICAL REACTIONS		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Chemical Change	Candidates should know: • that the product of a permanent change has different properties to the starting material; • that temporary changes such as melting, boiling and dissolving are not chemical changes.	Investigate the effect of heat on materials. Compare the properties of magnesium and magnesium oxide. (limited to appearance, colour, reaction with dilute acid).
Reaction rates	Candidates should know: • that the rate of a chemical reaction can vary; • that the rate of a chemical reaction depends on factors such as: temperature, concentration and particle size; • how catalysts can affect the speed of a chemical reaction.	Investigate the reaction of marble chips with dilute acid varying: • the size of chips • the temperature • the concentration of the acid. Investigate the catalytic decomposition of hydrogen peroxide.
Relative reactivity of metals	Candidates should know: • that metals can be put into order of reactivity and that this order is called the Activity Series; • how to put a group of metals in order of reactivity depending on their: – reactions with water; – reactions with dilute acid; – ability to displace other metals.	"Chemistry in Action" video.
	Candidates should know: • the word equations. potassium + water → potassium hydroxide + hydrogen. sodium + water → sodium hydroxide + hydrogen. calcium + water → calcium hydroxide + hydrogen. magnesium + water → magnesium hydroxide + hydrogen.	Investigate the: (i) reaction of potassium, sodium, calcium and magnesium with water. (ii) reaction of magnesium, zinc and copper with dilute acid. (iii) displacement of copper from copper solutions by magnesium, zinc and iron.

CHEMICAL REACTIONS		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Rusting	Candidates should know: • that both air and water are needed for rusting; • that rusting can be slowed down or prevented by: – greasing or oiling; – painting; – tin plating; – zinc painting; – chromium plating;	Test tube reactions to investigate rusting of iron nails showing that air and water are needed for rusting. Test tube reactions to show how the rusting of iron nails can be slowed down or stopped.
Acids, alkalis and neutralisation	Candidates should be able: • to use indicators to classify solutions as acidic, alkaline or neutral.	Use indicators to classify a range of solutions as acid, alkaline or neutral.
	Candidates should: • understand the pH scale.	Use universal indicator to measure the pH of a range of solutions.
	Candidates should know: • that when hydrochloric acid reacts with sodium hydroxide, common salt is formed; • that universal indicator can be used to monitor the neutralisation process; • some everyday applications of neutralisation, for example treating: – wasp stings; – indigestion; – acid soil with lime.	Make sodium chloride.
	Candidates should know: • that acid rain comes from the burning of fossil fuels; • how acid rain affects common materials such as limestone, marble, brick, copper, steel and aluminium; • how acid rain affects fish and plants.	Investigate the effects of sulphur dioxide solution on common building materials

CHEMICAL REACTIONS		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Chemical reactions	Candidates should know: • how lime is made from limestone by thermal decomposition; • that limestone, sand, sodium carbonate (soda ash) and cullet are used to make glass; • the meaning of oxidation and reduction (limited to the gaining or loss of) oxygen. • the word equation: Magnesium + oxygen → magnesium oxide.	Make lime from limestone. Make magnesium oxide from magnesium ribbon Reduce copper oxide with hydrogen.
Periodic table	Candidates should know that the periodic table groups together elements with similar properties. Candidates should know: • that elements can be classified as metals, non-metals and semi-metals; • that elements are arranged in vertical columns called groups; • names of Group 1 and Group II elements; • that elements in the same group have similar chemical properties(group 1 only); • rows across the periodic table are called periods.	Colour in areas of metals, non-metals and semi-metals in the periodic table. Compare the properties of a typical metal and non-metal, for example sodium and sulphur. Teacher demonstration of the properties of sodium and potassium. "Chemistry in Action" video.
Electronic structure and chemical formulae	Candidates should know: • that atoms consist of protons, neutrons and electrons and their relative charges and masses; • the electronic structure of sodium, chlorine, magnesium and oxygen; • that when atoms lose or gain electrons, they become charged and are then called ions; • how to work out the structure of sodium chloride. Candidates should know: • the symbols for iron, sulphur, hydrogen, oxygen, magnesium, sodium and chlorine; • the formulae of iron sulphide, water, magnesium oxide and sodium chloride.	

ENERGY AND SPACE		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Transfer and Conservation	Candidates should: • know that there is a variety of energy resources, to include, oil, gas, coal, nuclear, biomass, wind, wave and solar; • learn that energy sources, for example, fossil fuels, are ultimately dependent on the sun's energy; • know the differences between renewable energy resources, for example, wind, wave, tidal, solar and biomass and non-renewable resources for example, fossil fuels and nuclear fuel (uranium); • know that global resources are limited and understand why energy should be used efficiently.	Make solar heater out of black plastic tubing.
	Candidates should know that: • energy can be stored in a spring (potential);	Investigate the energy transfers in a cotton reel tractor and a torch.
	• the energy in the spring can turn a dynamo (kinetic); • the dynamo makes electrical energy; • energy can be stored in an elastic band and in batteries; • that this stored energy can be converted to other forms.	
	Candidates should understand: • that a weight in a high position has stored energy (potential);	Lifting a weight using a motor.
	• that a falling weight can transfer its energy to a dynamo (kinetic); • the principle of conservation of energy.	
	Candidates should understand that: • when energy is transferred some is useful and some is wasted; • when energy is transferred by a car engine most of it is wasted.	

ENERGY AND SPACE		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Heat energy transfer	Candidates should understand: • that a conductor is a material which lets energy flow through it easily; • that a bad conductor is called an insulator; • why good conductors often feel cold; • that conduction takes place in solids; • that energy is transferred from atom to atom; • the uses of some conductors and insulators namely: – metal cooking pots with wooden handles; – rubber on handlebars; – ski jackets; • that energy is transferred through a gas or liquid by convection currents; • that a heated liquid or gas expands and rises with a cooler (heavier) liquid or gas falls; • that infra-red radiation transfers energy from one place to another; • that objects absorb and emit energy all the time; • that the amount of infra-red radiation absorbed or emitted by an object depends on its temperature and the colour of its surface; • some applications namely: – refrigerator cooling fins; – shiny teapots; – white houses in hot countries.	Comparing a plastic bowl, metal saucepan, carpet tile, quarry tile. Comparing a plastic spoon and metal spoon in hot water. Compare the rate of conduction through, copper, iron, aluminium, brass and glass rods. Demonstrate using hot air balloon and potassium permanganate crystal in water. Rate of water cooling in a matt black can and shiny can.
Saving heat energy	Candidates should: • understand that the best insulators are materials which trap pockets of air; • know that keeping a house warm is expensive; • explain that the cost can be reduced by insulation with specific reference to: – hot-tank jacket; – draught proofing; – roof insulation; – room thermostat; – double glazing; • be aware that some insulations methods pay for themselves quickly; • know that double-glazing takes a long time to repay itself; • understand how thermostats help to save energy.	Compare the cooling rate of beakers of hot water covered in wallpaper, polystyrene and wool.

ENERGY AND SPACE		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Sound	Candidates should: • know that sounds are produced by vibrations; • know that sound can travel through different materials at different speeds but cannot travel through a vacuum; • know that the loudness of a sound is related to the amplitude of the variation causing the sound; • know that the pitch of a sound is related to the frequency of the vibration causing the sound; • find out that different people have different audible ranges; • know about the effects of loud sounds on the ear, including loss of hearing due to damage to the eardrum; • understand the need to control noise levels in the environment; • learn about the reflection and absorption of sound including applications, for example, determination of depth by echo sounding and methods of sound proofing.	
Earth in space	Candidates should know: • what a planet is; • that the Earth is a planet; • what a moon is; • what a star is; • state what a solar system is; • the nine planets that orbit the Sun. Candidates should understand: • a table of the relative sizes of these planets; • a table of the average distances of these planets from the Sun; • that the solar system forms part of a galaxy which is part of a larger system called the Universe; • that our galaxy is called the Milky Way; • know that the Sun, Moon and Earth are spherical bodies. Specific evidence, relating to the Earth: • ship over horizon; • shadow of Earth on the moon; • photographs of Earth from space.	

ENERGY AND SPACE		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
	Candidates should know that: • the Earth moves round the Sun; • it takes 365¼ days for the Earth to move round the Sun. Candidates should: • understand that only half of the Earth can be in daylight at any one time; • day and night can be explained in terms of the rotation of the earth on its axis; • learn that changes in day length, seasonal changes and changes in the elevation of the sun can be explained in terms of the tilt of the Earth's axis.	
Gravity	Candidates should understand that: • gravity is the force of attraction between all pieces of matter; • larger planets have a stronger pull of gravity than smaller planets; • the force of gravity gets smaller as you move away from the Earth.	
Weight	Candidates should: • understand that your weight is the pull of the Earth's gravity; • distinguish between mass and weight. Candidates should know that: • a mass is measured in kilograms; • weight is measured in newtons; • the Earth pulls down 1 kilogram with a force of about 10 newtons. Candidates should be able to: • measure their mass in kilograms; • calculate their weight from a given equation. Candidates should: • know that gravitational force acts towards the centre of every astronomical body; • understand that different planets have different gravitational pulls; • know that their mass would stay the same on different planets; • be able to calculate their weight on different planets if given the gravitational pull.	

ENERGY AND SPACE		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Space exploration	Candidates should know about: • the extent of the human exploration of space; • Apollo space programme (limited to moon landing); • space shuttle and Skylab.	CD ROM Space Exploration

LIGHT, FORCES AND ENERGY		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Light	Candidates should know that: • we see things when light from them enters our eyes; • some objects make light and others reflect it; • burning, some chemical reactions and electricity produce light. Candidates should know: • that a shadow is a dark area without light; • how shadows are made; • that the formation of shadows proves that light travels in straight lines. Candidates should know that: • lenses refract (bend) light; • there are two kinds of lens – concave and convex; • images can be formed using a convex lens; • the human eye and camera contain a convex lens; • prisms bend light and split it into colours; • the band of colours is called a spectrum; • a rainbow is made when raindrops act as little prisms; • white objects reflect all the colours of light; • red coloured objects reflect red light and absorb the rest; • black coloured objects do not reflect any light; • the colour of an object depends on the colour of light falling on it (specific examples not required). Candidates should know that: • the spectrum of light we can see is a small part of a larger spectrum; • the larger spectrum is called the electromagnetic spectrum. Candidates should be able to: • give examples of some types of electromagnetic radiation which are important in everyday life and describe some of their applications. Examples should include gamma rays, X-rays, infra-red and microwaves. • recognise that when electromagnetic waves travel from one point to another they transfer energy.	Use lens to bend light. Use a prism to form a spectrum.

LIGHT, FORCES AND ENERGY		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Forces linear	Candidates should: • know that forces can: – change the shape of things; – start objects moving; – cause them to stop; – change the direction of motion; • learn that the movement of an object depends on the size and direction of the forces exerted on it. Candidates should understand: • that the forces of escaping air from a balloon makes the balloon move in the opposite direction; and relate to rockets. Candidates should be able to: • explain that when an object is not moving relative to its environment or moving at steady speed without change of direction there are balanced forces acting upon it for example a car standing at rest on the surface of the Earth, a person on an escalator; • describe the effects of friction on moving objects. Candidates should understand that: • friction resists motion; • friction can be useful, eg bicycle brakes, parachutes; • friction can be a nuisance, eg wears out machinery, wastes energy. Candidates should know that: • stopping time depends on: – speed of a car; – thinking distance of driver; – braking distance; • there is a large friction force between the tyres of a car and the road; • oil, water and ice reduce the friction force.	Pulling a block using a newtonmeter. Dropping ball bearings through liquids of different viscosity.

LIGHT, FORCES AND ENERGY		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
Turning	Candidates should understand: • that a force which acts some distance from the pivot is a turning force; • the term "moment of a force"; • scissors, spanners and a bottle opener are used to make our work easier. Candidates should be able to: • balance a lever pivoted at the centre using two unequal forces; • calculate the moment of a force (using a given formula).	
Pressure	Candidates should: • know that pressure is measured in Pascals; • know and use the equation pressure = force/area; • relate pressure to everyday effects, stiletto heels, snow shoes.	
Electricity and magnetism	Candidates should know: • that electrical circuits must be complete; • what electrical conductors and insulators are; • that copper, iron, steel, brass and aluminium are conductors; • that plastic, rubber and wood are insulators. Candidates should be able to: • set up simple series circuits containing a battery, switch, bulb or buzzer; • record the above circuits diagrammatically using the appropriate circuit symbols. Candidates should be able to: • use a voltmeter to measure the voltage of a battery; • voltage is measured in volts; • join two batteries in series and measure the voltage; • set up a simple series circuit containing two batteries and a bulb; • measure the voltage across the bulb using a voltmeter.	

LIGHT, FORCES AND ENERGY		
TOPIC	**KNOWLEDGE, SKILLS AND UNDERSTANDING**	**Learning Activities**
	Candidates should know that: • the voltmeter is connected in parallel across the bulb; • electric current is measured in amperes (amps); • electric current is measured with an ammeter; • the ammeter is connected in series with the circuit.	
	Candidates should recall that: • when electricity flows there is a heating effect; • the heating effect is used in kettles and fires.	Use low voltage power supply and 12v 5w car bulb to investigate how electricity flowing in a bulb affects how hot it is.
	Candidates should know that: • the electricity meter records the electricity used; • the consumer unit distributes the electricity to several circuits; • lights and power sockets are on different circuits; • a light can be operated by a single switch or a two-way switch; • two-way switches are used at the top and bottom of a staircase; • fuses and earth wire protect the user.	
	Candidates should: • know that units of an electric meter are kilowatt hours (kWh); • be able to calculate the cost of electricity used, given the price of a unit and the number of units used.	Domestic electric bills.
Magnetism	Candidates should: • find out about the properties of magnets including attraction and repulsion; • find out about the magnetic field pattern produced by a bar magnet.	Draw magnetic fields.
	Candidates should know that: • when electricity flows it produces a magnetic effect; • this effect can be used to make electromagnets; • electromagnets are useful because they can easily be turned on and off; • electromagnets are used in lifting magnets and electric motors.	Demonstrate an electromagnet.

SCIENCE: SINGLE AWARD (Non-Modular)

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 The syllabus supports the view that Science should foster interest, enthusiasm, understanding and critical evaluation through exploration and investigation. The syllabus also allows opportunity to develop communication skills and the ability to discuss the environmental, technological and social aspects of Science.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Science: Single Award (Non-Modular). It also meets the requirements of the Northern Ireland programme of study for Key Stage 4 Science (Single Award).

1.3 A course based on this syllabus will help to facilitate the further study of Science at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

1.6 Syllabus content for the Foundation Tier is set out in normal type.

Syllabus text content dealing with Higher Tier only is set out in bold italics.

2 AIMS

The aims set out below describe the educational purposes of following a course in (subject). Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

The aims of the syllabus are to:

2.1 provide through the exploration and study of science a coherent educational experience for all candidates which enables them to acquire sufficient understanding and knowledge to:

2.1.1 become confident citizens in a technological world, able to take or develop an informed interest in matters of scientific import;

2.1.2 recognise the usefulness and limitations, of scientific methods and appreciate their applicability in other disciplines and in everyday life.

2.2 To develop abilities and skills that:

2.2.1 are relevant to the study, practice and application of science;

2.2.2 are useful in everyday life;

2.2.3 encourage safe practice.

2.3 To stimulate:

2.3.1 curiosity, interest and enjoyment in science and its methods of enquiry;

2.3.2 interest in, and care for, the environment.

2.4 To promote an awareness that:

2.4.1 the study and practice of science are co-operative and cumulative activities and are subject to social, economic, technological, ethical and cultural influences and limitations;

2.4.2 the applications of science may be both beneficial and detrimental to the individual, the community and the environment;

2.4.3 the concepts of science are of a developing and sometimes transient nature.

3 ASSESSMENT OBJECTIVES

The assessment objectives indicate the skills and abilities which will be assessed.

Candidates will be assessed on their ability to:

3.1 develop the intellectual and practical skills that allow them to explore science and to develop a fuller understanding of scientific phenomena and the procedures of scientific exploration and investigation. This work should take place in the context of activities that require a progressively more systematic and quantified approach and which draw upon an increasing knowledge and understanding of science. The knowledge, skills and understanding specified by the syllabus should be used to enable candidates to demonstrate the ability to:

3.1.1 carry out experimental and investigative work in which they plan procedures, use precise and systematic ways of making measurements and observations, analyse and evaluate evidence, and relate this to scientific knowledge and understanding;

3.1.2 recall, understand, use and apply the scientific knowledge set out in the syllabus;

3.1.3 communicate scientific observations, ideas and arguments using a range of scientific and technical vocabulary and appropriate scientific and mathematical conventions;

3.1.4 evaluate relevant scientific information and make informed judgements from it.

The relationship between aims and assessment objectives is illustrated in Table 3.1.4 below.

Table 3.1.4

	Aims				Assessment Objectives
Experimental skills and abilities	2.1 (1,2)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1)	3.1.1
Knowledge with understanding	2.1 (1,2)	2.2 (1,2,3)	2.3 (1,2)	2.4 (1,2,3)	3.1.2–3.1.4

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment consists of coursework assessment and a terminal examination. Differentiation will be achieved by having the papers targeted at different levels of ability.

4.2 Two tiers of entry are available, giving access to different grades as shown in Table 4.2:

Table 4.2

Tier	Grades covered
Foundation	C–G
Higher	A*–D(E)

Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade D but who demonstrate the qualities associated with a grade E performance.

Candidates enter for one tier only. Questions set on the Foundation Tier will be confined to syllabus content at that level only. Questions set on the Higher Tier will sample the whole syllabus.

4.3 Candidates will take three terminal papers, which are attainment target dedicated, at each tier of entry. The relationship between paper numbers, syllabus area, attainment targets and weightings are shown in Table 4.3a below:

Table 4.3a

Paper Number	Attainment Target	Weighting
1	Living Organisms and Life Processes	25%
2	Materials and their Uses	25%
3	Physical Processes	25%

The duration of papers for the different tiers of entry are shown in Table 4.3b below:

Table 4.3b

Tier	Time for each paper
Foundation	1 hour
Higher	1½ hours

4.4 All papers will contain a mixture of questions requiring short answers and structured questions. The general structure of the papers is outlined in Table 4.4 below:

Table 4.4

Tier	Section	Time	Questions
Foundation	A	45 minutes	approximately 15 short questions
	B	15 minutes	1 or 2 structured questions
Higher	A	30 minutes	approximately 10 short questions
	B	60 minutes	3 or 4 longer structured questions

4.5 **Coursework Assessment (25%)**

For the purposes of coursework assessment SSAT 1 is divided into 3 assessment categories.

The approximate weighting for each category is shown below in Table 4.5.

Table 4.5

	Assessment Category	Weighting
A	Planning experimental procedures	7%
B	Obtaining evidence	7%
C	Interpreting and evaluating	11%

4.6 The weightings assigned to assessment objectives 3.1.1–3.1.4 within the terminal papers and coursework are shown in Table 4.6 below.

Table 4.6

Component	Assessment Objectives				Total
	3.1.1	3.1.2	3.1.3	3.1.4	
Terminal Papers	–	60%	7.5%	7.5%	75%
Coursework	25%	–	–	–	25%
Total	25%	60%	7.5%	7.5%	100%

4.7 A significant portion of the total available credit will be allocated to assessment relating to technological application and social, economic and environmental implications.

No more than 25% of the total available credit is allocated to the assessment of recall of knowledge. "Understanding" is assessed extensively through the demonstration of skills and abilities covered by assessment objectives 3.1.2–3.1.4.

4.8 Further details on the assessment of the skills and abilities of the coursework component may be found in the coursework memorandum section of the syllabus.

4.9 All written papers may contain questions/parts of questions on practical aspects of science which students are likely to have covered during the course.

5 CERTIFICATION

GCSE certificates will only be awarded for achievement at grades A*–G.

6 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objective overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates devise fair tests in contexts which involve only a few factors; record observations and measurements in tables and graphs; offer simple explanations consistent with the evidence obtained.

Candidates use simple apparatus to make measurements appropriate to the task.

Candidates recall a limited range of information, for example, they state the main functions of organs of the human body and flowering plants; state some uses of materials obtained from oil; suggest ways in which insulation is used in domestic contexts.

Candidates use and apply knowledge and understanding in some specific everyday contexts, for example, they describe how a reduction in the population of one organism in a habitat can affect another organism, suggest a way of speeding up a particular chemical reaction; explain that fuels are energy resources and that energy is sometimes "wasted".

Candidates obtain information from simple tables, charts and graphs and identify simple patterns in information and observations.

Candidates link cause and effect in simple contexts; make some use of scientific and technical vocabulary and make simple generalisations from information.

Grade C

Candidates use scientific knowledge and understanding to identify key factors to vary and control and where appropriate to make predictions; present data systematically, in graphs where appropriate, and use lines of best fit; draw conclusions consistent with their evidence and explain these using scientific knowledge and understanding.

Candidates use a range of apparatus to make careful and precise measurements and systematic observations and recognise when it is necessary to repeat measurements and observations.

Candidates recall a range of scientific information from all areas of the syllabus, for example, they describe how some organ systems in living things carryout life processes; recall simple chemical symbols and formulae; recall correct units for quantities.

Candidates use and apply scientific knowledge and understanding in some general contexts, for example, they describe how a cell is adapted to its functions; use simple balanced equations; use quantitative relationships between physical quantities to perform calculations.

Candidates use scientific knowledge and understanding to make inferences and identify and explain patterns within data; make predictions from patterns in data.

Candidates describe links between related phenomena in different contexts; use diagrams, charts and graphs to support arguments; use appropriate scientific and technical vocabulary in a range of contexts.

Grade A

Candidates use scientific knowledge and understanding to select an appropriate strategy for a task, identifying the key factors to be considered and making predictions where appropriate; they select a method of presenting data appropriate to the task; they use information from a range of sources where it is appropriate to do so; they identify and explain anomalous observations and measurements and the salient features of graphs; use scientific knowledge and understanding to draw conclusions from their evidence; identify shortcomings in the evidence.

Candidates decide the level of precision needed in measurements and use a range of apparatus with precision and skill; make appropriately precise measurements; make systematic observations in qualitative work; decide which observations are relevant to the task in hand.

Candidates recall a wide range of knowledge from all areas of the syllabus.

Candidates use detailed scientific knowledge and understanding in a range of applications relating to scientific systems or phenomena, for example, they explain how temperature or water content is regulated in humans; routinely use a range of balanced equations; use understanding of bonding to explain the simple properties of a material; use a wide range of relationships between physical quantities to carry out calculations effectively.

Candidates use scientific knowledge and understanding to identify patterns and draw conclusions by combining data of more than one kind or from more than one source.

Candidates draw together and communicate knowledge from more than one area; use routinely scientific or mathematics conventions in support of arguments; use a wide range of scientific and technical vocabulary throughout their work.

7 UNITS AND BACKGROUND SKILLS AND ABILITIES IN MATHEMATICS

7.1 The units, conventions, nomenclature, symbols and notation used in the examination papers will be in accord with those given in "SI Units, Signs, Symbols and Abbreviations", published by the Association for Science Education (1995). Candidates taking the GCSE Science: Single Award examination will be expected to be familiar with the units and mathematical

requirements appropriate to their selected tier of entry. Other units in common use may be included in the examination papers but candidates will not be required to convert between such units or from such units to SI units.

Units

(i) Base Units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
length	metre	m
mass	kilogram	kg
time	second	s
electric current	ampere	A
temperature	kelvin	K

(ii) Derived units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
frequency	hertz	Hz
force	newton	N
work, energy, heat	joule	J
power	watt	W
electric potential difference, electromotive force	volt	V
electric resistance	ohm	Ω

(iii) Non-SI units

Physical Quantity	Name of SI Base Unit	Symbol for Unit
energy	Kilowatt hour	kWh
temperature	degree Celsius, degree Centigrade	°C
volume	litre	l

(iv) Prefixes for SI units

Sub-Multiple	Prefix	Symbol	Multiple	Prefix	Symbol
10^{-2}	centi	c	10^{3}	kilo	k
10^{-3}	milli	m	10^{6}	mega	M
10^{-6}	micro	μ			

7.2 Mathematical Requirements

The mathematical skills required by candidates will be appropriate to the tier of entry and should include the following:

Topic	Tier	Further Details
Number	F	Whole numbers (odd, even, multiple, factor and square). Vulgar and decimal fractions and percentages. (Candidates will be required to calculate percentages.)
Approximation	F	Estimation; approximation to obtain reasonable answers; limits of accuracy appropriate to given data.
Computation	F	The four rules of number applied to whole numbers and decimal fractions.
Proportion and variation	F	Elementary ideas and notation of ratio. Scales. Elementary ideas and applications of direct proportion. Common measures of rate.
Measures	F	Measures of mass, length, area, capacity and time.
Application	F	Use of tables and charts. Reading of clocks and dials.
Graphs	F	Cartesian co-ordinates. Drawing, interpretation and use of graphs in practical situations. Gradient. Drawing graphs from given data.
Formulae	F	The use of letters for generalised numbers. Substitution of numbers for words and letters in formulae. Transformation of simple formulae.
Equations	F	Simple linear equations in one unknown.
Statistics and probability	F	Collection, classification and tabulation of statistical data: construction and interpretation of bar charts, pie charts and pictograms. Measures of average and the purposes for which they are used. Construction and use of simple frequency distributions. Reading, interpreting and drawing simple inferences from tables and statistical diagrams.

8 BACKGROUND SKILLS AND ABILITIES IN ENGLISH

The English abilities required of candidates will be appropriate to their tier of entry.

Candidates should be able to:

- communicate formally orally and in writing, matching content and style to audience and purpose with due regard to spelling, punctuation and grammar;
- interact with others in group discussion, explore ideas, discuss issues, listen to, take account of and increasingly evaluate other people's opinion and views;
- use source materials and contemporary topics as the basis for hypothesis, reasoning, debate and argument sorting out evidence and identifying bias;

- read and discuss some material which will challenge or extend them as readers;
- select information from texts with which they are working, and reorder and re-work it for a specific purpose and audience;
- plan and draft written work through discussion, gathering and organising ideas, preparing outlines and developing an appropriate science vocabulary;
- in writing be aware of the need for match between form and purpose; forms to include descriptions, organised note-making, reports and essays.

9 REAGENTS

It will be assumed that candidates have a working knowledge of the practical use indicated for the following reagents.

9.1 Alkaline solutions (sodium or potassium hydroxide): and soda lime absorption of CO_2.

9.2 Benedict's reagent: test for reducing sugar.

9.3 Biuret reagent: (sodium or potassium hydroxide solution plus dilute copper(II) sulphate solution): test for protein.

9.4 Cobalt chloride paper: test for water.

9.5 DCPIP solution: comparison of relative concentration of vitamin C in standard solution and fruit extract.

9.6 Hydrogencarbonate (Bicarbonate) indicator: detection of changes in CO_2 content.

9.7 Iodine solution: test for starch.

9.8 Indicator solutions and paper:

(a) Litmus for detecting pH change;

(b) Universal indicator for measuring pH.

9.9 Lime water: test for carbon dioxide.

9.10 Methylene blue: stain for plant and animal tissues.

10 PROHIBITED COMBINATIONS

Candidates presenting this subject are not permitted to take any of the following subjects in the same series of examinations:

Science: Biology;

Science: Chemistry;

Science: Physics;

Science: Double Award (Modular), (Non-Modular);

Science: Single Award (Modular).

COURSEWORK MEMORANDUM

1 INTRODUCTION

1.1 The scheme for coursework assessment is based on the programme of study for experimental and investigative science at key stage four. Candidates will be assessed on three skill areas:

- Planning experimental procedures
- Obtaining evidence
- Interpreting and evaluating.

1.2 The internal assessment of candidates' performance in the three skills should be made as part of normal class routine and should be an integral part of the scheme of work. It is not necessary to assess all students at the same time nor when carrying out the same experiment or investigation.

1.3 Internal assessment of coursework is subject to moderation by the Council.

1.4 It is left to teachers to decide whether or not individual students should be informed that a particular assessment is being made, although it would seem to be appropriate to inform them at the start of a course that internal assessment of practical coursework will be undertaken. Teachers may give feedback on the results of assessments to their students. In such cases students should be informed that marks are subject to moderation and hence are subject to change.

1.5 Notes for guidance and exemplar material are published separately from this memorandum.

2 SKILL AREAS

Students should develop the intellectual and practical skills that allow them to explore science and to develop a fuller understanding of scientific exploration and investigation. This work should take place in the context of activities that require a progressively more systematic and quantitative approach and which draw upon an increasing knowledge and understanding of science.

Skill Area P – Planning experimental procedures

This concerns the ability of candidates to formulate questions which can be tested, predict the outcome of a set of experimental procedures and devise investigations to test their ideas. It includes the ability to decide on what measurements to take, how to take them, and on how to consider factors which need to be taken into account in order to ensure that their investigation is valid.

Skill Area O – Obtaining evidence

This concerns the extent to which candidates can use apparatus and materials safely and effectively to make observations and measurements with increasing levels of discrimination and precision. It also involves the ability to record data in a systematic manner using an appropriate range of forms. At the higher levels candidates should be aware of sources of error and limits of accuracy.

Skill Area I – Interpreting and evaluating

This concerns the ability of candidates to recognise and explain patterns in data, to handle data in an increasingly quantitative manner and to draw valid conclusions from the results of their investigations. It also involves the ability to report their experimental work systematically and with clarity, using scientific language and notation as appropriate. At the higher levels candidates should be able to account for anomalous results evaluate their experiment or investigation and suggest improvements.

3 CONDUCT OF THE ASSESSMENT

3.1 Assessment must be carried out by the teacher in the context of experimental and investigative work which should arise naturally out of the normal teaching programme for a course.

Teachers should identify in advance which skill areas are to be assessed within the practical situation. The teacher must ensure that the work is that of the student(s) being assessed.

3.2 Assessment may take place in a variety of experimental situations, but at least one of the marks contributing to the final assessment must come from a whole investigation.

3.3 It is recognised that practical work is often carried out as a group activity. When assessments are being made during group activity the teacher will have to identify separately the contribution made by an individual student and care must be taken to ensure that a student does not always adopt a more or less dominant role.

3.4 Experimental and investigative work should be carried out across the full range of contexts provided by Living Organisms and Life Processes, Materials and their Uses and Physical Processes.

3.5 All practical work should be conducted in accordance with current regulations and recommendations relating to safety in the laboratory and in the field.

4 ARRIVAL AT SKILL AREA MARKS

4.1 **Mark descriptions** comprising a number of **statements** are provided in each skill area. Activities chosen for assessment should, wherever possible, provide opportunities for all the statements in a mark description to be addressed. It should be noted that some of the statements in a mark description contain a phrase as "where appropriate" and therefore may not apply to a particular activity.

4.2 Whenever assessments are made, the mark descriptions should be used to judge which mark **best fits** the candidate's performance. The statements should not be taken as discrete and literal hurdles, all of which must be fulfilled for a mark to be awarded.

4.3 The mark descriptions within a skill area are designed to be hierarchical. This means that, in general, a description at a particular mark subsumes those at

lower marks. It is assumed that activities which access higher marks will involve a more sophisticated approach and/or a more complex treatment. Adjacent descriptions should be considered when making judgements and use made of the **intermediate marks** (ie 3, 5 and 7) where performance exceeds one description and only partially satisfies the next.

4.4 A candidate who fails to meet the requirements for 2 marks, but who has made a creditworthy attempt in a skill area should be given 1 mark for that skill. Zero marks should only be awarded for a skill area in the unlikely event of a candidate failing to demonstrate any achievement in that skill.

The **professional judgement** of the teacher in making these judgements is important.

5 ARRIVAL AT THE FINAL MARK SUBMITTED

5.1 Centres are required to award each candidate a mark for each of the three Skill Areas. These marks should represent a candidate's best performance during the course.

5.2 However, to satisfy the Council's Criteria for Science, the following requirements must be met:

(a) There must be at least one Skill Area mark obtained from work in the context of two of Living Organisms and Life Processes, Materials and their Uses and Physical Processes.

(b) At least one of the Skill Area marks must have been obtained from a whole investigation carried out by the candidate, ie a piece of work which covers all three Skill Areas. This can represent work in one of Living Organisms and Life Processes, Materials and their Uses and Physical Processes.

In consequence, the minimum evidence must be two pieces of work.

5.3 Care should be taken to avoid a situation where, in order to meet the requirements, a candidate's best performance is not reflected in the final marks awarded.

6 RECORDING ASSESSMENT

6.1 Teachers must keep a record of the assessment of the work of their students.

6.2 The Candidate's Record Sheet must be used to record the marks for the skill areas being assessed.

6.3 When submitting candidates' work, teachers must clearly indicate those activities/investigations which were used for assessment purposes. Assessed work must be clearly annotated to identify, as precisely as possible, where in the work the relevant criteria have been satisfied so that the reasons why marks have been awarded are clear. An indication must also be given at the appropriate point in the evidence, or in accompanying information, of any further guidance given by the teacher which has significant assessment implications.

7 ASSESSMENT CRITERIA

7.1 Descriptions of the performance required for the award of marks in each of the skill areas are set out overleaf. Criteria are specified for the award of 2, 4, 6 and 8 marks.

7.2 The assessment criteria must be interpreted in the context of the programme of study for key stage four.

Pupils should be encouraged to develop their experimental and investigative skills and their understanding of science through systematic experimentation and investigation. Work within Attainment Target 1 should be introduced through the knowledge and understanding covered within Attainment Targets 2, 3 and 4.

They should have opportunities to participate in increasingly complex activities which involve the application of scientific knowledge, understanding and skills.

While there should be opportunities throughout the key stage for pupils to undertake complete investigations, it will be appropriate in some cases to focus on particular aspects of the investigative process. On some occasions, the whole process of investigating an idea should be carried out by the pupils working on their own.

The skill areas to be assessed, the relevant areas from the programme of study, and mark descriptions are given opposite.

Skill Area P: Planning experimental procedures

Programme of Study Requirements
Candidates should be taught to: (a) use their scientific knowledge and understanding to turn ideas into a form that can be investigated; (b) make predictions where appropriate to do so; (c) consider the factors which need to be taken into account in investigations; (d) draw up procedures for the investigation taking into account the observations or measurements which need to be made and how these are to be used; (e) select appropriate apparatus, instruments and techniques for the investigation, taking into account criteria, for example, the range and accuracy of the measurements and observations required, and the need for safe working procedures.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	P.2a	plan a simple safe procedure.	
4 marks	P.4a	plan a fair test or a practical procedure, making a prediction where appropriate.	
	P.4b	select appropriate equipment.	
6 marks	P.6a	use scientific knowledge and understanding to plan a procedure, to identify key factors to vary, control or take into account, and to make a prediction where appropriate.	
	P.6b	decide on a suitable number and range of observations or measurements to be made.	
8 marks	P.8a	use detailed scientific knowledge and understanding to plan an appropriate strategy taking into account the need to produce precise and reliable evidence and to justify a prediction where appropriate.	
	P.8b	include a strategy for dealing with results.	

Skill Area O: Obtaining evidence

Programme of Study Requirements
Candidates should be taught to: (a) use apparatus and materials in a safe and competent manner; (b) use apparatus and instruments to make observations and measurements to an appropriate degree of accuracy; (c) understand the need, where appropriate, to repeat measurements; (d) record observations or measurements systematically using methods appropriate to the information collected and to the purpose of the investigation.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	O.2a	use simple equipment safely to make some observations or measurements.	▼
4 marks	O.4a	make appropriate observations or measurements which are adequate for the activity.	
	O.4b	record the observations or measurements.	
6 marks	O.6a	make sufficient systematic and accurate observations or measurements and repeat them when appropriate.	
	O.6b	record clearly and accurately the observations or measurements.	
8 marks	O.8a	use equipment with precision and skill to obtain and record reliable evidence which involves an appropriate number and range of observations or measurements.	

Skill Area I: Interpreting and Evaluating

Programme of Study Requirements
Candidates should be taught to:
(a) present results in ways appropriate to the data collected and the purpose of the investigation, including, where appropriate, the use of graphs;
(b) interpret and evaluate results using, where appropriate, mathematical relationships;
(c) identify any trends, patterns and conclusions emerging from consideration of the results;
(d) draw valid conclusions and decide whether these conclusions agree with the original idea;
(e) explain the conclusions in the light of their scientific knowledge and understanding;
(f) consider their observations and measurements, including anomalies and sources of error, and suggest, where appropriate, improvements that could be made if they were to repeat their investigation;
(g) produce a written report of their investigation, using appropriate scientific vocabulary.

MARK DESCRIPTIONS

The mark descriptions are designed to be hierarchical.

All work should be assessed in the context of the syllabus.

	Candidates should be taught to:		Increasing demand of activity
2 marks	I.2a	explain simply what has been found out.	↓
4 marks	I.4a	present findings in the form of simple diagrams, charts or graphs.	
	I.4b	identify trends and patterns in observations or measurements.	
6 marks	I.6a	construct and use appropriate diagrams, charts, graphs (with lines of best fit), or use numerical methods, to process evidence for conclusions.	
	I.6b	draw conclusions consistent with their evidence and relate these to relevant scientific knowledge and understanding.	
	1.6c	comment on the suitability of the procedures and, where appropriate, suggest changes to improve the reliability of the evidence.	
8 marks	I.8a	use detailed scientific knowledge and understanding to explain valid conclusions drawn from processed evidence.	
	I.8b	explain how results support or undermine the original prediction when one has been made.	
	1.8c	comment on the reliability of the evidence, accounting for any anomalies or explain whether the evidence is sufficient to support a firm conclusion.	↓

8 MODERATION

8.1 Agreement Trials

Agreement Trials are conducted annually usually in the spring term where teachers are briefed on the application of the assessment criteria and engage in trial marking.

8.2 Supplementary Training Materials

Supplementary training materials in the form of advice on assessment and exemplar materials are issued to all centres.

8.3 Support Service and Advice

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for an Assistant Coursework Moderator to support groups of centres and arrangements can be made to contact individual centres to discuss issues arising from the coursework with the teachers concerned by means of a visit if necessary.

8.4 Internal Standardisation

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marks assigned by individual teachers to bring their assessments into line with those of the other teachers in the department and to match the standards promulgated at the Agreement Trial.

8.5 External Moderation

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, scrutinise samples of coursework drawn from each teaching group within a centre in accordance with instructions issued by the Council. The Assistant Coursework Moderators determine whether internal standardisation has been achieved within the centre, whether the assessments are consistent across the levels and whether an adjustment is necessary to bring the assessments into line with the standards agreed at the Agreement Trials. The recommendations of each Assistant Coursework Moderator are summarised and are reviewed by two other Assistant Coursework Moderators working independently. Any cases of disagreement are referred to the Coursework Moderator for resolution. Following the issue of results, all centres receive a statement of the adjustments made, if any.

INFORMATION TECHNOLOGY

Pupils should use, where appropriate, information technology to store, process, retrieve and present information. They should have opportunities to use databases and spreadsheets in their work and to use, where appropriate, sensors to monitor changes occurring during their practical work.

Syllabus content for the Foundation Tier is laid out in normal type.

Syllabus text content dealing with Higher Tier only is laid out in bold italics.

LIVING ORGANISMS AND LIFE PROCESSES

1 LIFE PROCESSES

Pupils should have opportunities to:

(a) know the basic life processes of all living organisms, including:

- nutrition, respiration, movement, excretion, response to stimuli, growth and reproduction;

Organ systems

(b) learn the basic functions of the organs in a flowering plant, including:

- the root – to absorb water and mineral salts and anchorage;
- the stem – to support and transport water and food in veins;
- the leaf – large surface area to absorb light energy for photosynthesis;
- the flower – to reproduce;

(c) learn the basic functions of the major organ systems of the body, including:

- digestive system;
- respiratory system – for gas exchange. Oxygen for carbon dioxide in the lungs;
- skeletal system – support, movement and protection;
- circulatory system – transport of materials, protection, and maintaining body temperature;
- excretory system – removal of toxic waste products at the kidneys, ***and water balance as an example of homeostasis; (no details of ADH required);***
- nervous system – the role of receptors, co-ordinators and effectors in bringing about a response;
- reproductive system – sexual reproduction as a process involving gamete formation and fertilization.

Nutrition: Plants

(d) find out that photosynthesis is a key process which is essential to life, including:

- that oxygen and starch are produced by photosynthesis;
- the word equation for photosynthesis;
- ***as factors affecting the rate photosynthesis;***
- ***the economic implications in crop production of enhancing environmental factors, for example, carbon dioxide light intensity, temperature and fertiliser application.***

Animals: Diet

(e) find out that food is an energy source, and to compare the energy content of different foods, including:

- the functions of food – energy, growth and protection;
- the main dietary sources and roles of carbohydrates, fats, proteins, fibre, vitamins (C and D only) minerals (calcium and iron only) and water in the diet;
- the use of simple tests for each of the following starch (iodine), simple sugar (Benedict's reagent), proteins (Biuret test) and vitamin C (DCPIP test);
- the comparisons of energy content of carbohydrates, fats and proteins in different foods;
- variation in energy required, with respect to age, gender, activity;

Healthy Diet

(f) learn about the diet required to maintain healthy bodies, including:

- a balanced diet;
- the relationship between health, diet and heart disease;
- the difference between malnutrition and starvation;
- dental care; (structure of a tooth, the role of bacteria and sugar in tooth decay, care of teeth including the importance of fluoride).

Digestive system

(g) be introduced to the structure and functions of the component parts of the digestive system in humans, including:

- identification of the parts of the human alimentary canal, buccal cavity, oesophagus, stomach, small intestine (ileum), large intestine (colon), rectum and anus in relation to ingestion, digestion, absorption, assimilation and egestion (no detail of enzymes required),

(h) extend their knowledge of the digestive systems to include amylase, lipase and protease in saliva, gastric, pancreatic and intestinal juice: (specific names of enzymes not required)

- the source and action of bile;
- the significance of a large surface area for absorption, folds and villi;
- the absorption of water in the colon;
- ***the role of the liver in the assimilation of glucose;***

Respiration

(j) understand how the cells use oxygen to provide energy for other life processes to take place limited to the word equation for respiration,

(k) understand the structure and function of the component parts of the respiratory system, including:

- identification and function of the major organs of the respiratory system – nasal cavity, trachea, bronchus, bronchioles, lungs, alveolus, diaphragm and ribs;

(l) find out how cigarette smoke affects health:

- tar as a trigger for lung cancer;
- nicotine contributing to heart disease; irregular heart beat and increased blood clotting;
- carbon monoxide; displacement of oxygen in red blood cells;
- passive smoking.

Transport

(m) be introduced to the structure and functions of the component parts of the circulatory system in humans, including:

- structure of the blood – red blood cells (transport of oxygen), white blood cells (defence), plasma (transport of food and waste in solution), platelets (blood clotting);
- the heart limited to the names of the 4 chambers and the direction of blood flow;
- blood vessels – arteries carrying blood away from the heart and veins carrying blood to the heart;

(n) find out the relationship between diet, fitness and circulatory disorders;

- obesity and increased blood pressure;
- investigate the effects of exercise on heart rate;
- heart attack as reduced coronary circulation.

Reproduction

Plants

(o) learn about the structure and functions of the component parts of the flower, limited to a named dicotyledonous plant, including:

- name the parts – sepals, petals, nectaries, stamens, (anthers and filaments) and carpels (stigma, style, ovary), receptacle;
- self and cross – pollination – their advantages and disadvantages;
- insects and wind as agents of pollination;
- ***growth of pollen tube and its entry into the ovule followed by fertilisation. Haploid nuclei in gametes, diploid in zygotes;***
- fruit and seed dispersal – wind, animals, water and explosive mechanisms;
- seed structure (radicle, plumule, cotyledon, testa, endosperm);
- seed germination (a hypogeal seed);
- investigate the conditions which affect germination (temperature, adequate water, oxygen supply);

Animals

(p) be introduced to the structure and functions of the component parts of the reproductive systems in humans, including:

- the male system – testes, scrotum, sperm ducts, prostate gland, urethra and penis;
- the female system – ovaries, oviducts, uterus, cervix, vagina and vulva;
- fertilisation in the oviduct;
- the placenta, umbilical cord, amnion and amniotic fluid;
- ***extend their knowledge of the placenta, umbilical cord, amnion and amniotic fluid;***
- birth limited to contraction of the uterus, dilation of the cervix and rupture of the amniotic membrane;

(q) find out about the requirements to maintain healthy bodies and healthy babies during pregnancy, including diet, Rubella, smoking, alcohol and drugs;

(r) learn about the need for a responsible attitude to sexual behaviour, including:

- interpersonal relationships;
- prevention of sexually transmitted diseases – the cause, transmission, treatment and prevention of AIDS and gonorrhoea;
- contraception – natural, mechanical, chemical and surgical methods;

Sensitivity and response

(s) find out that behaviour can be explained in terms of receptors, co-ordinators and effectors, including:

- receptors – the eye (the structure and function of the conjunctiva, cornea, iris, lens, pupil, retina and optic nerve);
- ***skin, including temperature control; (detail of skin structure not required)***;
- co-ordinators – the simple function of the brain and spinal cord in co-ordinating responses; ***a reflex arc; (Voluntary and reflex actions, reflex arc in terms of sensory, association and motor neurones)***;
- effectors – the antagonistic action and function of muscles at a joint, limited to the elbow joint.

(t) ***understand the function and role of hormones in co-ordination in humans, including:***

- ***insulin control of blood sugar levels; (diabetes as a condition in which this mechanism breaks down);***
- ***adrenaline in preparation for flight or fight.***

Drugs

(u) discuss the effects of alcohol, drug and solvent abuse on society, including:

- addiction;
- cost to society.

2 ENVIRONMENT

Classification

Pupils should have opportunities to:

(a) assign organisms to their major groups using keys and observable features, including:

- flowering plants: root, stem and leaves, flowers and seed production;
- annelids – segmentation;
- arthropods (insects only):

  exoskeleton, three pairs of jointed legs, two pairs of wings;
- molluscs: possession of a shell;
- chordates: animals with backbones;
- bony fish: gills, fins, scales;
- amphibians: lungs in adult, moist skin, eggs laid in water, young a tadpole;
- reptiles: scales, shelled eggs laid on land, parental care;
- birds: feathers, shelled eggs, parental care;
- mammals: mammary glands, hair, ear pinna, parental care;
- fungi: spores, no chlorophyll;

(b) understand the components of food chains and food webs, including:

- sun as a primary source of energy;
- producers;
- consumers; (primary, secondary and tertiary)
- decomposers; (the role of bacteria and fungi)
- nature of energy flow;

Cycles

(c) understand that materials are recycled to maintain the balance in the environment, including:

- carbon cycle: photosynthesis, respiration, combustion and fossilisation;
- ***nitrogen cycle – decay and decomposition of protein, nitrification, nitrogen fixation and denitrification (no specific name of bacteria required);***

(d) explain how materials for growth and energy are transferred through an ecosystem;

(e) ***understand how food production involves the management of ecosystems to improve the efficiency of energy transfer, including:***

- ***the management of herring stock in the North Sea;***

(f) understand how population growth and decline are related to environmental resources including the effects of birth rate, death rate, emigration, immigration, food supply, predation and diseases.

3 VARIATION

The cell

Pupils should have opportunities to:

(a) learn that plants and animals are composed of cells;

- use of the microscope and slide to study the structure and function of a typical plant and animal cell including nucleus, cytoplasm, cell membrane, nuclear membrane, cell wall, chloroplast, permanent vacuole and chromosomes;
- similarities: cytoplasm, nucleus and membranes as features common to most. Differences: cell wall and large vacuole as distinguishing features of most plant cells;

Specialisation

(b) understand that cells become specialised to carry out different functions to include the root hair in plants, sperm cell, ***ciliated epithelium in animals;***

Levels of organisation

(c) understand that cells are the building units of tissues, organs, organ systems, and organisms in a flowering plant and a mammal;

Genetics

(d) learn that genetic information is carried in the form of genes on chromosomes in the nucleus of cells, eg eye colour and tongue rolling:

- ***genes as short lengths of DNA;***

(e) ***understand how genetic information is passed from cell to cell and generation to generation, including:***

- ***mitosis-outline in terms of the exact duplication of chromosomes (names of phases and details of DNA replication not required);***
- ***meiosis as reduction division (diploid to haploid) and as a process which re-assorts the chromosomes (omitting crossing over and names of phases), fertilisation as a means of restoring the diploid number and combining different sets of chromosomes;***

(f) understand the principles of a simple monohybrid cross (co-dominance not required). Use of Punnett squares to determine genotype frequencies. Distinction between genotype and phenotype, heterozygous and homozygous, dominant and recessive alleles.

Use of backcross to determine genotype;

(g) explain the way in which sex is determined in humans. (No detail of sex-linked characters required).

Selection

(h) find out that variation can be measured in living organisms including height as an example of continuous variation and tongue rolling as an example of discontinuous variation;

(i) know that variation in living organisms has both a genetic and environmental basis, eg height in humans;

(j) ***understand how variation and selection may lead to evolution or extinction:***

- ***natural selection as variation within phenotypes and competition for resources leading to differential survival.***

MATERIALS AND THEIR USES

Candidates should be able to:

Atomic structure

1.1 Understand the terms: elements, compounds, atoms, ions and molecules and their interrelation.

1.2 Describe the structure of atoms in terms of protons, electrons and neutrons.

- Relative charges and masses of protons, electrons and neutrons.
- Define atomic number and mass number.
- Distinguish between isotopes, eg ^{35}Cl and ^{37}Cl.
- Describe the arrangement of electrons in shells for elements 1–20.

1.3 Describe the structure of ions in terms of protons, electrons and neutrons.

- The formation of simple ions in terms of the addition or removal of electrons.
- Work out the formula and describe the formation of simple ionic compounds, for example, NaCl, MgO and $CaCl_2$.

1.4 ***Describe the formation of a covalent bond in terms of sharing electron pairs, for example, Cl_2, HCl, H_2O CH_4.***

1.5 ***Classify substances in terms of their properties as metallic, ionic, covalent molecular or giant covalent.***

- ***Using examples above of typical substances as appropriate and including graphite, diamond and the typical metals.***

1.6 ***Explain the properties of typical ionic, covalent (simple and giant) and metallic substances in terms of their bonding and structures.***

- ***Using examples above where appropriate.***

Solids, liquids and gases

2.1 Classify materials as solids, liquids or gases on the basis of their properties.

- ie shape, hardness, "movement", effect of heating or cooling.

2.2 Recognise that when materials change their state there is no change in the substance of which they are made, for example, melting blocks of ice. Demonstrate knowledge of the subsequent changes of state that result from heating or cooling. Sublimation to be included.

2.3 Investigate the physical properties of gases and relate these to everyday uses.

- because gases can be compressed they are often stored under pressure, eg fire extinguishers, aerosol sprays.

2.4 Investigate the kinetic theory as a model to explain changes of state and a range of other phenomena.

- Recognise that it is helpful to imagine that everything is made of very small particles.
- Give examples of situations which indicate that these small particles move, including, diffusion, dilution and mixing experiments and Brownian motion.
- Explain the differences between solids, liquids and gases in terms of proximity and motion of particles.
- Explain changes of state and the energy changes associated with them and diffusion in terms of simple kinetic theory.

2.5 Use their developing ideas about the constitution of matter and relate them to everyday examples involving changes of state and solubility, for example:

- ice, water, water vapour/steam;
- solder;
- solubilities of sodium chloride, copper sulphate, ethanol, oxygen and carbon dioxide in water (qualitative treatment only).

Materials and their properties

3.1 Investigate everyday materials, both natural and man-made in terms of properties, for example,

- lustre, strength, hardness, cleavage, elasticity, solubility, melting and boiling point, electrical and thermal conductivity, tensile strength and density.

3.2 Learn about the uses of everyday materials and relate their uses to their physical properties, for example, use of:

- aluminium in aircraft manufacture because of its strength and density;
- PVC in clothing because it is a soft and flexible material;
- wood as a building material because of its strength and durability;
- diamond in cutting tools because of its hardness;
- copper for making electrical cable because it conducts electricity.

3.3 Relate knowledge of the properties of materials to their everyday use.

- metals in saucepans, pipes, bridges, etc;
- wood in tables, window frames, chairs, etc;
- glass in windows, bottles, etc;
- plastics as alternatives to glass, wood and metals.

3.4 Relate knowledge of the properties of different classes of man-made materials to everyday use, taking account of social, cultural, economic, environmental and health and safety issues. Specific examples of man-made materials should include:

- metals – iron, aluminium and copper;
- ceramics – pottery and tiles;
- glass – soda glass and heat resistant glass;
- plastics – thermosetting, eg melamine, bakelite and epoxy resins; thermosoftening, eg polythene, PVC and polystyrene;
- fibres – nylon.

Structures and methods of manufacture are not required unless specifically mentioned in the syllabus.

3.5 Recognise and know the value of common hazard symbols on containers, ie:

- flammable, toxic, corrosive, explosive, harmful/irritant (distinction between supply symbols, convenience labels and safety signs not required).

3.6 Classify substances as elements (metallic and non-metallic), compounds or mixtures and distinguish between them according to their properties, for example;

- differences in physical and chemical properties between iron(II)sulphide and a mixture of iron and sulphur.

3.7 Give an account of various techniques for separating and purifying mixtures, and choose an appropriate technique in a given situation. The techniques should include:

- filtration, crystallisation, centrifugation, simple and fractional distillation, chromatography and use of a separating funnel.
- Appropriate situations can be laboratory, industrial or domestic including:

  the preparation of pure salt from rock salt;

  the separation of dyes in ink;

  the recovery of solvent from solution using simple distillation.

3.8 ***Evaluate the relative advantages and disadvantages of composite materials, for example:***

- ***glass fibre (boats, car bodies);***
- ***reinforced glass (windows);***
- ***reinforced concrete (beams);***
- ***glass – reinforced plastic;***
- ***bone.***

Describe a composite material as one which combines the properties of more than one material to produce a more useful material for a particular purpose.

3.9 ***Give an account of electrolytic decompositions in some important manufacturing processes.***

- ***limited to the extraction of aluminium (details of the process required but not the plant).***

3.10 ***Describe the production of iron in the blast furnace. (Outline the essential chemistry of the process and demonstrate an understanding of the energy factors involved. Details of the process required but not details of the plant).***

3.11 Give examples of some waste materials which can be recycled and suggest reasons why this is desirable, for example:

- aluminium cans;
- bottle glass;
- paper.

Explain the economic importance of recycling.

3.12 Identify the positive and negative effects of the exploitation of raw materials, including harmful effects on the physical and living environments, to include:

- limestone quarrying;
- peat cutting;
- lignite mining.

3.13 Learn that useful products can be manufactured from various raw materials, for example:

- the production of lime from limestone;
- from sand;
- plastics from oil.

Acids and bases

4.1 Use indicators to classify solutions as acidic, alkaline or neutral.

- Indicators should include litmus and universal indicator (or pH paper).

4.2 Measure the pH of aqueous solutions.

- Use the pH scale to classify solutions as acidic/alkaline and to indicate the relative strengths of these solutions.

4.3 Give examples of neutralisation, acid with alkali, for example:

- dilute hydrochloric acid with sodium hydroxide.

4.4 Recognise that a base is usually an oxide or hydroxide of a metal and that an alkali is a soluble base.

Chemical change

5.1 Recognise that heat or light can bring about permanent changes in materials, for example:

- baking and photography.

5.2 Demonstrate a knowledge that some permanent changes in materials are desirable, for example:

- baking whilst some are undesirable, for example;
- rusting and food decay.

5.3 Recognise that when permanent changes occur the new substances formed have distinctive properties, for example:

- compare the properties of magnesium with magnesium oxide.

5.4 Demonstrate a knowledge that materials can be decomposed by heat, for example:

- effect of heat on calcium carbonate or copper carbonate.
- **Thermal cracking of hydrocarbons (details of plant not required).**

5.5 Demonstrate an understanding that some chemical reactions are exothermic while others are endothermic, for example:

- an increase in temperature occurs when water is added to calcium oxide;
- other reactions described in the syllabus.

5.6 Describe combustion as the combination of fuels and oxygen to release energy and form oxides, ie:

- fossil fuel impurities leading to SO_2 pollution and its corrosive effect on building materials;
- acid rain;
- ***pollution control as a national and international responsibility.***

5.7 Demonstrate an understanding of the causes of rusting and its economic and environmental implications, and the ways of controlling and preventing the process.

- Rusting as the reaction of iron with a combination of water and air.
- Rust prevention by painting, greasing or oiling, galvanising, using stainless steel.

5.8 Relate important oxidation and reduction reactions to everyday examples and manufacturing processes.

- oxidation as the addition of oxygen to, or removal of hydrogen from, a substance.
- reduction as the reversal of oxidation.
- examples limited to:
  - oxidation – burning magnesium, rusting.
  - reduction – removal of oxygen from copper oxide.
  - ***Iron manufacture.***
  - ***Aluminium manufacture.***
  - ***Haber process.***

5.9 Make predictions from the reactivity series of metals (K, Na, Ca, Mg, Al, Zn, Fe, Cu) based on:

- reaction with oxygen;
- reaction with water/steam;
- reaction with dilute acids;
- displacement reactions.

Predicting where an unfamiliar element should be placed in the reactivity series.

Equations

6.1 Recognise symbols for common elements. Use symbols for these elements. Use chemical names for simple compounds.

6.2 Construct simple word equations to describe reactions.

6.3 Give symbolic representations for some elements and deduce the formulae of simple compounds.

- limited to elements both of whose valencies in the compound can be established from their positions in the periodic table; and those groups (hydroxide, sulphate, nitrate, carbonate, hydrogen carbonate, ammonium) whose symbols and valencies are given in the Data Leaflet provided for candidates.
- Interpret chemical formulae.

Rates of reaction

7.1 Describe the qualitative effects of temperature, concentration, particle size, catalysis and, as appropriate, light on the rate of chemical reactions.

- Give examples of catalysts for specific reactions eg MnO_2 with H_2O_2 **Catalysts in manufacturing processes (only examples mentioned in the syllabus).**

7.2 ***Identify the significant factors which control the rates of reaction and, where appropriate, their quantitative effects.***

- ***Quantitative effects limited to the interpretation of data, eg drawing graphs and making predictions about how the rate may change when the factors listed are altered.***

7.3 ***Relate the factors affecting rate of chemical reaction to the practical problems associated with manufacturing processes and recognise the need for compromise between competing priorities.***

- ***Limited to the Haber process.***

The Periodic Table

8.1 Outline the work of Mendeleev in the development of the Periodic Table.

8.2 Relate the position of selected elements (limited to the first 20 elements) in the Periodic Table to their electronic structure.

8.3 Demonstrate a knowledge that the Periodic Table groups together elements with similar properties:

- the Alkali metals as a group of reactive metals;
- the Halogens as a group of reactive non-metals.

8.4 ***Describe simple trends in the properties of elements within Groups (I and VII) and across Periods (2 and 3) of the Periodic Table. Use the Periodic Table to predict the properties of certain unfamiliar elements. Groups 1 and 7:***

- ***to include physical state, appearance, trends in melting and boiling points;***
- ***Metallic and non-metallic characteristics;***
- ***Valency.***

Metals and their compounds

Describe the important physical and chemical properties of a range of metals and their compounds.

9.1 Physical properties to include electrical and thermal conductivity, malleability, ductility, lustre, strength and melting point.

9.2 Chemical properties limited to relevant reactions of sodium, calcium, magnesium, iron and copper with oxygen, water and dilute hydrochloric or sulphuric acid. (Where possible relate investigations to everyday situations, eg corrosion of metals, magnesium flares).

9.3 Chemical properties of compounds limited to oxides and hydroxides as bases (NaOH, MgO, CaO, $Ca(OH)_2$ and CuO) and their reactions with water and with acid.

9.4 Physical properties of metal compounds to include melting point and boiling point; solubilities of metal chlorides, nitrates sulphates, carbonates, hydroxides and oxides as provided in the data leaflet supplied to candidates.

9.5 Reaction of carbonates ($CaCo_3$ and Cu CO_3).

Non-Metals and their compounds

Describe the important physical and chemical properties of a range of non-metals and their compounds.

10.1 Non-metals limited to carbon (diamond and graphite), hydrogen, oxygen, chlorine and sulphur.

- Sources of these elements.
- Reactions of hydrogen with oxygen, ***nitrogen*** and copper (II) oxide.
- Reaction of carbon with oxygen.
- Reaction of chlorine with water.
- Reaction of sulphur with oxygen.
- Reactions of carbon dioxide and sulphur dioxide with water.

10.2 Recognition that non-metal oxides tend to be acidic. (eg CO_2 and SO_2), metal oxides tend to be basic (eg MgO, CaO and CuO) and that water is a neutral oxide.

10.3 Be able to identify the following common gases using chemical properties: carbon dioxide, hydrogen, nitrogen and oxygen.

Water

11.1 Describe the water cycle.

11.2 Describe the treatment of the public water supply including filtration and chlorination.

11.3 The use of the following methods to monitor water purity:

- measurement of pH;
- measurement of oxygen content;
- measurement of soluble and insoluble materials.

11.4 The physical properties of water and its use as a common solvent.

- Use of anhydrous copper (II) sulphate or cobalt chloride to test for the presence of water.

11.5 Identify a sample of water as being hard or soft.

- Effects of hard water on soap and detergents.
- Water softening.
- Differences between temporary and permanent hardness.

11.6 Recognise the characteristics of a hard water region including advantages associated with hard water.

- Cave formation; stalagmites and stalactites.
- Disadvantages associated with hard water.

11.7 ***Explain in terms of ions the causes and effects of water hardness and outline methods of softening water.***

- Water softening by boiling, addition of washing soda (sodium carbonate) and ion exchange.
- ***Explain precipitation in terms of ions and relate to processes of separation and purification, eg use of washing soda to soften water.***

11.8 Understand the terms: solvent, solute, solution, saturated, hydrated and dehydrated.

- Recognise the factors affecting solutions, ie heat, surface area, stirring, volume of solvent.
- Understand the effect of temperature on the solubility of solids and gases in water; qualitative treatment only.

Organic chemistry

12.1 Relate that fossil fuels and biological substances are carbon-based compounds.

12.2 Recall that oil is a major source of organic chemicals and that chemicals obtained from oil are hydrocarbons.

12.3 Combustion of fossil fuels to give oxides of carbon ie Natural gas, LPG, petrol, diesel, paraffin, candle wax, peat, lignite, coal, coke.

Combustion of hydrocarbons to give CO_2 or CO and water.

12.4 ***Explain how chemicals are obtained from oil by fractionation and cracking.***

Social, cultural, economic, environmental, health and safety factors involved in these processes.

12.5 Fossil fuels as non-renewable energy resources.

PHYSICAL PROCESSES

Candidates should be able to:

Forms of energy

1.1 recall the following forms of energy; chemical, heat, electrical, sound, light, magnetic and nuclear, kinetic, potential (gravitational and strain).

1.2 recall that energy is measured in joules.

Energy resources

1.3 recall that there is a variety of energy resources, to include, oil, gas, coal, nuclear, biomass, wind, wave, solar, geothermal, tidal and hydroelectric.

1.4 understand that energy sources such as wind, fossil fuels, are ultimately dependent on the sun's energy.

1.5 recall the difference between renewable and non-renewable energy resources.

1.6 ***describe the economic implications of the use of energy resources. Limited to the generation of electricity by fossil fuels, nuclear fuels, hydroelectric power, wind farms, waves and tides. Appreciate the effect on the environment of the use of these resources limited to the greenhouse effect (basic outline only), land/sea use and nuclear waste.***

1.7 ***describe the longer term implications of world-wide patterns of distribution and use of energy resources. Using stimulus data or information supplied.***

Work and power

1.8 recall and use the relationship; work = force × distance move in the same direction as the force and that work is measured in joules.

1.9 ***recall and use the formula; power = work done/time taken.***

1.10 ***recall that power is measured in watts.***

Transfer of energy

1.11 describe energy transfer in a range of domestic contexts and in familiar devices.

Conservation of energy

1.12 understand that energy is conserved and describe energy transfers in terms of the principle of conservation of energy.

1.13 understand that energy may be dissipated and become less useful and understand the part that friction plays in this.

1.14 ***recall and use the quantitative relationships for kinetic energy, gravitational potential energy and power, in the context of the conservation of energy.***

Efficiency

1.15 recall that global resources are limited and understand why energy should be used efficiently.

1.16 recall that efficiency is a measure of how much energy is transferred in an intended way and calculate efficiency as the ratio of useful output energy to input energy.

Effects of a force

2.1 recall that forces can: change the shape of things; start objects moving; cause moving objects to stop; change the direction of motion; cause objects to turn.

2.2 recall that force is measured in newtons.

2.3 recall that the movement of an object depends on the size and direction of the forces exerted on it.

2.4 understand that change in movement or direction results from unbalanced forces and that balanced forces produce no change.

2.5 appreciate that friction is a force that opposes motion.

Moments

2.6 understand how the turning effect of a force depends on its size and where it is applied.

2.7 describe some practical applications of levers.

2.8 ***calculate the moment of a force as force x perpendicular distance from the pivot.***

2.9 ***state the principle of moments and use it to solve simple problems. Calculations limited to two forces other than acting at the pivot, perpendicular distances only will be given.***

Centre of gravity

2.10 ***understand the term centre of gravity and how the stability of an object depends on the position of the centre of gravity and the width of its base.***

Pressure

2.11 understand how pressure depends on force and area.

2.12 describe some practical applications of pressure, excluding the transmission of pressure of liquids.

2.13 ***calculate pressure using P = F/A; recall that pressure is measured in pascals. Problems may be set in which N/cm² and N/mm² are used.***

Movement

2.14 calculate average speed from measurements of distance and time and from linear distance-time graphs.

2.15 ***distinguish between distance and displacement, speed and velocity.***

2.16 ***recall and use the quantitative relationships between***

(i) distance, time and average speed,

(ii) displacement, time and average velocity,

(iii) initial velocity, final velocity, acceleration and time.

Problems will only be set on motion in one direction.

Waves

3.1 understand that waves transfer energy from one point to another.

3.2 distinguish between transverse and longitudinal waves in terms of the motion of the particles of the medium.

3.3 recall examples of transverse and longitudinal waves.

3.4 describe, using simple wavefront diagrams, how waves are reflected, restricted to plane wavefronts and plane barriers.

3.5 recall the meaning of frequency, wavelength and amplitude of a wave.

3.6 ***recall and use the quantitative relationship between frequency, wavelength and speed of a wave.***

Sound

3.7 recall that sounds are produced by vibrations.

3.8 recall that sound can travel through different materials at different speeds but cannot travel through a vacuum.

3.9 recall how the loudness of a sound is related qualitatively to the amplitude of the vibration causing the sound.

3.10 recall how the pitch of a sound is related qualitatively to the frequency of the vibration causing the sound.

3.11 ***relate pitch, loudness and the quality of sound to its waveform, displayed on a CRO.***

3.12 recall that the range of human hearing is 20 Hz to 20 kHz and that the upper limit decreases with age.

3.13 recall that frequencies greater than 20 kHz are called ultrasound.

3.14 recall damaging effects of loud sounds on the ear and understand the need to control noise levels in the environment.

3.15 recall that sound is reflected so that the angle of incidence = the angle of reflection.

3.16 recall some applications of echoes and carry out simple calculations on the echo principle.

3.17 ***recall some applications of ultrasound in industry and medicine.***

Light

3.18 recall that luminous objects are seen by the light they emit and that all other objects are seen by the light they reflect.

3.19 recall that light travels in straight lines at a finite speed.

3.20 explain with the help of ray diagrams the formation of shadows by point and extended sources of light.

3.21 recall that light is reflected from plane surfaces so that the angle of incidence equals the angle of reflection.

Electric circuits

4.1 understand the role of conductors, insulators and switches in simple series and parallel circuits.

4.2 recall the effects of varying the current on bulb brightness, motor speed and heater output.

4.3 describe and record diagrammatically simple electric circuits.

4.4 measure current and voltage in series circuits.

4.5 recall that current is measured in amperes and voltage in volts.

4.6 ***measure current and voltage in parallel circuits.***

4.7 recall that in a series circuit the current is the same everywhere.

4.8 recall that in a series circuit the sum of the voltages is equal to the voltage across the whole circuit.

4.9 ***recall that in a parallel circuit the sum of the currents in the branches is equal to the current entering the parallel section.***

4.10 ***recall that voltages across components in parallel are equal.***

4.11 calculate the total resistance of resistors in series.

4.12 calculate the resistance of two equal resistors in parallel.

4.13 ***calculate the simple combinations of resistors (no more than three in series which may include two equal resistors in parallel).***

Ohm's law

4.14 plot and interpret voltage-current graphs for metallic conductors at constant temperature.

4.15 state and use Ohm's law, in the form $V/I = R$, where R is resistance.

4.16 recall that resistance is measured in ohms.

Electricity in the home

4.17 understand one way and two way switching

4.18 recall that fuses and earth wires protect the user.

4.19 describe how to wire a fused three pin plug.

4.20 ***understand the function of live, neutral, earth wire and fuses in the protection of users from electric shock.***

4.21 ***understand how double insulation protects the user.***

4.22 ***understand the positioning of switches and fuses on the live side of appliances.***

4.23 calculate the costs of using electricity from meter readings.

4.24 ***understand the meaning of the kilowatt-hour and calculate the cost of using electrical appliances using their power rating.***

Electromagnetism

4.25 describe how to make a simple electromagnet and recall how the strength of the electromagnet is affected by:

(i) the number of turns;

(ii) the current;

(iii) the material used for the core.

4.26 describe how the simple make and break electric doorbell and the electromagnetic relay work.

Generation and transmission of electricity

4.27 ***recall that a.c. generators are used in the generation of electricity, details of construction not required.***

4.28 ***recall how step-up and step-down transformers are used in the transmission of electricity, details of construction and turns ratio not required.***

Day and night year length	5.1	explain day and night in terms of the rotation of the Earth on its axis and year length in terms of the movement of the Earth round the Sun.
Seasons	5.2	explain changes in day length, seasonal changes and changes in the elevation of the Sun in terms of the tilt of the Earth's axis and its movement round the Sun.
Solar system	5.3	recall the position of the sun and planets within the solar system and how they move relative to each other.
Gravitation	5.4	***recall that gravitational force acts towards the centre of every astronomical object and that this force determines the motion of the planets and comets round the Sun and satellites round the planets.***
	5.5	***recall that gravitational forces act between all masses and know that the magnitude diminishes with distance and increases with mass.***
	5.6	***describe the nebular(gas cloud) model for the formation of the solar system.***

SOCIAL AND ENVIRONMENTAL STUDIES (Modular)

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 The study of this modular course will enable students to develop their understanding of the world in which they live, the relationships within and between societies and the interactions between people and the environment. Students will be enabled to relate knowledge to real-life situations and develop the skills associated with critical evaluation and decision-making.

1.2 The syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Social and Environmental Studies (Modular). It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.3 This syllabus and the methods of assessment are intended for the whole GCSE ability range. A course based on this syllabus will facilitate the needs of a wide variety of students, including those leaving school at 16, those going on to further education and/or training and mature students returning to education on a part-time or full-time basis.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This modular syllabus has been designed to be as free as possible from ethnic, gender, political, religious or other forms of bias.

2 GENERAL AIMS

The general aims set out below describe the educational purposes of following a modular course in Social and Environmental Studies. Students should be given opportunities to:

2.1 acquire knowledge and develop an understanding of the specific dimensions of the Social and Environmental Studies modules, thus enabling them to play an informed role within society;

2.2 develop an understanding of the inter-relationships of different communities and cultures within society and between society and the environment;

2.3 develop the ability to evaluate critically different types of information associated with various aspects of and perspectives on society and environment;

2.4 develop the skills necessary for independent thinking and informed decision-making in relation to issues associated with the society and environment.

2.5 develop relevant linguistic, numerical, graphical and analytical skills.

3 ASSESSMENT OBJECTIVES

The assessment objectives describe the abilities which can be measured and recorded. Some of the aims are reflected in the assessment objectives, others are not because they cannot readily be assessed for examination purposes.

The candidates will be assessed on their ability to:

3.1 recall and understand knowledge within the context of society and environment;

3.2 collect, select and analyse information using a variety of skills and techniques relevant to society and environment;

3.3 apply their knowledge to interpret and evaluate information, draw conclusions and make judgements within the context of society and environment.

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment consists of the assessment of each of **four** modules.

4.2 Each module will be weighted at 25% of the total.

4.3 In each module a scheme of assessment will be available for each of the following GCSE ability ranges:

Foundation Tier: Grades C–G

Higher Tier: Grades A*–D(E)

Candidates must choose one tier of entry for each module. Candidates who enter for the Higher Tier in a module and fail to demonstrate Grade D qualities but demonstrate qualities associated with a Grade E performance will have that performance recorded.

4.4 There will be two timetabled assessment sessions each year, in January and May/June.

4.5 Each candidate will be informed about his/her performance in a module following the assessment session.

4.6 The performance in each module will be banked and after completion of the fourth module, added together to give a final grade. Candidates may have their performance in the modules assessed over a four year period.

4.7 Candidates and centres must note that each module will be assessed at GCSE standard and that no concessions will be made to any candidate on the grounds that the module has been assessed early in the course.

5 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates will recall some knowledge and demonstrate basic understanding of key elements of the syllabus content. They will apply this knowledge and understanding using some subject specific vocabulary, concepts and processes to describe and identify some of the key inter-relationships studied. They will select, present and analyse information from a limited range of sources. They will demonstrate some ability to make judgements which are supported by some evidence.

Grade C

Candidates will recall relevant knowledge and demonstrate a sound understanding of most elements of the syllabus content. They will apply this knowledge and understanding using subject specific vocabulary, concepts and processes relevant to describe and explain the inter-relationships studied. They will demonstrate an understanding of the effect of attitudes and values in decision-making. They will select, organise, present and analyse information from a variety of sources. They will make reasoned judgements and present plausible conclusions which are supported by evidence.

Grade A

Candidates will recall accurate relevant knowledge and demonstrate a thorough understanding of the syllabus content. They will apply this knowledge and understanding in a precise manner using subject specific vocabulary, concepts and processes relevant to explain and evaluate the inter-relationships studied. They will evaluate the significance and effects of attitudes and values in decision-making. They will select, organise, present and analyse effectively information from a variety of sources. Having evaluated the evidence available, they will make reasoned judgements and present substantiated conclusions.

6 CONTENT

6.1 A modular course in Social and Environmental Studies consists of **four** modules chosen from the list below.

- Cultural Heritage
- Economic Awareness
- Environment Management or RSA Agricultural Studies or RSA Environmental Studies
- Health and Society
- Information and the Media
- Law and Society
- Opportunities for Working Life.

6.2 Choosing the modules to combine into a full course.

6.2.1 In a full course consisting of **four** modules the total maximum weightings for each form of assessment are indicated below.

End of module tests	max 80%
Coursework	max 45%

The table below indicates the weightings on each form of assessment for each module (where a module represents 25% of the total assessment for the full course).

Module	End of Module Test	Coursework
Cultural Heritage	15%	10%
Economic Awareness	25%	–
Environment Management	15%	10%
RSA Agricultural Studies	12½%	12½%
RSA Environmental Studies	12½%	12½%
Health and Society	25%	–
Information and the Media	15%	10%
Law and Society	15%	10%
Opportunities for Working Life	25%	–

6.2.2 Candidates aiming to achieve a grade from the range C–G may choose to include one of the listed RSA Initial Awards as one of their four modules. These Initial Awards are alternatives to the module Environment Management.

6.2.3 If the module "Opportunities For Working Life" is taken as one of the four modules contributing to Social and Environmental Studies, it may not be taken in the combination leading to an award in Personal and Social Education.

6.2.4 Further guidance is provided in the attached appendix.

6.3 Each module will require 35 hours of contact time.

6.4 Details of each module are set out in separate booklets.

APPENDIX

Guidelines on the choice of modules to combine into a full course for GCSE Social and Environmental Studies.

1 The principles for choosing modules are set out in paragraph 6.2 of the GCSE syllabus. These principles are used to define the following three acceptable sets of combinations.

2 **SET A**

Comprising of (i) one module assessed through an end of module test and (ii) three modules assessed through a combination of end of module tests and coursework.

The combination would consist of

- **one** of
  - Economic Awareness
  - Health and Society
  - Opportunities for Working Life
- **three** of
  - Cultural Heritage
  - Environment Management or RSA Agricultural Studies or RSA Environmental Studies
  - Information and the Media
  - Law and Society

3 **SET B**

Comprising of (i) two modules assessed through end of module tests and (ii) two modules assessed through a combination of end of module tests and coursework.

The combination would consist of

- **two** of
  - Economic Awareness
  - Health and Society
  - Opportunities for Working Life
- **two** of
  - Cultural Heritage
  - Environment Management or RSA Agricultural Studies or RSA Environmental Studies
  - Information and the Media
  - Law and Society

4 **SET C**

Comprising of four modules assessed through a combination of end of module tests and coursework.

This combination would consist of

- Cultural Heritage
- Environment Management
- Information and the Media
- Law and Society

5 As stated in paragraph 6.2.3 (in the syllabus) the module "Opportunities for Working Life" may be used in either Social and Environmental Studies or Personal and Social Education.

6 Candidates wishing to use one of the two stated RSA Initial Awards in their combination must enter for the Initial Award through RSA Examinations Board. The centre must inform the Council at the beginning of the course (at the time of registering the candidates) of their intention to use an RSA Initial Award as one of their contributory modules. The necessary information on performance in the Initial Award will be forwarded by RSA Examinations Board to the Council. RSA Examinations Board will inform the centre of the candidates' performances in the Initial Award and will issue associated statements and certificates.

7 Each module can be taken as a self-standing enrichment module (ie not taken with other modules to form a full course).

Cultural Heritage

A contributory module to GCSE Social and Environmental Studies

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 A study of our heritage contributes to an understanding of the diversity of culture which exists in Northern Ireland and places it in a wider context.

A Study of Cultural Aspects of Landscape and Traditions in Northern Ireland should allow the student to develop the quality of open-mindedness which questions assumptions and demands evidence for points of view. The module allows pupils to examine issues critically from a variety of perspectives so that they reach reasoned conclusions. Raising cultural awareness should also assist in challenging prejudice and inherited stereotypical thinking. In attempting to redress imbalances of perception, it is important that the selection and interpretation of sources and topics should not become contrived or unbalanced in new ways.

1.2 The module is designed to cater for the full range of ability of students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours. It may be taken as a free-standing module or as part of a modular course.

2 AIMS

2.1 To stimulate an awareness of, an interest in and respect for our present culture both in terms of our oral and written tradition and our way of living as demonstrated by the built heritage at the same time as exploring its relevance.

2.2 To know about, understand and evaluate the shared, diverse and distinctive aspects of our cultural heritage.

2.3 To examine and evaluate the factors which help to preserve, change or destroy our present culture.

2.4 To help students develop respect for the range of attitudes and traditions which prevail in Northern Ireland society.

3 ASSESSMENT OBJECTIVES

Candidates will be expected to demonstrate the ability to:

3.1 recall and understand their cultural heritage and study issues from a variety of perspectives;

3.2 collect, select and analyse information from a variety of sources;

3.3 interpret information, evaluate the range of factors influencing cultural heritage and its preservation, draw conclusions and make judgements;

3.4 present information in a form(s) appropriate to a given context.

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment will consist of:

End of Module test: 60%

Coursework: 40%

End of Module Test – Duration 1 hour

The test will consist of three structured questions reflecting each of the themes outlined in the syllabus. All questions will be compulsory. The resource material used in each question may take a variety of forms eg written, graphical, statistical, pictorial.

Coursework

Candidates will be required to undertake an Individual Study embracing at least one of the Themes within the module. The topic chosen must be related to the context of the module. Further detailed guidance is offered in the Memorandum on the Internal Assessment of the Individual Study Assignment. The coursework will be internally assessed by the teachers and externally moderated by the Council.

4.2 The approximate allocation of weightings to the assessment objectives in each component of assessment are indicated below.

Assessment Objectives	Approximate Weighting End of Module Test	Coursework
(3.1) Recall and understanding	24%	8%
(3.2) Collect, select, analyse	18%	12%
(3.3) Interpret, evaluate, draw conclusions, make judgements	18%	12%
(3.4) Presentation	–	8%
Total:	**60%**	**40%**

4.3 Differentiation will be achieved through the use of tiered papers in the end of module tests.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve grades C–G in the overall certification.

Differentiation in the coursework will be achieved by task and through outcome.

5 CONTENT

Theme 1 – Exploring Culture

FOCUS

What is culture?

ELABORATION

Components such as sport, music, dress, traditions, dance, food, crafts, artefacts, the built environment.

A range of influences contribute to the culture of communities, including geographical, historical, socio-economic, religious and language.

Culture is transmitted formally (taught) and transmitted informally (caught)

The evolution of culture

Present day influences on regional cultures, especially the assimilation of western/global culture (eg fast-food, accents, dress, architecture in cities).

Theme 2 – Exploring Material Culture

FOCUS

What is material culture?

ELABORATION

Exploring how culture is reflected in surroundings, crafts, artefacts and dress.

Changing material culture through:

- adding to it

modern styles of housing.

- evolution

the changing functions of buildings – past and present; affect of war, eg Belfast Blitz, "troubles".

- natural decay

historic monuments, obsolete buildings (domestic, industrial, farming).

Care of material culture

Public interest and awareness. The role of government (legislation, resources, planning). The work of one statutory and one voluntary agency. The impact of the Heritage Industry.

The conflict of interests and values between preserving or consciously destroying material culture

In the rural landscape, in relation to field boundaries, buildings, areas of outstanding natural beauty. In the urban landscape in relation to development versus redevelopment, listed buildings, conservation areas.

Theme 3 – Considering Culture and the Future

FOCUS

Cultural similarity and diversity

ELABORATION

In Northern Ireland context – the degree of similarity, awareness of prejudice and inherited stereotypical thinking, the fear of diversity, enrichment through diversity – explored through a study of two of the following: sport, music, festivals, social gatherings, religious celebrations, accents, surnames/place names, food, symbolism.

Cultural Heritage and the future

Caring for the cultural heritage of future generations – the need for it? Students' views on aspects of current culture worth preserving and building for the future. How it might be preserved including the role of education, individuals, groups and government.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF THE INDIVIDUAL STUDY CULTURAL HERITAGE

1 INTRODUCTION

1.1 The Individual Study might relate to the candidates' immediate local environment but where appropriate should take into account that locality in relation to the wider context, eg Northern Ireland, Europe, internationally, as well as to changes which may have resulted over time or through a particular event in time. The study should not be unduly ambitious in terms of its scope and complexity. It should supplement the content related aspects of the syllabus.

1.2 The Individual Study carries 40% of the marks for this module.

2 UNDERTAKING THE INDIVIDUAL STUDY

2.1 It is not required that each candidate in a centre should undertake a distinctive study. Candidates in a centre may undertake studies relating to a common theme or themes. In such a case however it is essential that each candidate produce an individual study for which an individual assessment can be made.

2.2 This study should be capable of being completed through one piece of work of between 1000–1200 words. It should be supported by other means, eg visual, graphical, photographic. Candidates who greatly exceed the word limit will be unlikely to satisfy the requirements of the highest level of performance.

2.3 The Individual Study undertaken by individual students should clearly reflect knowledge from at least one of the Themes.

2.4 As appropriate a range of methods may be used to support the presentation of the investigation in addition to the written form. These may include the use of:

(a) Information Technology, eg use of a simple database if appropriate;

(b) Visual Presentation, eg art/sketch; still photography; video camera or camcorder;

(c) Oral Accounts, eg taped interviews.

3 CRITERIA FOR ASSESSMENT

	Marks Allocated	Related Assessment Objectives
(a) define the topic chosen, provide a background context and indicate what they hope to find out	(8)	3.2 and 3.1
(b) specify methods of enquiry and outline the procedures in carrying out the study	(8)	3.2 and 3.1
(c) describe findings in graphical, numerical, visual and written forms as appropriate	(8)	3.4
(d) interpret findings and draw conclusions in the context of the investigation	(12)	3.3 and 3.1
(e) evaluate methods of enquiry and findings in light of stated expectations	(4)	3.3
Total Marks:	**40**	

4 ELABORATION OF THE CRITERIA

The following guidance is offered as to what is expected in each of the elements which comprise the Individual Study.

(a) Candidates should be able to define the topic chosen, provide a background context and indicate what they hope to find out.

The candidate should be capable of clearly describing and showing the limits of the chosen topic or investigation. The candidates should provide some context/introduction to the topic which may include personal experience and observations from their own lives and those of others, as well as knowledge gained from investigating primary sources and the other experiences gained from the course through reading and discussion. Stemming from this context should come one or a series of statements, outlining what the probable outcomes may be.

(b) Candidates should be able to specify the methods of enquiry and outline the procedures used in carrying out the study.

Candidates will be required to outline:

- **the research method.** For example, if a questionnaire was conducted, candidates should state on whom the survey was carried out (including numbers in the study, relevant biographical material, eg age, sex) how the person was chosen, whether groups were interviewed in another area, the timing of the study;
- **simple reasons** should also be included indicating why this particular form of research was used and how the items in the interview/ questionnaire relate to the probable outcomes;
- **the procedure/way** in which the study was carried out in such detail as to allow the reader to carry out a similar study and assess its appropriateness to the enquiry.

(c) Candidates should be able to describe their findings through a range of graphical, numerical, visual and written forms as appropriate.

In order to ensure continuity and progression throughout the study findings should be presented in

a form which in general corresponds to the order of stated probable outcomes.

(d) Candidates should be able to interpret findings and draw conclusions in the context of the investigation.

Interpretation of findings will require the candidate to:

- identify any essential features and patterns arising out of the study;
- account for, if possible, any patterns which emerge, support or do not support the expected outcomes;
- comment on the significance of these.

Note: (c) and (d) above may be combined in such a way that descriptive statements can be linked with interpretative comment; alternatively candidates may present (c) and (d) separately.

(e) Candidates should be able to evaluate findings in light of stated expectations.

Candidates should state clearly how their conclusions relate to the initial expectations stated indicating where expectations were or were not met and indicate possible reasons.

5 CRITERIA FOR AWARD OF MARKS IN THE INDIVIDUAL STUDY

The criteria for the award of marks in the individual study is outlined below. Three bands of performance have been identified in each element of the individual study. Teachers should identify the band most appropriate to the candidate's work and award marks within the range allocated.

(a) Define the topic chosen, provide a background context and indicate expectation of findings.
TOTAL 8 MARKS

BAND	MARKS	TOPIC	CONTEXT	POSSIBLE OUTCOMES
Band 1	1–2	• limited attempt to define topic • unable to limit scope of enquiry	• few relevant factors • weakly developed and expressed rationale	• vague relationship suggested regarding possible outcomes of topic
Band 2	3–5	• topic broadly stated • greater attempt to limit scope of enquiry	• clear factors • fairly coherent rationale	• adequate link expressed between topic and possible outcomes
Band 3	6–8	• topic well defined • limitations of enquiry are clearly expressed	• well developed factors • coherent rationale	• clear and explicit link between topic and possible outcomes • logical and coherent framework for testing possible outcomes

(b) Specify methods of enquiry and outline the procedures used.
TOTAL 8 MARKS

BAND	MARKS	METHODS	REASONS	PROCEDURES
Band 1	1–2	• some attempt to outline methods	• briefly outlined • as means of gaining knowledge, method is weak	• some attempt to identify relevant features • some attempt to sequence research
Band 2	3–5	• adequate outline of methods	• satisfactorily detailed • fairly appropriate for topic under investigation	• many relevant features noted • adequate attempt to sequence research • procedure clear and provides some guidance for replication
Band 3	6–8	• well-presented methods which are presented coherently	• clearly detailed • most appropriate for topic being researched	• all or most relevant features defined • clear and detailed sequencing of research • unambiguous basis for replication

(c) Describe findings using an appropriate range of methods to include graphical, numerical, visual and written.
TOTAL 8 MARKS

BAND	MARKS	DESCRIPTION OF FINDINGS	RANGE OF METHODS	TITLING/LABELLING
Band 1	1–2	• description lacks organisation and clarity	• mostly limited to extensive narrative	• limited and vague annotation
Band 2	3–5	• research method clearly documented • clear and logically organised	• demonstrates the ability to use a range of methods	• adequate annotation which is relevant to topic
Band 3	6–8	• findings logically presented • aware of important factors and outcomes	• wide range of carefully selected and relevant methods employed	• excellent, clear, relevant annotation enhancing the assignment

(d) Interpretation of findings and ability to draw conclusions.
TOTAL 12 MARKS

BAND	MARKS	EXPLANATION FOR FINDINGS	SIGNIFICANCE	CONCLUSIONS
Band 1	1–3	• some attempt to provide explanation	• limited attempt to interpret findings in a logical manner	• some attempt to review, synthesise or draw conclusions
Band 2	4–8	• satisfactory explanation • clear and coherent understanding of the extent to which they support/conflict with outcomes	• significance of identified features broadly stated	• clear attempt to review and synthesise findings • conclusions logical and relate to expected outcomes
Band 3	9–12	• clear, detailed and convincing account of features • extent to which they may support or conflict with stated outcomes is fully and logically expressed	• precise, clear understanding of outcomes	• concise, logical review and synthesis of findings and explanations

(e) Evaluate findings in light of stated outcomes.
TOTAL 4 MARKS

BAND	MARKS	EVALUATION
Band 1	1	• Able to identify a few strengths/weaknesses which have influenced study
Band 2	2–3	• awareness of strengths/weaknesses of research but not fully developed
Band 3	4	• clear awareness of strengths and weaknesses of method of enquiry and impact on data

TOTAL = 40 MARKS

Economic Awareness

A contributory module to GCSE Social and Environmental Studies

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 A study of this module will allow students to develop their knowledge, understanding and skills associated with Economic Awareness and will help them to cope with their roles as consumers, producers and citizens in an economic world which is becoming ever more complex and inter-dependent.

1.2 The module is designed to cater for the full range of ability of students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours. It may be taken as a free standing module or as part of a modular course.

2 AIMS

The aims set out below describe the educational purposes of following this course:

2.1 to develop the abilities, knowledge and understanding to evaluate economic information and ideas as presented in the literary, numerical, graphical and statistical forms;

2.2 to develop an awareness of the importance of making balanced and informed judgements and, where necessary, taking action on issues, problems and events where there is an economic dimension;

2.3 to develop an awareness of the inter-related nature of the roles they play as consumers, producers and citizens;

2.4 to appreciate how different roles, attitudes and values can give rise to different perspectives on the same issues, problems and events.

3 ASSESSMENT OBJECTIVES

The assessment objectives reflect those aims which can be readily assessed for examination purposes.

Candidates will be expected to demonstrate the ability to:

3.1 recall and understand relevant knowledge;

3.2 select and analyse economic information presented in a variety of forms;

3.3 interpret and evaluate information, draw conclusions and make judgements.

4 SCHEME OF ASSESSMENT

4.1 This module will be assessed through the use of an end of module test of 1½ hours duration. The test will consist of a number of questions arranged in a case study type approach.

4.2 The approximate allocation of weightings to the assessment objectives is indicated below.

Assessment Objective	Weighting
(3.1) Recall and Understanding	40%
(3.2) Select and analyse information	30%
(3.3) Interpret, evaluate, draw conclusions and make judgements	30%

4.3 Differentiation will be achieved through the use of tiered papers.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve Grades C–G in the overall certification.

5 CONTENT

The content is presented in a two-column format. The left-hand column identifies the focii within each theme while the right-hand column indicates the level of detail required.

Theme 1 – The Individual in the Economy

FOCUS	ELABORATION
(a) Consumers and the impact of their choices and decisions	The differences between needs and wants. The impact of satisfying these needs and wants on decision-making regarding the allocation and use of the resources (the raw materials, the human labour, the finance and the equipment) used to produce those goods and services.
(b) Producers and their responsibility	Individuals in their roles as producers have a major impact on the allocation and use of resources. Differing views leading to different ways of organising production of goods/delivery of services.
(c) The role of the citizen as taxpayer	People contribute to tax revenue in various ways including spending taxes, income tax and other deductions from income – thus providing financial resources for government.
(d) The interaction of consumers, producers and citizens	Resources are allocated through the interaction of consumers, producers and citizens. Choices and decisions are made by people in all three roles, who may have conflicting attitudes and values.

Theme 2 – Business in the Economy

FOCUS	ELABORATION
(a) The role of business in the economy – the provisions of employment, goods and services	By employing people to produce goods and services for consumers business also provides the income which enables consumption to take place. By exporting goods and services, income is generated for the country.
(b) The impact of business	Positive effects resulting from pursuing goals such as profit making and growth, eg rise in employment. Side effects can result, including pollution of the environment and depletion of scarce raw materials.
(c) The need for judgements about the "best" use of resources	Conflicting views regarding how best to use/conserve resources. The internal and external pressures/demands operating on business and the resulting conflicts about the "best" use of resources, eg competition resulting in pressure to minimise costs through either the use of new technology and less staff or a foreign production location.

Theme 3 – Government in the Economy

FOCUS	ELABORATION
(a) The responsibilities of government in the allocation and use of resources	Government raises financial resources through the tax system and re-allocates these resources through its spending on areas such as the health service, education and welfare. The role of government in establishing a balance between taxation and demands.
(b) The role of political decision making	Privatisation and the use of market forces, eg to provide services like catering in the health service; impact on economic activity, taxation, interest rate policy and trade agreements.
(c) The role of government in encouraging and regulating business	Provision of grants and subsidies to attract and encourage business and enterprise. The social charter, health and safety standards, training schemes, provision of basic infrastructure.

Environment Management

A contributory module to GCSE Social and Environmental Studies

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 A study of this module presents students with the opportunity to demonstrate their ability to evaluate and manage an environment.

1.2 Through the study of a range of subjects from several areas of study, students acquire a range of concepts and skills which should enable them to assess and evaluate an environment. This module builds on those foundations.

1.3 This module is designed to cater for the full range of ability of students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours of contact time. It may be taken as a free standing module or as part of a modular course.

2 CLARIFICATION OF THE TERM "ENVIRONMENT" AS USED IN THIS DOCUMENT

Because of the **practical nature** of this module the term environment used in this document applies to the **immediate environment** such as a place of work for example school buildings, school grounds or approaches to that place of work. Other examples would be a local shopping area, park or play area for children. While involved in the study of their selected environment students should be made aware of the **interdependence of environments** through contact via air, water and movement of organisms.

3 AIMS

The aims set out below describe the educational purposes of following this course:

Candidates will be expected to demonstrate the ability to:

3.1 develop an awareness of the impact that environmental quality has on their lives;

3.2 develop an awareness of their potential influence on environmental quality;

3.3 create an awareness of the role that education plays in realising this potential;

3.4 acquire concepts and skills that will help them to make balanced judgements.

4 ASSESSMENT OBJECTIVES

The assessment objectives reflect those aims which can be readily assessed for examination purposes.

Candidates will be expected to demonstrate the ability to:

4.1 recall and understand knowledge of the complex nature of environment;

4.2 collect, select and analyse information;

4.3 interpret and evaluate information, draw conclusions and make judgements;

4.4 present information in a form appropriate to a given content.

5 SCHEME OF ASSESSMENT

5.1 The scheme of assessment will consist of:

End of Module Test: 60%

Coursework: 40%

End of Module Test – Duration 1 hour

The test will consist of a number of questions arranged in a case study type approach. All questions will be compulsory. The resource material used may take a variety of forms, eg written, graphical, statistical, pictorial.

Coursework

Each candidate will be required to produce a plan for the improvement of a selected environment. Further detailed guidance is offered in the Memorandum on the Internal Assessment of the Coursework. The coursework will be internally assessed by the teachers and externally moderated by the Council.

5.2 The approximate allocation of weightings to the assessment objectives in each component of assessment is indicated below.

Assessment Objectives	Approximate Weighting End of Module Test	Coursework
(4.1) Recall and understanding	24%	8%
(4.2) Collect, select, analyse	18%	12%
(4.3) Interpret, evaluate, draw conclusions, make judgements	18%	12%
(4.4) Presentation	–	8%
Total:	**60%**	**40%**

5.3 Differentiation will be achieved through the use of tiered papers in the end of module tests.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve grades C–G in the overall certification.

Differentiation in the coursework will be achieved by task and through outcome.

6 CONTENT

6.1 Concepts

Planet. Materials. Weather. Climate. Environment. Habitat. Organisms. Health. Ecosystem. Interdependence. Biodegradability. Energy. Pollution. Conservation. Technology. Change, cause and consequence.

6.2 Skills

The candidate should have the opportunity to:

- read plans and maps using letter/number co-ordinates, four and six figure references and the eight points of the compass;
- use a compass to take bearings;
- identify features on a plan or map by using symbols and a key and draw simple maps which are not to scale;
- understand and use scale for measuring straight and curved line distances and drawing plans as appropriate to the selected environment;
- use instruments for basic testing of air (dust and soot content), soil and water quality and for measuring noise levels, temperature and humidity;
- use appropriate secondary sources to assist with plant and animal identification and identifying architectural styles of buildings.

6.3 Themes

The themes are presented in a two-column format. The left-hand column identifies the focii within each theme while the right-hand column indicates the level of detail required.

In the elaboration column, the material presented in italic text indicates the practical activities to be undertaken in relation to the study of a selected environment.

Theme 1 – Environmental evaluation

FOCUS	ELABORATION
An environment has many components – living and non living. Each component has the potential to make a positive or negative contribution depending on its management	Identify environmental components: sound, air, water, weather, soil and organisms, natural materials and man-made elements (buildings, roads, population density). Evaluate the contribution each element can make to the environment. *Select an accessible environment, identify its components and their contribution to the environment.*
For some components, standards have been established	Techniques for measuring and the health and safety standards for: • noise; • dust and soot content and humidity of air; • drinking water; • temperature; Litter standards for built environments. *Evaluate the quality of the selected environment.*
Some components can be modified and some components can not be modified.	• components which can be modified – soil characteristics (pH levels, nutrient levels, organic and inorganic content). • components which cannot be modified – aspect, wind direction, geology. *Examine the suitability of the selected site for current purpose(s) in terms of the elements listed above.*
An environment must be monitored over a period of time before an evaluation of it can be made.	Factors to be considered when deciding on pattern and length of monitoring period – timing, data reliability, resources available. *Identify the elements to include in a monitoring programme to evaluate the selected environment over an appropriate period of time.*

Theme 2 – Environmental improvement

STATEMENTS	CLARIFICATION
Environmental quality is rarely the responsibility of a single group or individual.	The individual, industry, government (including designating areas, eg conservation areas, education, eg anti-litter campaigns, encouragement through grants). *Identify those responsible for or have an influence on the quality of the selected environment, eg an industry, a farm(s), a volunteer, interest group(s), individuals.*
Environmental improvements must be planned, organised and financed.	Elements in a plan – objectives, timescale, material and labour requirements. Possible sources of finance – voluntary contributions, loans and grants. *Detail the elements to be included in the environmental improvement plan for the selected environment.*
Changes must be monitored to assess their effects.	Reasons for monitoring. Need for alterations to original plan. *Consider how to evaluate the effects of the recommendations for improvement for the selected environment.*

MEMORANDUM ON THE INTERNAL ASSESSMENT OF THE INDIVIDUAL STUDY ENVIRONMENT MANAGEMENT

1 INTRODUCTION

1.1 The Individual Study may relate to the candidates' immediate local environment. Safety aspects must be taken into consideration when selecting the environment for study. The study should not be unduly ambitious in terms of its scope and complexity. It should complement the study of the content.

1.2 The Individual Study carries 40% of the marks for this module.

2 UNDERTAKING THE INDIVIDUAL STUDY

2.1 The aim of the individual study will be the production of a plan for the improvement of a selected environment. The plan should consist of the following sections:

(a) an analysis of the existing environment in terms of quality;

(b) identification of individuals and groups influencing the environment;

(c) suggestions for changes to bring about improvement including a plan of action;

(d) development of a programme for monitoring of the environment after changes have been made to enable an evaluation of their effectiveness to be carried out.

2.2 This study should be capable of being completed through one piece of work of between 1000–1200 words. Candidates who greatly exceed the word limit will be unlikely to satisfy the requirements of the highest levels of performance.

2.3 Where appropriate, a wide range of methods may be used to support the presentation of the investigation in addition to the written form. These may include the use of:

(a) Information Technology, eg use of a simple database;

(b) Visual Presentation, eg art/sketch; still photography; video camera or camcorder;

(c) Oral Accounts, eg taped interviews.

3 ASSESSMENT CRITERIA

	Marks Allocated	Related Assessment Objectives
(a) an analysis of the existing environment in terms of quality;	(12)	4.2 and 4.1
(b) identification of relevant individuals and groups influencing the environment;	(4)	4.2
(c) suggestions for changes to bring about improvement with a schedule of action;	(12)	4.3 and 4.1
(d) development of a programme for monitoring the environment after changes have been made to enable an evaluation of their effectiveness to be carried out.	(12)	4.3 and 4.4
Total Marks:	**40**	

4 BANDS OF PERFORMANCE

Criterion (a): an analysis of the existing environment in terms of quality

Band 1 (1–4 marks)

The candidate demonstrates some ability to collect some data/samples. The "field/laboratory" techniques for collecting and analysing samples are used under the direction guidance of the teacher. The data is presented and analysed using some appropriate techniques.

Band 2 (5–8 marks)

The candidate demonstrates the ability to collect an acceptable range of data/samples. The "field/laboratory" techniques for collecting and analysing samples are used satisfactorily. The data is presented and analysed using techniques appropriate to the task.

Band 3 (9–12 marks)

The candidate demonstrates the ability to identify and collect an appropriate range of data/samples. Correct field/laboratory techniques for collection and analysis of the samples are skilfully used. The data is presented and analysed to good effect in supporting the environmental analysis being undertaken.

Criterion (b): Identification of individuals and groups influencing the selected environment.

Band 1 (1 mark)

The candidate is able to identify some relevant local individuals or groups who influence the selected environment.

Band 2 (2–3 marks)

The candidate identifies the relevant local individuals and/or groups and the ways in which they influence the selected environment.

Band 3 (4 marks)

The candidate demonstrates the ability to place the selected environment in a wider context and identifies various individuals and groups/agencies who exert a direct or indirect influence on the selected environment.

Criterion (c): Suggestions for changes to bring about improvement with a schedule of action.

Band 4 (1–4 marks)

Some suggestions for change are outlined and an attempt has been made to draw up a schedule of action. A limited use has been made of the findings of the environmental analysis.

Band (5–8 marks)

The candidate demonstrates the ability to evaluate the findings of the environmental analysis and to make relevant suggestions for change. In drawing up the plan of action some consideration has been given to the likely resource requirements, including timescale.

Band (9–12 marks)

The candidate demonstrates clearly the ability to interpret and evaluate the findings of the environmental analysis and to make relevant decisions regarding the suggestions for changes. The availability of likely resources has been considered leading to the development of a carefully worked out plan of action.

Criterion (d): development of a programme for monitoring the environment after changes have been made to enable an evaluation of their effectiveness to be carried out.

Band 1 (1–4 marks)

The candidate provides some ideas for a monitoring programme and in their selection shows some awareness of the aspects likely to change as a result of the improvement action plan.

Band 2 (5–8 marks)

The candidate presents the monitoring programme with some degree of competence. The key aspects likely to change have been identified and the means of monitoring are generally satisfactory.

Band 3 (9–12 marks)

In developing the monitoring programme, the candidate has evaluated the nature of the changes likely to occur, correctly identified appropriate monitoring techniques and indicated a workable timescale.

Health and Society

A contributory module to GCSE Social and Environmental Studies

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 This module will enable students to develop a critical understanding of the ways in which socio-economic factors can affect the changing patterns of health, illness and disease.

1.2 This module is designed to cater for the full range of ability of students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours. It may be taken as a free-standing module or as part of a modular course.

2 AIMS

The aims set out below describe the educational purposes of following this course:

2.1 to make candidates aware of the main socio-economic factors influencing the individual's health and well-being.

2.2 to make candidates aware of the structure of the health services and how these can be accessed.

2.3 to develop the abilities, knowledge and understanding necessary to evaluate information and ideas in literary, numerical, graphical and statistical forms.

2.4 to develop an awareness of the importance of making balanced and informed judgements.

3 ASSESSMENT OBJECTIVES

The assessment objectives reflect those aims which can be readily assessed for examination purposes.

3.1 recall and understand relevant knowledge;

3.2 select and analyse information;

3.3 interpret and evaluate information, draw conclusions and make judgements.

4 SCHEME OF ASSESSMENT

4.1 This module will be assessed through the use of an end of module test of 1½ hours duration. The test will consist of four or five compulsory questions. The resource material used in each question may take a variety of forms, eg written, graphical, statistical, pictorial.

4.2 The approximate allocation of weightings to the assessment objectives is indicated below.

Assessment Objective	Weighting
(3.1) Recall and Understanding	40%
(3.2) Select and analyse information	30%
(3.3) Interpret, evaluate, draw conclusions and make judgements	30%

4.3 Differentiation will be achieved through the use of tiered papers in the end of module tests.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve grades C–G in the overall certification.

5 CONTENT

The content is presented in a two-column format. The left-hand column identifies the focii within each theme while the right-hand column indicates the level of detail required.

5.1 Theme 1 – Influences on health

FOCUS	ELABORATION
Health and well-being	Physical, mental, social, spiritual and environmental health. Holistic view of health. Technological advances and moral dilemmas (eg genetic engineering).
Social factors	Group influences: family, peers and associated group norms; social class, stratification, occupation. Attitudes to alcohol, tobacco and drugs, and sexual behaviour. Attitudes to nutrition, hygiene and exercise, impact of health education.
Economic factors	Effects of: income/expenditure; unemployment – self worth. Allocation of finite public resources; private and public medicine.
Political factors	Decision making in health care provision eg resource allocation to preventative medicine, health education, alternative medicine, European Targets; WHO – Health for all 2000.

5.2 Theme 2 – Health and Social Care Services

FOCUS	ELABORATION
The provision of health and care services	The role of statutory services, private services, voluntary services.
Accessing health and care services	Self referral; referred by third party; referred by GP. Access to information – surgeries, health centres, hospitals, Citizens' Advice Bureau.
Meeting individual health needs	Defining individual needs. Role of providers in conventional medicine – GP, Health Visitor, Social Worker, Physiotherapist. Role of providers of alternative medicine – Acupuncturist, Herbalist.
The individual's rights and responsibilities	Equality of treatment; dignity; independence; choice; confidentiality; safe environment.

Information and the Media

A contributory module to GCSE Social and Environmental Studies

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 A study of this module will provide students with the opportunity to gain an understanding of the nature of information and develop a critical awareness of the mass media.

1.2 The module is designed to cater for the full range of ability of students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours. It may be taken as a free standing module or as part of a modular course.

2 AIMS

The aims set out below describe the educational purposes of following this course:

2.1 to develop the abilities, knowledge and understanding necessary to evaluate information and ideas as presented in the literary, numerical, graphical and statistical forms which they are likely to encounter;

2.2 to develop an awareness of the importance of making balanced and informed judgements.

3 ASSESSMENT OBJECTIVES

The assessment objectives reflect those aims which can be readily assessed for examination purposes.

3.1 recall and understand relevant knowledge;

3.2 collect, select and analyse information;

3.3 interpret and evaluate information, draw conclusions and make judgements;

3.4 present information in a form appropriate to a given content.

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment will consist of:

End of Module test 60%

Coursework 40%

End of Module Test – Duration 1 hour

The test will consist of three structured questions. All questions will be compulsory. The resource material used in each question may take a variety of forms, eg written, graphical, statistical, pictorial.

Coursework

Each candidate will be required to undertake an Individual Study. Further detailed guidance is offered in the Memorandum on the Internal Assessment of the Individual Study. The coursework will be internally assessed by the teachers and externally moderated by the Council.

4.2 The approximate allocation of weightings to the assessment objectives in each component of assessment is indicated below.

Assessment Objectives	Approximate Weighting End of Module Test	Coursework
(3.1) Recall and understanding	24%	8%
(3.2) Collect, select, analyse	18%	12%
(3.3) Interpret, evaluate, draw conclusions, make judgements	18%	12%
(3.4) Presentation	–	8%
Total:	**60%**	**40%**

4.3 Differentiation will be achieved through the use of tiered papers in the end of module tests.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve grades C–G in the overall certification.

Differentiation in the coursework will be achieved by task and through outcome.

5 CONTENT

The content is presented in a two-column format. The left-hand column identifies the focii within each theme while the right-hand column indicates the level of detail required.

Theme 1 – The Nature and Sources of Information

FOCUS	ELABORATION
The difference between information and data	Examine raw data and attach meaning to it, eg look at six digit numbers which may represent dates of birth or telephone numbers.
The various sources of information	Libraries; directories; data base; television and video; CD ROM, electronic mail, Ceefax and Internet.
The different forms in which information may be presented	Oral; visual; written; numerical; diagrammatic; conveying (eg design of hazard signs, instructions); pictorial; graphical.

Theme 2 – The Mass Media and Information

FOCUS	ELABORATION
The various elements that make up the mass media	Radio; press; magazines; comics; television; cinema; video; advertising.
The ways information is represented by the media	Newspaper stories; advertisements; television news/ documentaries; radio news; weather reports.
Representing information in a given media style	Compare a newspaper story, a radio news programme and a TV news programme.

Theme 3 – The Mass Media's use of Information

FOCUS	ELABORATION
The different purposes of the media	Communication; education; information; persuasion; problem solving; propaganda; advertising; entertainment.
The influences of the media on society	Target groups; lifestyle, expectations, consumer spending; patterns of behaviour, eg charity drives, violence; popular opinion regarding political decisions, parties and personalities; popularity of sports, events and issues; interpretation of events; influence of the media.
Rights and responsibilities of the media and the individual	Bias, distortion, interests; levels of acceptability, rights of privacy; reliability.
The role of the state(s)	Self-regulation, censorship; control and ownership of international networks (eg information on Internet).

MEMORANDUM ON THE INTERNAL ASSESSMENT OF THE INDIVIDUAL STUDY INFORMATION AND THE MEDIA

1 INTRODUCTION

The Individual Study carries 40% of the marks for this module.

2 UNDERTAKING THE INDIVIDUAL STUDY

2.1 It is not required that each candidate in a centre should undertake a distinctive study. Candidates in a centre may undertake studies relating to a common theme or themes. In such a case however it is essential that each candidate produce an individual study for which an individual assessment can be made.

2.2 This study should be capable of being completed through one piece of work of between 1000–1200 words. Candidates who greatly exceed the word limit will be unlikely to satisfy the requirements of the highest levels of performance.

2.3 The Individual Study undertaken by individual candidates should clearly reflect knowledge from one or more of the Themes.

Examples of investigation which might be undertaken include:

- examine an advertising campaign for a teenage orientated product. Consider its effectiveness and impact;
- focus on a particular item(s)/issue(s) (eg sport) in a selection of media. Consider differences in treatment and degree of effectiveness;
- examine the accessibility of information for a topic/issue and the link to the level of Information Technology literacy required.

2.4 Where appropriate a wide range of methods may be used to support the presentation of the investigation in addition to the written form. These may include the use of:

(a) Information Technology, eg use of a simple database if appropriate;

(b) Visual Presentation, eg art/sketch; still photography; video camera or camcorder;

(c) Oral Accounts, eg taped interviews.

The methods should be appropriate to the investigation.

3 CRITERIA FOR ASSESSMENT

Candidates should be able to:

		Marks Allocated	Related Assessment Objectives
(a)	define the topic chosen, provide a background context and indicate what they hope to find out	(8)	3.2 and 3.1
(b)	specify methods of enquiry and outline the procedures in carrying out the study	(8)	3.2 and 3.1
(c)	describe findings in graphical, numerical, visual and written forms as appropriate	(8)	3.4
(d)	interpret findings and draw conclusions in the context of the investigation	(12)	3.3 and 3.1
(e)	evaluate methods of enquiry and findings in light of stated expectations	(4)	3.3
Total Marks:		**40**	

4 ELABORATION OF THE CRITERIA

The following guidance is offered as to what is expected in each of the elements which comprise the Individual Study.

(a) Candidates should be able to define the topic chosen, provide a background context and indicate what they hope to find out.

The candidate should be capable of clearly describing and showing the limits of the chosen topic or investigation. The candidates should provide some context/introduction to the topic which may include personal experience and observations from their own lives and those of others, as well as knowledge gained from investigating primary sources and the other experiences gained from the course through reading and discussion. Stemming from this context should come one or a series of statements, outlining what the probable outcomes may be.

(b) Candidates should be able to specify the methods of enquiry and outline the procedures used in carrying out the study.

Candidates will be required to outline:

- **the research method.** For example, if a questionnaire was conducted, candidates should state on whom the survey was carried out (including numbers in the study, relevant biographical material, eg age, sex) how the person was chosen, whether groups were interviewed in another area, the timing of the study;
- **simple reasons** should also be included indicating why this particular form of research was used and how the items in the interview/questionnaire relate to the probable outcomes;

- **the procedure/way** in which the study was carried out in such detail as to allow the reader to carry out a similar study and assess its appropriateness to the enquiry.

(c) Candidates should be able to describe their findings through a range of graphical, numerical, visual and written forms as appropriate.

In order to ensure continuity and progression throughout the study findings should be presented in a form which in general corresponds to the order of stated probable outcomes.

(d) Candidates should be able to interpret findings and draw conclusions in the context of the investigation.

Interpretation of findings will require the candidate to:

- identify any essential features and patterns arising out of the study;
- account for, if possible, any patterns which emerge, support or do not support the expected outcomes;
- comment on the significance of these.

Note: (c) and (d) above may be combined in such a way that descriptive statements can be linked with interpretative comment; alternatively candidates may present (c) and (d) separately.

(e) Candidates should be able to evaluate findings in light of stated expectations.

Candidates should state clearly how their conclusions relate to the initial expectations stated indicating where expectations were or were not met and indicate possible reasons.

5 CRITERIA FOR AWARD OF MARKS IN THE INDIVIDUAL STUDY

The criteria for the award of marks in the individual study is outlined below. Three bands of performance have been identified in each element of the individual study. Teachers should identify the band most appropriate to the candidate's work and award marks within the range allocated.

(a) Define the topic chosen, provide a background context and indicate expectation of findings.
TOTAL 8 MARKS

BAND	MARKS	TOPIC	CONTEXT	POSSIBLE OUTCOMES
Band 1	1–2	• limited attempt to define topic • unable to limit scope of enquiry	• few relevant factors • weakly developed and expressed rationale	• vague relationship suggested regarding possible outcomes of topic
Band 2	3–5	• topic broadly stated • greater attempt to limit scope of enquiry	• clear factors • fairly coherent rationale	• adequate link expressed between topic and possible outcomes
Band 3	6–8	• topic well defined • limitations of enquiry are clearly expressed	• well developed factors • coherent rationale	• clear and explicit link between topic and possible outcomes • logical and coherent framework for testing possible outcomes

(b) Specify methods of enquiry and outline the procedures used.
TOTAL 8 MARKS

BAND	MARKS	METHODS	REASONS	PROCEDURES
Band 1	1–2	• some attempt to outline methods	• briefly outlined • as means of gaining knowledge, method is weak	• some attempt to identify relevant features • some attempt to sequence research
Band 2	3–5	• adequate outline of methods	• satisfactorily detailed • fairly appropriate for topic under investigation	• many relevant features noted • adequate attempt to sequence research • procedure clear and provides some guidance for replication
Band 3	6–8	• well-presented methods which are presented coherently	• clearly detailed • most appropriate for topic being researched	• all or most relevant features defined • clear and detailed sequencing of research • unambiguous basis for replication

(c) Describe findings using an appropriate range of methods to include graphical, numerical, visual and written.
TOTAL 8 MARKS

BAND	MARKS	DESCRIPTION OF FINDINGS	RANGE OF METHODS	TITLING/LABELLING
Band 1	1–2	• description lacks organisation and clarity	• mostly limited to extensive narrative	• limited and vague annotation
Band 2	3–5	• research method clearly documented • clear and logically organised	• demonstrates the ability to use a range of methods	• adequate annotation which is relevant to topic
Band 3	6–8	• findings logically presented • aware of important factors and outcomes	• wide range of carefully selected and relevant methods employed	• excellent, clear, relevant annotation enhancing the assignment

(d) Interpretation of findings and ability to draw conclusions.
TOTAL 12 MARKS

BAND	MARKS	EXPLANATION FOR FINDINGS	SIGNIFICANCE	CONCLUSIONS
Band 1	1–3	• some attempt to provide explanation	• limited attempt to interpret findings in a logical manner	• some attempt to review, synthesise or draw conclusions
Band 2	4–8	• satisfactory explanation • clear and coherent understanding of the extent to which they support/conflict with outcomes	• significance of identified features broadly stated	• clear attempt to review and synthesise findings • conclusions logical and relate to expected outcomes
Band 3	9–12	• clear, detailed and convincing account of features • extent to which they may support or conflict with stated outcomes is fully and logically expressed	• precise, clear understanding of outcomes	• concise, logical review and synthesis of findings and explanations

(e) Evaluate findings in light of stated outcomes.
TOTAL 4 MARKS

BAND	MARKS	EVALUATION
Band 1	1	• able to identify a few strengths/weaknesses which have influenced study
Band 2	2–3	• awareness of strengths/weaknesses of research but not fully developed
Band 3	4	• clear awareness of strengths and weaknesses of method of enquiry and impact on data

TOTAL = 40 MARKS

Law and Society

A contributory module to GCSE Social and Environmental Studies

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 At the core of every society, community, small group and interpersonal relationship is a set of shared rules and expectations of behaviour. In society some rules and their sanctions have been formalised into a legal system. While many laws are in the interests of the citizen, the citizen also has the right and the duty to evaluate their worth and relevance. Hence this module will provide a basic knowledge of law and the process of law and encourage an evaluative approach for the growth and development of the active citizen.

1.2 The above module is designed to cater for the full range of ability of students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours. It may be taken as a free-standing module or as part of a modular course.

2 AIMS

The aims set out below describe the educational purposes of following this course:

2.1 to develop the abilities, knowledge and understanding to evaluate information and ideas as presented in literary, numerical, graphical and statistical forms;

2.2 to develop an awareness of the importance of making balanced and informed judgements;

2.3 to develop an appreciation of the relationship between law and society;

2.4 to develop an appreciation that the law of a society is constantly adapting to the changing needs of society.

3 ASSESSMENT OBJECTIVES

The assessment objectives reflect those aims which can be readily assessed for examination purposes.

Candidates will be expected to:

3.1 recall and understand relevant knowledge;

3.2 select and analyse information;

3.3 interpret and evaluate information, draw conclusions and make judgements;

3.4 present information in a form(s) appropriate to the context.

4 SCHEME OF ASSESSMENT

4.1 The scheme of assessment will consist of:

End of Module Test 60%

Coursework 40%

End of Module Test – Duration 1 hour

The test will consist of three structured questions reflecting each of the themes outlined in the syllabus. All questions will be compulsory. The resource material used in each question may take a variety of forms eg written, graphical, statistical, pictorial.

Coursework

Candidates will be required to undertake an Individual Study. Further detailed guidance is offered in the Memorandum on the Internal Assessment of the Individual Study. The coursework will be internally assessed by the teachers and externally moderated by the Council.

4.2 The approximate allocation of weightings to the assessment objectives in each component of assessment is indicated below.

Assessment Objectives	Approximate Weighting End of Module Test	Coursework
(3.1) Recall and understanding	24%	8%
(3.2) Collect, select, analyse	18%	12%
(3.3) Interpret, evaluate, draw conclusions, make judgements	18%	12%
(3.4) Presentation	–	8%
Total:	60%	40%

4.3 Differentiation

Differentiation will be achieved through the use of tiered papers in the end of module tests.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve grades C–G in the overall certification.

Differentiation in the coursework will be achieved by task and through outcome.

5 CONTENT

The content is presented in a two column format. The left-hand column identifies the focii within each theme while the right-hand column indicates the level of detail required.

Theme 1 – Society and its Laws

FOCUS	ELABORATION
Why society has laws	To provide the necessary rules for a society's existence; protection of the individual's human rights, eg freedom of expression.
Law and Social Values	Adapting to varying social values: historical variations (voting rights, USA Prohibition Era); geographical variations within EU (age to hold a driving licence, age of consent); cultural variations (alcohol consumption).
Law and Moral Values	Upholding/reflecting moral principles: honesty, murder, theft.

Theme 2 – Law and Human Rights

FOCUS	ELABORATION
The nature of Human Rights	Rights protected by the Universal Declaration of Human Rights adopted by United Nations and the European Convention on Human Rights.
Protecting Human Rights	Individuals' responsibilities to avoid prejudice and discrimination. The role of the law in relation to civil liberties, race, sex and religious discrimination.
Restricting Human Rights	The conflict over restricting the rights of an individual/ group to protect the rights of another individual/group: the freedom of movement, anti-smoking legislation.
The concept of justice and the law	Is the law always just? The rights of the victim.

Theme 3 – Making and Using the Law

FOCUS	ELABORATION
The ways in which laws are made	Acts of Parliament, European Community laws, delegated legislation, case law (judge made).
Enforcing the Law	The duties of the police; the work of barristers and solicitors; the appointment of judges and lay magistrates; the work of magistrates courts (including juvenile) and crown courts. The legal responsibilities of the individual (reporting crimes, serving on a jury, appearing as a witness).
Conflicting points of view	Rights of appeal; European Court of Human Rights; the role of the Ombudsman; policing in Northern Ireland.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF THE INDIVIDUAL STUDY LAW AND SOCIETY

1 INTRODUCTION

1.1 The study should not be unduly ambitious in terms of its scope and complexity.

1.2 The Individual Study carries 40% of the marks for this module.

2 UNDERTAKING THE INDIVIDUAL STUDY

2.1 Each candidate in a centre is not required to undertake a distinctive study. Candidates in a centre may undertake studies relating to a common theme or themes. In such cases however it is essential that each candidate should produce an individual assignment for which an individual assessment can be made.

2.2 This study should be capable of being completed in a total of between 1000–1200 words. Candidates who greatly exceed the word limit will be unlikely to achieve the higher grades awarded.

2.3 It is envisaged that a wide range of methods may be used to support the presentation of the investigation in addition to the written form. These may include the use of:

(a) Information Technology, eg use of a simple database if appropriate;

(b) Visual Presentation, eg art/sketch; still photography; video camera or camcorder;

(c) Oral Accounts, eg taped interviews.

2.4 Below are four examples of types of activity which may be investigated and sorts of aspects which might be included in the study.

(a) Car Crime

(b) Illegal drug usage

(c) Vandalism

(d) Hooliganism

The following aspects may be covered:

(i) definition and distribution pattern of this criminal activity;

(ii) causes: discussion of appropriate psychological/ sociological theories;

(iii) the current law: background to its development and current debate (if any) on its need for reform (role of press, pressure groups and parliament);

(iv) review of a/some contemporary court case(s);

(v) sanctions; their range, aims (ie deterrence, retribution, protection, rehabilitation) and effectiveness (eg recidivism rates).

3 CRITERIA FOR ASSESSMENT

	Marks Allocated	Related Assessment Objectives
(a) define the topic chosen, give reasons for choice of topic and indicate what they hope to find out	(8)	3.2 and 3.1
(b) specify design, methods of enquiry and outline the procedures in carrying out the study	(8)	3.2 and 3.1
(c) describe findings in graphical, numerical, visual and written forms as appropriate	(8)	3.4
(d) interpret findings and draw conclusions in the context of the investigation	(12)	3.3 and 3.1
(e) evaluate methods of enquiry and findings in light of stated expectations	(4)	3.3
Total Marks:	**40**	

4 ELABORATION OF THE CRITERIA

The following guidance is offered as to what is expected in each of the elements which comprise the Individual Study. Marks should be awarded in relationship to the extent to which candidates meet the assessment criteria.

(a) Candidates should be able to define the topic chosen, provide a background context and indicate what they hope to find out.

The candidate should be capable of clearly describing and showing the limits of the chosen topic or investigation. Reasons for interest in the chosen topic should be outlined. These may include personal experience and observations from their own lives and those of others, as well as knowledge gained from investigating primary sources and the other experiences gained from the course through reading and discussion. Stemming from the reasons for choice of topic should come one or a series of statements, outlining what the probable outcomes may be.

(b) Candidates should be able to specify the methods of enquiry and outline the procedures used in carrying out the study.

In this section candidates should ensure that there is sufficient detail to allow another reader to carry out the same project without difficulty. Thus candidates will be required to outline:

- **the research method.** For example, if a questionnaire was conducted, candidates should

state on whom the survey was carried out (including numbers in the study, relevant biographical material, eg age, sex) how the person was chosen, whether groups were interviewed in another area, the timing of the study;

- **simple reasons** should also be included indicating why this particular form of research was used and how the items in the interview/ questionnaire relate to the probable outcomes;
- **the procedure/way** in which the study was carried out in such detail as to allow the reader to carry out a similar study and assess its appropriateness to the enquiry.

(c) Candidates should be able to describe their findings through a range of graphical, numerical, visual and written forms as appropriate.

In order to ensure continuity and progression throughout the study findings should be presented in a form which in general corresponds to the order of stated probable outcomes.

Data, if represented in graphical and numerical form, should be clearly titled, labelled and accompanied by a descriptive statement of content.

(d) Candidates should be able to interpret findings and draw conclusions in the context of the investigation.

Interpretation of findings will require the candidate to:

- identify any essential features and patterns arising out of the study;
- account for, if possible, any patterns which emerge, support or do not support the expected outcomes;
- comment on the significance of these.

Note: (c) and (d) above may be combined in such a way that descriptive statements can be linked with interpretative comment; alternatively candidates may present (c) and (d) separately.

(e) Candidates should be able to evaluate findings in light of stated expectations.

Candidates should state clearly how their conclusions relate to the initial expectations stated indicating where expectations were or were not met and indicate possible reasons.

5 CRITERIA FOR AWARD OF MARKS IN THE INDIVIDUAL STUDY

The criteria for the award of marks in the individual study is outlined below. Three bands of performance have been identified in each element of the individual study. Teachers should identify the band most appropriate to the candidate's work and award marks within the range allocated.

(a) Define the topic chosen, provide a background context and indicate expectation of findings.
TOTAL 8 MARKS

BAND	MARKS	TOPIC	CONTEXT	POSSIBLE OUTCOMES
Band 1	1–2	• limited attempt to define topic • unable to limit scope of enquiry	• few relevant factors • weakly developed and expressed rationale	• vague relationship suggested regarding possible outcomes of topic
Band 2	3–5	• topic broadly stated • greater attempt to limit scope of enquiry	• clear factors • fairly coherent rationale	• adequate link expressed between topic and possible outcomes
Band 3	6–8	• topic well defined • limitations of enquiry are clearly expressed	• well developed factors • coherent rationale	• clear and explicit link between topic and possible outcomes • logical and coherent framework for testing possible outcomes

(b) Specify methods of enquiry and outline the procedures used.
TOTAL 8 MARKS

BAND	MARKS	METHODS	REASONS	PROCEDURES
Band 1	1–2	• some attempt to outline methods	• briefly outlined • as means of gaining knowledge, method is weak	• some attempt to identify relevant features • some attempt to sequence research
Band 2	3–5	• adequate outline of methods	• satisfactorily detailed • fairly appropriate for topic under investigation	• many relevant features noted • adequate attempt to sequence research • procedure clear and provides some guidance for replication
Band 3	6–8	• well-presented methods which are presented coherently	• clearly detailed • most appropriate for topic being researched	• all or most relevant features defined • clear and detailed sequencing of research • unambiguous basis for replication

(c) Describe findings using an appropriate range of methods to include graphical, numerical, visual and written.
TOTAL 8 MARKS

BAND	MARKS	DESCRIPTION OF FINDINGS	RANGE OF METHODS	TITLING/LABELLING
Band 1	1–2	• description lacks organisation and clarity	• mostly limited to extensive narrative	• limited and vague annotation
Band 2	3–5	• research method clearly documented • clear and logically organised	• demonstrates the ability to use a range of methods	• adequate annotation which is relevant to topic
Band 3	6–8	• findings logically presented • aware of important factors and outcomes	• wide range of carefully selected and relevant methods employed	• excellent, clear, relevant annotation enhancing the assignment

(d) Interpretation of findings and ability to draw conclusions.
TOTAL 12 MARKS

BAND	MARKS	EXPLANATION FOR FINDINGS	SIGNIFICANCE	CONCLUSIONS
Band 1	1–3	• some attempt to provide explanation	• limited attempt to interpret findings in a logical manner	• some attempt to review, synthesise or draw conclusions
Band 2	4–8	• satisfactory explanation • clear and coherent understanding of the extent to which they support/conflict with outcomes	• significance of identified features broadly stated	• clear attempt to review and synthesise findings • conclusions logical and relate to expected outcomes
Band 3	9–12	• clear, detailed and convincing account of features • extent to which they may support or conflict with stated outcomes is fully and logically expressed	• precise, clear understanding of outcomes	• concise, logical review and synthesis of findings and explanations

(e) Evaluate findings in light of stated outcomes.
TOTAL 4 MARKS

BAND	MARKS	EVALUATION
Band 1	1	• Able to identify a few strengths/weaknesses which have influenced study
Band 2	2–3	• awareness of strengths/weaknesses of research but not fully developed
Band 3	4	• clear awareness of strengths and weaknesses of method of enquiry and impact on data

TOTAL = 40 MARKS

Opportunities for Working Life

A contributory module to GCSE Social and Environmental Studies

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar.

1 INTRODUCTION

1.1 A study of this module will enable students to become aware of training and employment opportunities and enable them to work towards informed career choices. This module compliments the module entitled Personal Career Planning.

1.2 The module is designed to cater for the full range of ability of students at Key Stage 4 but would be suitable for use with post 16 and adult students studying on a full-time or part-time basis. It is designed to be delivered in approximately 35 hours. It may be taken as a free standing module or as part of a modular course.

1.3 If this module is taken as one of the four modules contributing to Social and Environmental Studies it may not be used in the combination for Personal and Social Education.

2 AIMS

The aims set out below describe the educational purposes of following this course:

2.1 to develop the abilities, knowledge and understanding to evaluate economic information and ideas, as presented in the literary, numerical, graphical and statistical forms, which they are likely to encounter;

2.2 to develop the skills necessary to make informed career decisions;

2.3 to develop an awareness of the importance of making balanced and informed judgements, needed when taking action on issues, problems and events arising in the world of work.

3 ASSESSMENT OBJECTIVES

The assessment objectives reflect those aims which can be readily assessed for examination purposes.

Candidates will be expected to demonstrate the ability to:

3.1 recall and understand relevant knowledge;

3.2 select and analyse economic information presented in a variety of forms;

3.3 interpret and evaluate information, draw conclusions and make judgements.

4 SCHEME OF ASSESSMENT

4.1 This module will be assessed through the use of an end of module test of 1½ hour duration. The test will consist of four or five questions. All questions will be compulsory.

4.2 The approximate allocation of weightings to the assessment objectives is indicated below.

Assessment Objective	Weighting
(3.1) Recall and Understanding	40%
(3.2) Select and analyse information	30%
(3.3) Interpret, evaluate, draw conclusions and make judgements	30%

4.3 Differentiation will be achieved through the use of tiered papers.

The **Higher Tier** will be appropriate for candidates aiming to achieve grades A*–D(E) in the overall certification. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve Grade D but who demonstrate the qualities associated with a Grade E performance.

The **Foundation Tier** will be appropriate for candidates aiming to achieve Grades C–G in the overall certification.

5 CONTENT

The content is presented in a two-column format. The left-hand column identifies the focii within each theme while the right-hand column indicates the level of detail required.

Theme 1 – Information Relevant to Making a Career Choice

FOCUS	ELABORATION
Sources of career information	Careers service; career literature; personal contacts; work experience.
Institutions providing advice, training and qualifications	Colleges of Further Education; Higher Education establishments; Government training agencies; private agencies; LEDU; local enterprise agencies.
Opportunities for further education and training	The benefits of further/higher education and training to individuals. Types of courses: vocational/academic full time/part time study; day release; block release; sandwich course; distance learning.
Employment	Professional, technical, semi-skilled, unskilled, self employed.
The availability of financial support	Grant; allowance; business sponsorship.

Theme 2 – Personal Qualities and Career

FOCUS	ELABORATION
Entrance requirements for a course/job	Requirements such as qualifications, abilities/skills, salary/cost.
Personal characteristics	Motivation; versatility; initiative; adaptability; self-confidence; responsibility; trustworthiness; dedication. The need for evaluation of relationship between characteristics and job/course requirements.
Skills and procedures involved in the application process	Interpretation of advertisements; use of telephone; filling in application forms; writing formal and informal letters; formatting and writing a Curriculum Vitae; self-presentation skills; team work skills.
Interview skills	Appearance, dress; etiquette; appropriate response techniques; self-promotion styles; acceptable speech/grammar; preparation techniques and developing lines of thought.

Theme 3 – Individuals' Rights in the Workplace

FOCUS	ELABORATION
The importance of a contract of employment	Terms and conditions, pay statement, unfair dismissal, redundancy, equal pay and equal opportunity.
The necessity for standards	Health and Safety – employers' responsibility, employees' responsibility.
Trade Union Membership	Functions of trade unions, the employee's right of choice regarding membership.
Discrimination	Types: age, ethnic, religion, sex. Legislation regarding equal pay, equal opportunity and fair employment. The role of the Equal Opportunities Commission and the Fair Employment Agency.

SOCIOLOGY

Candidates in this examination will be assessed on the accurate use of spelling, punctuation and grammar. Details regarding the criteria and components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 The study of this subject encourages students to develop a critical understanding of social life. Students are provided with a sociological perspective within which they can consider local, national and international events. The content of this syllabus places an emphasis on the studying of the subject matter in the context of Northern Ireland as far as possible.

1.2 The syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for the Social Sciences. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.3 This syllabus and the methods of assessment are intended for the whole GCSE ability range. It is designed to be appropriate to the needs of a wide variety of students including those leaving school at 16, those going on to further education and/or training, those intending to specialise in Sociology at GCE Advanced level and mature students returning to education on a part-time or full-time basis.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 The syllabus has been designed to be as free as possible from ethnic, gender, religious, political or other forms of bias.

2 AIMS

The statement of aims describes the educational purposes of following a course in sociology; not all aims can necessarily be translated into assessment objectives. The aims of a course in sociology based on this syllabus should enable students to:

2.1 think critically about the society in which they live through the knowledge and understanding gained from studying sociology;

2.2 promote an understanding of cultural and social similarities and differences in Northern Ireland and other societies using sociological approaches towards the nature and significance of conflict, and consensus, power, social change and continuity;

2.3 develop an understanding of the interdependence of individuals, groups, institutions and societies;

2.4 understand sociological ideas through the critical assessment of information, argument and evidence;

2.5 develop a critical awareness of their own individual attitudes, an understanding of their present role and enable them to play an informed part in future society;

2.6 develop appropriate linguistic, numerical and graphical skills.

3 ASSESSMENT OBJECTIVES

The assessment objectives describe the achievements and/or abilities which can be measured and recorded.

Candidates will be expected to:

Knowledge and understanding

3.1 demonstrate knowledge and understanding of social structures including the family, education, employment and stratification systems;

3.2 demonstrate knowledge and understanding of social processes including socialisation, social control, social interaction and differentiation and social change;

3.3 demonstrate knowledge and understanding of contemporary social issues;

3.4 demonstrate knowledge and understanding of the different methods used by sociologists.

Skills

3.5 apply critical understanding to the syllabus content while demonstrating that they can:

(i) acquire information for different purposes either by direct collection of information or from existing sources and analyse information;

(ii) interpret information presented in different forms and evaluate its relevance and accuracy;

(iii) use information to examine issues and construct and evaluate arguments and conclusions.

4 WEIGHTING OF THE ASSESSMENT OBJECTIVES IN RELATION TO THE SCHEME OF ASSESSMENT

The figures stated in Table 1 indicate the approximate weighting for each group of assessment objectives in addition to the precise total weightings for each component of assessment.

Table 1

Component	Assessment Objective		
	Knowledge and Understanding	Skills	Total
Paper 1	32½%	7½%	40%
Paper 2	32½%	7½%	40%
Coursework	5%	15%	20%
Total	70%	30%	100%

5 SCHEME OF ASSESSMENT

5.1 There will be two tiers of entry and the range of grade available on each tier is as follows:

Foundation Tier	Grades C – G
Higher Tier	Grades A* – D(E)

Candidates must choose one tier of entry. Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade D but who demonstrate the qualities associated with a grade E performance.

5.2 Each tier of entry will consist of the following components. In the case of the written papers, differentiation will be achieved through the use of tiered papers. Differentiation in the coursework will be by outcome. In each component of assessment the candidates' performance on spelling, punctuation and grammar will be assessed.

Paper 1 (1½ hours) will consist of three compulsory structured questions. There will be one question on each of the themes A, B and C of the syllabus. In answering some parts of these questions candidates will be required to demonstrate knowledge, understanding and skills of the research methods.

Paper 2 (1½ hours) will consist of three compulsory structured questions. There will be one question on each of the themes D, E and F. In answering some parts of these questions candidates will be required to demonstrate knowledge, understanding and skills of the research methods.

The Coursework will be in the form of an individual enquiry providing the candidate with the opportunity to put into practice some of the sociological methods they have studied, while investigating any issue/problem of their choice. The coursework should be capable of completion within approximately 2500 words. The work will be internally assessed and externally moderated.

5.3 **Criteria for the assessment of the coursework.**

The coursework will be marked out of a total of 60 marks and assessed using the following criteria:

(a) Definition of the topic chosen for investigation
12 marks

(b) Description and justification of research methods
12 marks

(c) Presentation and analysis of data
12 marks

(d) Interpretation of findings
12 marks

(e) Conclusions and evaluation of methods
12 marks.

Details regarding the assessment and moderation of coursework are further elaborated in the Memorandum on Coursework.

6 CONTENT

6.1 Research methods

The study of these methods is compulsory but may be integrated within the study of the themes.

Primary data collection

Consider:

- the range of primary data collection techniques available to the sociologist including experiments, social surveys, questionnaires, interviews, observation and participant observation.

Secondary data collection

Consider:

- the range of secondary data collection techniques available to the sociologist including published statistical data of a variety of types (population statistics, unemployment statistics, crime statistics);
- information from pressure groups;
- newspaper sources, personal letters, novels and diaries;
- an introduction to the technique of content analysis.

Sampling techniques

Consider

- the concept representativeness and how it is related to making generalisations.
- basic sampling techniques including population, random sampling and quota sampling;

Research design

Consider

- the steps involved in carrying out research including:
  - reviewing literature (including the concepts of evidence, objectivity, value, judgement and opinion);
  - research aims (including the idea of hypothesis testing);
  - research design;
  - data collection and analysis;
  - interpretation and evaluation;
  - conclusions.

6.2 Theme A – Wealth, income and poverty

(i) The nature of wealth, income and poverty

Consider:

- definitions of wealth, income and poverty;
- problems of objective criteria;
- problems of measurement;
- absolute and relative poverty.

(ii) Factors influencing distribution. Explanations of inequality.

Consider:

- aspects of social class, gender, ethnicity, religion, disability in relation to inequality

(iii) *Indicators of poverty*

Consider:

- issues – health, mortality and mobility, rates, unemployment.

(iv) Changes in structure of income and wealth over time.

Consider:

- changes in distribution of income and wealth since 1979 in the United Kingdom;
- causes of inequality, the concept of the underclass;
- family structure and poverty;
- explanations of poverty;
- poverty in the United Kingdom within European and world context.

6.3 **Theme B – The family and household**

(i) The existence and impact of changing roles within contemporary family life.

Consider the following relationships:

- parents and/or step parents and dependent children;
- husband-wife or partners;
- family members and dependent ageing parents.

(ii) The existence and impact of kinship/extended family on contemporary family life.

Consider:

- supporting family members;
- determining family members' life chances;
- transmission of cultural, ethnic, religious values/beliefs.

(iii) The existence of the "typical family" in contemporary society

Consider:

- the notion of the "typical family";
- the concept of "household";
- the make-up of households in contemporary society.

(iv) Contemporary family life experience

Consider:

- co-habitation, marriage, separation and divorce;
- changing patterns of parenting;
- domestic violence and child abuse;
- authority within the family.

6.4 **Theme C – Gender**

(i) The extent to which male/female differences are biological and/or conditioned

Consider gender differentiation in:

- concepts of sex and gender, patriarchy and matriarchy;
- nature-nurture debate;
- socialisation and social control.

(ii) The extent to which culture is created, shaped and controlled by patriarchy

Consider the changing role of women and men as presented in:

- print and visual mass media;
- history;
- religious teachings.

(iii) The extent and results of sexism and discrimination in society

Consider the experiences of males and females in the:

- education system;
- print and visual mass media;
- political world;
- the religious world.

(iv) The extent to which attitudes to sex and gender and female and male experiences are changing in modern society

Consider:

- role of social movements and their impact on change (women's movement, gay movement, anti and pro abortion campaigns);
- the social construction of masculinity and femininity;
- issues of sexuality;
- legal changes: equal opportunities/anti-discrimination laws;
- new attitudes: the new man, feminist, liberated woman, house-husband, role reversal, working wife.

6.5 **Theme D – Education**

(i) The current education system in Northern Ireland, its structure and purposes.

Consider:

- industrialisation and education: the emergence of the Northern Ireland system;
- the issue of vocational versus academic education;
- the formal and hidden curriculum;
- the Northern Ireland Curriculum.

(ii) The debate surrounding selective education and comprehensive education in Northern Ireland

Consider:

- the tripartite system;
- the equality of opportunity;
- comprehensive reforms of 1965 as applied in Britain.

(iii) The problem of differential educational achievement

Consider:

- the nature v nurture debate with reference to intelligence and educational achievement;
- the relationship between class, gender, religion and ethnicity and educational achievement;
- sociological explanations for differential educational achievement.

(iv) The issue of education and political and cultural identity in Northern Ireland

Consider:

- education and political and cultural identity in Northern Ireland, eg educational policies such as Education for Mutual Understanding, the role of schooling.

6.6 **Theme E – Work and leisure**

(i) The sociological parameters of work and leisure.

Consider:

- different perceptions of work, non-work and leisure;
- concepts of intrinsic and extrinsic satisfaction in relation to work.

(ii) The role and function of work in relation to social structure.

Consider:

- the organisation of work and the division of labour;
- the impact of new technologies.

(iii) Social effects of changes in labour market.

Consider:

- social class and occupation;
- social mobility;
- changing role of women in the workforce;
- equality of opportunity;
- discrimination including gender, age, disability, religion, ethnic.

(iv) Work, Unemployment and Leisure

Consider:

- changing structures of unemployment;
- social effects of unemployment;
- unemployment and leisure in relation to social class, gender, age, ethnicity and disability;
- impact of changing technology for leisure.

6.7 **Theme F – Identity, belonging and community**

(i) The construction and maintenance of culture and tradition

Consider:

- concepts of culture, community and community feeling;
- socialisation and agencies of social control;
- stereotyping and labelling.

(ii) Sense of identity and belonging in the individual

Consider:

- cultural traditions, heritage and historical events;
- agencies of influence including family, kinship, education, religion and media;
- being British, Irish, European and World citizens.

(iii) The consequences for society of a sense of identity and belonging

Consider:

- individual and group identities;
- racism and sectarianism;
- political parties and pressure groups;
- recreation and sport.

(iv) The challenge to a sense of identity and belonging – the process of social change

Consider:

- sub-cultures, deviant behaviour, pressure groups, opinion leaders;
- western culture(s) and local culture(s);
- policy responses in the areas of education and employment.

7 GRADE DESCRIPTIONS

The following grade descriptions are provided to give a general indication of achievement likely to have been shown by candidates awarded particular grades. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall and thus may conceal weakness in one aspect of the examination which is balanced by above average performance in another.

Grade F

Candidates recall and recognise some sociological structures, models or theories outlined in the syllabus and give a partial description of them. They show understanding and apply, in a superficial way, a few sociological concepts, terms and processes. They recognise and describe relevant sociological issues or debates.

Candidates use a limited range of methods, sources and information uncritically and in a simple manner to find out about sociological issues or topics. They formulate responses on the basis of personal experience and anecdotal evidence.

Grade C

Candidates recall, describe and give a partial analysis of a variety of sociological structures, models or theories outlined in the syllabus. They show understanding of, and apply a variety of, sociological concepts, terms and processes. They recognise and describe relevant sociological issues or debates and select appropriate

arguments in relation to the issues. They make straightforward links between sociological structures, processes and issues.

Candidates use a range of methods, sources and information to find out about sociological issues or topics and can indicate why they were chosen. They handle and evaluate information to produce arguments and reach conclusions.

Grade A

Candidates deploy a breadth of knowledge to produce substantiated analyses and explanations of a variety of sociological structures, models or theories outlined in the syllabus. They show understanding of, and apply precisely, appropriate sociological concepts, terms and processes. They recognise appropriate sociological issues or debates, substantiate them with evidence and reach valid conclusions. They analyse links between sociological structures, processes and issues.

Candidates identify and use appropriate methods, sources and information for a particular purpose and justify their selection. They interpret information presented in a variety of forms; critically evaluate its relevance in relation to the arguments and reach substantiated conclusions.

COURSEWORK MEMORANDUM

1 REQUIREMENTS OF STUDY

In developing the Individual Enquiry candidates might wish to consider issues relating to Northern Ireland as a whole or to their immediate local environment. It could be researched concurrently with other sections of the syllabus or treated as a single block of the course. It should not be unduly ambitious in terms of its scope and complexity.

The following guidance is offered as to what is expected in each of the elements which comprise the individual enquiry.

(a) *Candidates should be able to define the topic chosen, giving reasons for choice of topic.*

The candidate should clearly describe the topic and show the limits of the chosen topic of investigation. Reasons for the candidate's interest in the chosen topic should be given and may include some personal experience and observations in their own lives and other people's lives, knowledge gained from the media and their experiences gained from the course eg through reading, research, discussion.

(b) *Candidates should be able to specify design, methods of investigation and to outline the way in which the individual enquiry was conducted.*

In this section candidates should ensure that there is sufficient detail to allow another reader to carry out the same enquiry without difficulty. Thus students will be required to outline:

(i) the kind of design/investigation used. For example, if a small scale survey was conducted on the influence of re-housing on attitudes and/or friendship patterns, students should state on whom the survey was carried out (including numbers in the enquiry, relevant biographical material eg age, sex, length of stay in house/flat), how the personnel was chosen, whether comparison groups were used, the timing of the study and whether the study was a cross sectional or longitudinal survey. The foregoing should be supported by simple reasons or the choice of design in relation to their expectations listed under (a) above. The reader should be able to assess its appropriateness as a design in relation to expectations;

(ii) the method used for gaining the information through, for example, a survey, should be detailed (whether through structured or unstructured interviews or questionnaires etc) and simple reasons should be included indicating why such a method (or instrument) was used and how the items in the interview/questionnaire were chosen;

(iii) the procedure or way in which the enquiry was carried out in such detail as to allow the reader to carry out a similar enquiry and assess its appropriateness.

(c) *Candidates should be able to describe findings in graphical, numerical and literary forms as appropriate.*

Data, if represented in graphical and numerical form should be clearly titled and labelled and accompanied by a descriptive statement of its content. In order to ensure coherence, consideration should be given to the order in which the findings are presented.

(d) *Candidates should be able to interpret findings:*

Interpretation of findings will require the candidate to:

(i) identify any essential features and patterns arising out of the enquiry;

(ii) account for, if possible, any features and patterns arising from the enquiry which confirm or deny stated expectations;

(iii) comment on the significance of these.

Note: (c) and (d) above may be combined in such a way that descriptive statements can be linked with interpretative comment; alternatively candidates may present (c) and (d) separately.

(e) *Candidates should be able to draw conclusions and evaluate methods and findings in the light of stated expectations.*

Candidates should state clearly their conclusions. They should also judge the worth (validity) of the findings and the appropriateness of the chosen methods listed at (b) above.

2 CRITERIA FOR AWARD OF MARKS IN COURSEWORK

The criteria for the award of marks in the individual enquiry are detailed below. Three bands of performance have been identified in each element. For each criteria teachers should identify the band most appropriate to the candidate's work and award marks within the range allocated.

(a) ***Definition of topic chosen for investigation***

Band 1 (1–4 marks)

Area stated with some attempt at definition and limitations of its scope. A few reasons supporting the choice of topic have been advanced but are weakly developed and expressed.

Band 2 (5–8 marks)

Generally the topic is broadly stated and a greater attempt to limit its scope has been made. Reasons advanced for choice of topic are reasonably clear, and form a fairly coherent rationale.

Band 3 (9–12 marks)

Topic very well defined and clearly limited in scope. Reasons for choice of topic are well chosen and form a coherent rationale. At this level candidates may make reference to research literature relevant to their particular study.

(b) ***Description and justification of research methods***

Band 1 (1–4 marks)

The candidate makes some attempt to justify and describe their research methods. The candidate demonstrates some understanding of sociological research procedures and methods.

Band 2 (5–8 marks)

The candidate provides an adequate description of and justification for his/her research methods. The candidate demonstrates an appropriate understanding of sociological research procedures and methods. The research methods chosen meet the criterion of "fitness for purpose".

Band 3 (9–12 marks)

The candidate provides a good description of and justification for his/her research methods. The candidate demonstrates a clear understanding of sociological research procedures and methods. The research methods chosen clearly meet the criterion of "fitness for purpose".

(c) ***Presentation and analysis of data***

Band 1 (1–4 marks)

Evidence of research is noticeable but description of findings lacks clarity and organisation. Some attempt has been made to display findings in a logical sequence. Where graphical and numerical forms are used, there is some attempt to represent the data. Some titling and labelling of component parts attempted.

Band 2 (5–8 marks)

Description of findings generally clear, logically organised and adequately expressed. Graphical and numerical forms, if used, are adequately titled and labelled and have a coherent relationship with the topic chosen. The ability to use a variety of relevant resources and sources of information is evident.

Band 3 (9–12 marks)

Findings are very clearly expressed both grammatically and logically. Awareness of important factors and outcomes is evident. Graphical and numerical forms, if used, are very well selected and constructed and are accurately and clearly titled and labelled. The candidate has shown strong ability to use a variety of resources and sources of data.

(d) ***Interpretation of findings***

Band 1 (1–4 marks)

Some features have been identified in an attempt to provide insight into the selected area of study. Some explanation is given for the presence of these features. There is some evidence of the development of logical argument and some spelling and grammar is correct. Some understanding of the significance of these features is demonstrated.

Band 2 (5–8 marks)

A number of important features have been identified and these provide an adequate insight into the selected area of study. A satisfactory explanation is given for the presence of these features. The significance of these identified features is broadly stated.

Band 3 (9–12 marks)

Features essential to a full understanding of the study are identified in an explicit and unambiguous way. There is a clear, detailed and convincing explanation for the presence of these features. The significance of these features is clearly and precisely defined.

(e) ***Draw conclusions and evaluation of methods***

Band 1 (1–4 marks)

Some attempt has been made to review, synthesise or draw conclusions. The candidate has been able to identify a few strengths and weaknesses in the methods which would influence the outcomes and expectations of outcomes.

Band 2 (5–8 marks)

The candidate has clearly attempted to review and synthesise findings and explanations and conclusions drawn are logically developed. The strengths and weaknesses of the study are imperfectly defined and are not fully developed. A limited attempt has been made to generalise or extrapolate from the study. There is some awareness of the strengths and, to a lesser extent, weaknesses of the methods chosen and their impact on data collected but these are not developed.

Band 3 (9–12 marks)

A concise and logical review and synthesis has been made of findings and explanations and conclusions drawn show a full understanding of their strengths and weaknesses. The candidate shows, within a critical context, a clear ability to generalise or extrapolate from the study. There is a clear awareness of the strengths and weaknesses of the methods chosen and their impact on data collected. Explanation is offered in the light of these comments and the candidate is able to suggest alternative ways of approaching the study.

3 ASSESSMENT ISSUES

3.1 Authentication

Teachers are responsible for warning candidates that they are forbidden to indulge in unfair practices during the preparation of their individual enquiry. Where teachers know or suspect candidates of using unfair means, they must not sign the certification for the work and must report the matter to the Council.

The use of secondary material may form part of the investigative report. A distinction must be drawn between the slavish copying of such material and the manipulation of it. The latter may lead to work of a good quality being produced by the candidate. The teacher must ensure, however, that there is not an over-reliance on such material and that clear evidence is provided of first hand enquiry having been carried out by the candidate. Dictated notes or work from

unacknowledged sources cannot be awarded marks. Teachers must encourage the practice of acknowledging the sources of material.

3.2 **Annotation**

Each candidate's assessed coursework should show how the marks have been awarded in relation to the marking criteria. The annotation should be provided in the forms of meaningful comments on the Candidate Record Sheet and on the work directly. Annotation helps in achieving internal standardisation and most importantly provides the Moderators with essential information about the marking. This annotation should be clear and unambiguous, provide information on how the task was presented to the candidates, indicate the extent to which each assessment criterion has been met and provide details of any assistance given to the candidate. Annotation may also be used to highlight those parts of the coursework which clearly meet the assessment criteria and provide feedback to the candidate.

4 MODERATION PROCEDURES

4.1 **Agreement Trials**

Agreement Trials will be conducted annually, usually early in the Spring Term prior to the date of the examination where teachers are briefed on the application of the assessment criteria and engage in trial marking.

4.2 **Supplementary Guidance Materials for Assessment**

Supplementary Guidance Materials in the form of advice on assessment and exemplar material will be issued to all centres.

4.3 **Support Service and Advice**

At any stage during the course teachers may contact the Council if they require advice, assistance or support regarding any aspect of coursework assessment. The Council has made provision for Assistant Coursework Moderators to support groups of centres and arrangement can be made for the Support Moderator to discuss issues arising from the coursework with the teacher by means of a visit if necessary.

4.4 **Internal Centre Standardisation**

Where there is more than one teaching group in the subject the centre must carry out internal standardisation of assessments before submitting them to the Council. The purpose of this exercise is to ensure, as far as possible, that each of the teachers has applied the assessment criteria consistently when making assessments. As a result of this internal standardisation it may be necessary to adjust the marking of individual teachers in the department and to match the standards promulgated at the Agreement Trial. Where such an adjustment is necessary the total/ final mark recorded on the Candidates' Record Sheets should be amended.

4.5 **External Moderation**

Assistant Coursework Moderators, working under the direction of the Coursework Moderator, will scrutinise samples of coursework drawn from each centre in accordance with instructions issued by the Council. Full instructions about the details of the moderation procedures and the nature of sampling required will be issued by the Council at the appropriate time. Following the issue of results centres will receive a statement of any adjustments made and a report outlining the reasons for the adjustments.

SPANISH

1 INTRODUCTION

1.1 The format of this syllabus is common to each of the subjects of French, German, Irish, Italian and Spanish.

1.2 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for Modern Languages. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.3 A course based on this syllabus will help to facilitate the further study of Modern Languages at a more advanced level.

1.4 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.5 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 RATIONALE

The syllabus and scheme of assessment requires candidates to demonstrate their ability to understand and use the target language and to explore the five Contexts for Learning as set out in the Programme of Study for Key Stage 4 in the Northern Ireland Curriculum Order for Modern Languages. Some answers may be required in English. Subject criteria state that a maximum of 10% of the total marks for the subject may be awarded for such answers but no more than half of this maximum allocation may be assigned to any particular assessment objective. The Programme of Study sets out the range of opportunities and activities which should be made available to pupils and for ease of reference these have been included as an Appendix to this syllabus.

3 AIMS

3.1 The aims set out below describe the educational purposes of following a course in GCSE Modern Languages. Some of these aims are reflected in the assessment objectives, whilst others are not because they cannot be readily assessed.

3.2 The aims of the syllabus are to:

3.2.1 develop the ability to use the target language for the purpose of practical communication;

3.2.2 develop an awareness of the nature of language and language learning in general;

3.2.3 offer insights into the culture and civilisation of the country or community in which the target language is spoken;

3.2.4 foster sympathetic and positive attitudes to other cultures and civilisations;

3.2.5 promote in pupils a better understanding of themselves and their own culture through comparison of the customs of the country or community of the target language with their own;

3.2.6 promote learning skills of a more general nature, such as analysis, memorising and drawing conclusions;

3.2.7 provide a firm base for the acquisition of the language skills and attitudes required for further study, work and leisure;

3.2.8 develop knowledge, understanding and skills related to the statutory cross-curricular themes.

4 ASSESSMENT OBJECTIVES

4.1 The assessment objectives set out below indicate the skills and abilities which will be assessed. Candidates will be required to demonstrate their ability to:

4.1.1 understand and respond to spoken language (Listening);

4.1.2 communicate in speech (Speaking);

4.1.3 understand and respond to written language (Reading);

4.1.4 communicate in writing (Writing).

5 RELATIONSHIP OF ASSESSMENT OBJECTIVES TO THE EXAMINATION COMPONENTS

This table below sets out the relationship of assessment objectives to the examination components and the points associated with each component.

Table 5.1

Component	Assessment Objectives	Foundation Weighting	Higher Weighting
Paper 1	4.1.1	25% 4 points	25% 4 points
Paper 2	4.1.2	25% 4 points	25% 4 points
Paper 3	4.1.3	25% 4 points	25% 4 points
Paper 4	4.1.4	25% 4 points	25% 4 points
Overall Weighting	–	100%	100%

Information on the system of converting points to grades, agreed by all Examining Boards will be circulated in due course.

6 DIFFERENTIATION

Differentiation will be achieved by the use of tiered papers.

7 SCHEME OF ASSESSMENT

7.1 The course will be assessed through the four skill areas of:

- Listening
- Speaking
- Reading
- Writing.

7.2 Each skill area is offered in two tiers, Foundation and Higher. Entry at the Foundation Tier will be appropriate for candidates considered capable of achieving Grades C to G overall and entry at the Higher Tier for those considered capable of achieving Grades A* to D(E) overall.

	A*		
	A		
Higher	B		
Tier	C	C	Foundation
	D	D	Tier
	(E)	E	
		F	
		G	

7.3 Candidates must indicate at time of entry which tier they wish to take in each skill area. Where candidates do not attain the lowest of the targeted grades available in a tier (ie G at Foundation and D at Higher) their performance will be recorded as unclassified. However candidates who narrowly miss achieving grade D in the Higher Tier may be classified as E. Given the flexible pattern of entry final grades will be awarded on the basis of accumulation of points scored in each skill.

8 TECHNIQUES OF ASSESSMENT

8.1 Set out below for each component of the examination are details of the assessment techniques which will be used. In view of the overlapping grade structure each skill area will be assessed using question(s) common to both tiers as specified below.

8.2 **Listening (4.1.1) (25%)**

Foundation: 30 minutes

Higher: 30 minutes

This paper will comprise a variety of items of stimulus material in the target language. Items may take the form of short announcements, messages and dialogues. Each item will be followed by one or more tasks which will require candidates to demonstrate a range of responses through such assessment strategies as gap filling, matching exercises, ticking boxes, completing grids and sequencing. Short answer questions requiring a response in the target language will also be set. Where the nature of the task demands, eg in an interpreting activity, questions may be set which require an answer in English. A number of questions will be common to both tiers.

Candidates are not permitted the use of a dictionary for the Listening component.

8.3 **Speaking (4.1.2) (25%)**

Foundation: 10 minutes

Higher: 10 minutes

(Preparation Time: 10 minutes)

The Speaking Test will be conducted by the candidates' own teachers and recorded on cassette. Two options for the assessment of the Speaking Test are available.

In Option A the teacher will be responsible for making an assessment of each candidate's performance and for submitting the recording to the Council for the purposes of moderation.

In Option B the recordings will be submitted to the Council for external assessment. If Option B is intended then this should be indicated at the time of provisional entry to the examination.

The Speaking Test will involve candidates in such activities as asking and answering questions, giving information and instructions through taking part in rôle plays and in general conversations. The rôle play tasks, certain of which will be common to both tiers, will be provided by the Council.

Candidates will be permitted the use of a bilingual dictionary during the 10 minutes preparation time. Further guidance on the conduct and assessment of the Speaking Test will be published separately.

8.4 **Reading (4.1.3) (25%)**

Foundation: 40 minutes

Higher: 40 minutes

This paper will comprise a variety of items of stimulus material in the target language which may be in any of the following styles: short items such as notices and announcements, extracts from letters, magazine or newspaper articles and other forms of imaginative writing. Each item will be followed by one or more tasks which will require candidates to demonstrate a range of responses through such assessment strategies as gap filling, matching visuals to text, ticking boxes, completing grids and sequencing. Short answer questions requiring a response in the target language will also be set. Where the nature of the task demands, eg in an interpreting activity, questions may be set, which require an answer in English. A number of questions will be common to both tiers.

Candidates will be permitted the use of a bilingual dictionary for the Reading component.

8.5 **Writing (4.1.4) (25%)**

Foundation: 45 minutes

Higher: 45 minutes

The candidates will be required to respond in writing to a number of tasks which take as their starting point stimulus material of a visual or written nature. In the

Foundation Tier candidates may be asked to produce lists; complete forms or write notes and cards. The task common to both tiers will require them to produce more extended writing such as formal or informal letters. Approximately 120 words in total will be expected. In addition to the common task Higher Tier candidates will be expected to produce a more substantive letter, report or account. Assistance in the form of structured guidance contained within the question, may be given to the candidate for example, a series of sub-questions or key phrases in the target language. Candidates may be required to respond to or obtain information from a text in the target language, such as a letter, newspaper article or report.

Candidates will be permitted the use of a bilingual dictionary for the Writing component.

9 MODERATION OF TEACHER-ASSESSED SPEAKING TESTS

9.1 Where the speaking components of the examination are assessed by the candidates' own teacher under Option A (See 8.3) the assessment will be subject to moderation according to the procedures approved by the Council, and published separately.

9.2 In cases where there is more than one teaching group in the centre, that centre must ensure that the assessment of the Speaking Tests is internally standardised. It is recognised that logistical problems would be likely given the short space of time between the end of the Speaking test period and the submission of marks to the Council. In this case the process of internal standardisation would be best promoted through the organisation of a within-school agreement trial prior to the conduct and assessment of the Speaking Test.

9.3 Arrangements will be made on an individual basis for the assessment of private candidates.

10 PROHIBITED COMBINATIONS

Candidates are not permitted to enter for both tiers in the same skill area.

11 SYLLABUS CONTEXTS AND TOPICS

Materials selected for use in examination papers will reflect the statutory Contexts for Learning and associated topics set out in the Northern Ireland Curriculum Order for Modern Languages. These are set out below:

Context 1: Everyday Activities

Topics

(a) Home and school life

(b) Food and drink

(c) Shopping

(d) Eating out.

Context 2: Personal Life and Social Relationships

Topics

(a) Self, family and friends

(b) Health

(c) Holidays and leisure

(d) Celebrations and special occasions.

Context 3: The World Around Us

Topics

(a) House and home

(b) Town and countryside

(c) Getting around

(d) Weather.

Context 4: The World of Work

Topics

(a) Services to the public

(b) Occupations and places of work

(c) Future plans and careers.

Context 5: The International World

Topics

(a) Travel and tourism

(b) Life in countries or communities in which the target language is spoken

(c) Caring for the environment.

12 FOCUS OF LANGUAGE CONTENT

Set out below for each topic is a brief description focusing on the language areas in which candidates may be expected to perform. The language areas identified for Foundation Tier also apply to Higher for which additional areas have been specified.

Focus of Language Content	
Foundation	**Higher**
1 **Everyday Activities**	1 **Everyday Activities**
(a) ***Home and School Life***	(a) ***Home and School Life***
Home routine	Jobs to be done around garden
Helping at home	School building
Jobs to be done around home	School facilities
Type of school	School year
Location of school	Examinations
School day	Pocket money
Travel to school	
Timetable	
Subjects studied	
Number of teachers/pupils	
(b) ***Food and Drink***	(b) ***Food and Drink***
Common types of food and drink	Further types of food and drink
Dislikes, likes, preferences	Recipes
(c) ***Shopping***	(c) ***Shopping***
Types of shops/shopping facilities	Commenting on the cost
Location of shopping facilities /department/item	Asking for change (money)
Types of items	Exchanging an item
Availability of items	Requesting delivery of an item
Number/quality/quantity/colour/size	Refund
Cost	Special offers
Shopping announcements	Trying something on
Payment	
(d) ***Eating Out***	(d) ***Eating Out***
Location of cafés/restaurants	Problems and complaints
Making a reservation	Contents of a dish/items on menu
Requesting a menu/wine list	Quality of meal/dish/drink
Ordering food/drinks	
Settling the bill	

Focus of Language Content	
Foundation	**Higher**
2 Personal Life and Social Relationships	**2 Personal Life and Social Relationships**
(a) ***Self, family and friends***	(a) ***Self, family and friends***
Name	Personal characteristics
Address	Marital status
Telephone number	
Date and place of birth	
Age	
Sex	
Composition of family	
Other relatives	
Nationality	
Physical features	
Details of friends	
Pets	
(b) ***Health***	(b) ***Health***
Parts of the body	Injuries
Physical condition, eg well, ill, tired	Personal safety
Needs – thirst, hunger	Warning of danger
Position of pain	
Doctor/dentist/chemist	
Common illnesses	
Medicines and treatment	
Instructions for taking medicines	
(c) ***Leisure activities***	(c) ***Leisure activities***
Hobbies/interests/pastimes	Describing what is involved in hobbies, interests, pastimes, sporting activities
Sporting activities	
Venues	Merits of performances, events
Times and dates of activities	Visits to zoo, circus
Requesting ticket/seat	
Meeting people	
Making arrangements to go out	
Making reservations	
(d) ***Celebrations and special occasions***	(d) ***Celebrations and special occasions***
Annual festivals	Making arrangements for a party/celebration
Parties	Celebrating birthdays, Christmas etc
Giving a present	
Congratulations	
Taking leave	
Days of week, dates	

Focus of Language Content	
Foundation	**Higher**
3 The World Around Us	**3 The World Around Us**
(a) ***House and Home***	(a) ***House and Home***
Location of building	Rent, price of property
Type of house/flat	Availability of services
Types of rooms	
Furniture	
Household items	
Kitchen equipment	
(b) ***Town and countryside***	(b) ***Town and countryside***
Town	Description of town and countryside
Buildings	Qualities of town and countryside
Places in the town	Comparing town and country life
District	
Region	
Countryside	
Farm animals	
Plants	
(c) ***Getting around***	(c) ***Getting around***
Directions	Losing the way
Times	
Means of transport	
Distances	
(d) ***Weather***	(d) ***Weather***
Types of weather	Weather forecasts
Seasons	

Focus of Language Content	
Foundation	**Higher**
4 The World of Work	**4 The World of Work**
(a) ***Services to the Public***	(a) ***Services to the Public***
Services/items required in: • post office • filling station • bank	Reporting/describing lost property Services/items required in: • garage • police station • hospital • fire station
Request services of: • police • fire • ambulance	
Recognise signs/notices relating to public services.	
(b) ***Occupations and places of work***	(b) ***Occupations and places of work***
Types of occupations Places of work Hours of work Being out of work Opinions about jobs	Full time and part time jobs Future plans and careers What particular jobs involve Conditions of work Being on strike
(c) ***Future plans and careers***	(c) ***Future plans and careers***
Type of job they would like to do Where they would like to work Plans for immediate future/on leaving present school	Reasons for choice of occupation Opportunities for work at home Opportunities for work in target country Qualifications/preparations for a particular occupation

Focus of Language Content	
Foundation	**Higher**
5 The International World	**5 The International World**
(a) ***Travel and Tourism***	(a) ***Travel and Tourism***
Planning to go/going/being on holiday	What you did/will do on holiday
Hostel, campsite, hotel etc	Enquiries about travel arrangements
Travel literature	Availability of facilities in airports/ports/stations
Notices and announcements relating to travel (including timetables)	Special terms (including supplements and reductions)
Prices and types of tickets	Travel problems (eg delays, alterations)
Travel documents/luggage	Customs
Tourist sights	
(b) ***Life in countries or communities in which the target language is spoken***	(b) ***Life in countries or communities in which the target language is spoken***
Names of other countries	Social customs
Nationalities	Characteristic traits
Main cities/towns	Drawing comparisons with life in their own community/ country
Currency	Regions
Money, weights and measures	
National dishes	
(c) ***Caring for the environment***	(c) ***Caring for the environment***
Location of litter bins	Pollution matters
Disposal of rubbish	Aspects of conservation
Smoking/non-smoking	
Simple conservation measures, eg saving water, switching off lights	

13 GRAMMAR AND STRUCTURES LIST

In this section the Grammar and Structures are defined for each tier of entry. The definition indicates whether knowledge is required for receptive use ie Listening and Reading, or for productive use, ie Speaking and Writing. It is important to note that not all structures are equally important and that some structures are required for receptive use only. *Where the masculine form is stated, the feminine and plural forms are understood.*

Examples of common adverbs, common prepositions, common conjunctions, common expressions of time and common verbal constructions, appropriate at Foundation Tier, are to be found in the Vocabulary List.

Structures		Foundation		Higher	
		Receptive	Productive	Receptive	Productive
NOUNS	Gender and plurals	/	/	/	/
	Use of personal "A" with noun objects	/		/	/
ARTICLES	Use/omission of the definite and indefinite articles	/	/	/	/
	Use of "A" and "El"	/	/	/	/
	Use of "De" "El"	/	/	/	/
	Neuter (Lo)			/	/
ADJECTIVES	Agreement	/	/	/	/
	Comparative	/	/	/	/
	Superlative	/	/	/	/
	Absolute superlative			/	
	Apocopation	/	/	/	/
	Change of meaning according to position			/	/
	Possessive	/	/	/	/
	Demonstrative	/	/	/	/
	Indefinite (positive and negative)	/		/	/
	Relative			/	
PRONOUNS	Subject	/	/	/	/
	Use with "Mismo"			/	
	Object	/	/	/	/
	Use of "Se" replacing le or les			/	/
	Reflexive	/	/	/	/
	Passive/impersonal use of reflexives	/		/	/
	Order of pronouns	/		/	/
	Possessive	/		/	/
	Demonstratives	/		/	/
	Indefinite (positive and negative)	/		/	/
	Use of prepositions with pronouns	/		/	/
	Relatives: Que	/	/	/	/
	Quien	/		/	/
	Lo que	/		/	/
	Lo cual, El que, El cual (plus feminines and plurals)			/	/
	Use of personal "A" with above relatives	/		/	/
	(A)donde, En que, De que	/		/	/

	Structures	Foundation		Higher	
		Receptive	Productive	Receptive	Productive
ADVERBS	Common adverbs in – mente	/	/	/	/
	Other common adverbs	/	/	/	/
	Quantifiers (eg muy, poco, bastante)	/	/	/	/
	Expressions with "Todo"	/	/	/	/
	Comparative	/	/	/	/
	Superlative			/	/
PREPOSITIONS	Common prepositions	/	/	/	/
	Use of "Por" and "Para" (simplest uses only for Foundation Tier)	/	/	/	/
	Personal a	/		/	/
CONJUNCTIONS	Common conjunctions	/	/	/	/
	"Pero" replaced by "Sino"			/	/
TIME	Time	/	/	/	/
	Dates	/	/	/	/
	"Hace" and time (ago)	/		/	/
	Common expressions of time	/	/	/	/
NUMBER	Cardinals	/	/	/	/
	Ordinals: Primero, Segundo, Tercero	/	/	/	/
	Ordinals: others	/		/	/
	Quantity	/	/	/	/
	Use of "Medio"	/	/	/	/
	Use of "Cuarto"	/	/	/	/
	Distance	/	/	/	/
	Price	/	/	/	/
	Dimensions			/	/
VERBS	Present	/	/	/	/
	Present continuous	/	/	/	/
	Perfect	/	/	/	/
	Imperfect	/		/	/
	Preterite	/	/	/	/
	Pluperfect	/		/	/
	Future with "Ir"	/	/	/	/
	Future	/		/	/
	Conditional			/	
	Present subjunctive			/	
	Imperfect subjunctive			/	
	Passive			/	/
	Familiar imperatives (affirmative and negative) (affirmative only at Foundation Tier)	/		/	/
	Polite imperatives (affirmative and negative)	/		/	/
	Radical changing verbs	/	/	/	/
	Reflexives	/	/	/	/
	Uses of "Ser" and "Estar"	/	/	/	/
	Tener que	/	/	/	/
	Acabar de			/	/
	Soler			/	/
	Volver a			/	/
	Gustar	/	/	/	/
	Quisiera	/	/	/	/
	Me gustaría	/	/	/	/

Structures		Foundation		Higher	
		Receptive	Productive	Receptive	Productive
VERBAL CONSTRUCTIONS	"Al" + infinitive			/	/
	Use of "Desde hace" "Hace … que" and llevar (time)			/	/
	Common constructions with "Tener" and "Hacer" (time)	/	/	/	/
	"Seguir" + present participle			/	/
	Negatives	/	/	/	/
	Common verbs governing a dependent infinitive (with/without a preposition where applicable)	/	/	/	/
	Infinitives used as imperatives	/		/	
INTERROGATIVES	Adjectives	/	/	/	/
	Pronouns	/	/	/	/
	Adverbs	/	/	/	/

14 TARGET LANGUAGE RUBRICS

In this section is listed the key words and phrases which candidates are likely to encounter in question paper rubrics.

Instructions

cambia las palabras subrayadas

completa los detalles/la tabla

contesta las preguntas en español/en inglés

copia la tabla siguiente

corrige estas frases

describe el dibujo

empareja las preguntas con las respuestas

escoge la letra/el número/la palabra/el verbo/el adjetivo adecuado(a)

escribe una lista/una nota/una postal/una carta/un relato

escucha la cinta/el diálogo/el anuncio

explica en español/en unas palabras/en una frase

hay que escribir cuatro párrafos

haz preguntas/un dibujo/un resumen

imagina que …

indica en la tabla

lee el anuncio/la descripción/el texto

mira el plano/el mapa/el dibujo/la foto

pon una equis (x)/una marca (✓)

rellena los espacios

subraya las palabras que …

sustituye la palabra subrayada por otra palabra

une con una línea

Words and phrases

la afirmación
en cada caso
cada uno(a) de
la casilla correcta/adecuada
la columna adecuada
correctamente
¿cuál(es)?
diciendo que
el formulario
la frase entera
las frases que contienen errores
el horario
junto a
en el orden correcto
una palabra de significado parecido/opuesto
la palabra que corresponde (mejor) a ...
las palabras de la lista
120 palabras más o menos
para indicar
por ejemplo
el primer párrafo del texto/del artículo
según tu opinión/el texto/la información indicada
según los puntos indicados abajo
siguiendo el orden en que aparecen
verdad o mentira (correcto o falso)

15 MINIMUM CORE VOCABULARY LIST (FOUNDATION TIER)

15.1 This minimum core Vocabulary List for Foundation Tier is primarily intended as a guide for teachers to assist in the planning of work in relation to the programme of study.

The assessment tasks at Foundation Tier will be based on the minimum core Vocabulary List but candidates should expect to encounter unfamiliar vocabulary.

15.2 Alphabetical Vocabulary List

a, be, ce etc.
a
abajo
abierto
abrazo
abrigo
abril
abrir (se)
abuelo, a
aburrido
accidente
aceite
aceptar
acera
acerca de
acercarse
acompañar
aconsejar
acordarse (de)
acostado
acostarse
activo
actor (actriz)
actualmente
acuerdo, de
adelante
además
adiós
adonde
¿adónde?
adulto
aeropuerto
aficionado (-al fútbol)
afortunadamente
afueras
agencia de viajes
agosto
agradable
agradecer
agua (-mineral, potable)
ahora
ahorrar
aire (-acondicionado, al-libre)
al cabo de
albergue juvenil
aldea
alegrarse
alegre
alejarse
alemán
Alemania
alfombra
algo
algodón
alguien
alguno
alimentación
allí
almacén (grandes almacenes)
almorzar
almuerzo
alojamiento
alquilar
alrededor (de)
alrededores
alto
alumno
ama de casa
amable
amarillo
ambulancia
América del Sur
amigo
amueblado
ancho
andar
andén
animado
animal
anoche
anterior (el día-)
antes (de)
antiguo
anunciar
anuncio
añadir
año
Año Nuevo
apagar
aparcamiento
aparcar
apartamento
apellido
aprender (a)
apresurarse
aprobar
aquel
aquí
árbol (-frutal)
arbusto
arena
armario
arreglar
arriba
arroz
artículo
artista
asado
ascensor
aseo
así
asiento
asignatura
asistir (a)
aspiradora
aspirina
asustado
atención
atentamente
atletismo
atrás
atravesar
aumentar
aún
ausente
autobús
autocar
autopista
autoservicio
avenida
aventura
avión
ayer
ayudar (a)
ayuntamiento
azúcar
azul

bacalao
bahía
bailar
baile
bajar
bajo
balcón
balón
baloncesto
banco
bañarse
baño
bar
barato
barco
barrio
bastante
bastar
basura
basurero
batería
batir (se)
beber
bebida

beso
biblioteca
bicicleta (en-)
bien
bienvenido
biftec (bistec)
billar
billete
billete de banco
billete de ida (sencillo)
billete de ida y vuelta
billetero
biología
blanco
blusa
boca
bocadillo
bolígrafo
bolos (jugar a los-)
bolsillo
bolso (-de mano)
bombero
bombón
bonito
bosque
botas
botella
brazo
breve
británico
buenas noches (-tardes)
bueno
buenos días
buscar
butaca
buzón

caballeros
caballito
caballo
cabeza
cabina telefónica
cacerola
cada
caer (se)
café (-solo, con leche)
cafetería
caja (-de ahorros)
cajero
cajón
calamar
calcetín
calefacción central
calidad
caliente
calle
calor
caluroso
calzado(s)
cama
camarero
cambiar de
cambio
camino
camión
camisa
camiseta
campesino
camping (hacer-)
campo
canción
cansado
cantante
cantar
capital
cara
caramelo
caravana
carne (-de vaca, de cerdo, de cordero)
carnicería
caro
carretera
carta (jugar a las cartas)
cartel
cartera
cartero
casa(-de campo, de un piso, independiente)
casi
cassette (casete)
castaño
castellano
castillo
catarro
catedral
causa, a – de
cebolla
ceda el paso
celebrar(se)
célebre
cena
cenar
centro (-comercial, médico, de deportes)
cepillo (-de dientes)
cerca (de)
cercano
cerdo
cereales
cero
cerrado
cerrar (se) (-con llave)
cerveza
cesar (de)
césped
cesta (-para papeles)
ciclismo
cielo
cien(to)
ciencias
cierto
cigarrillo
cine
cinturón
cita
ciudad
claro
clase
cliente
clima
club
cobrar (-un cheque)
coche
cocina (-eléctrica, de gas)
coger
col (coles de Bruselas)
cola
coleccionar
colegio (-mixto, técnico)
colgar
coliflor
colina
color
comedia
comedor
comenzar (a)
comer
comerciante
cómico
comida
comienzo
comisaría
como
cómo?
cómodo
compañero
compañía
completamente
completo
comprar
comprender
comprobar
con
concierto
concurrido
concurso
conducir
conductor
conejo
conjunto
conocer
construir
consulta
contar
contener
contento
contestar
contra
contrario (al-)
copa
corazón
corbata
cordero
Correos, (oficina de-)
correr
correspondiente
corrida de toros
cortar
cortina
corto
cosa
costa
costar
costumbre

creer
crema
cristal
cruce
crucigrama
cruzar
cuaderno
cuadro
cuál
cuando
cuándo?
cuánto?
cuarto (-de baño, de estar)
cuarto de hora
cubo (-de la basura)
cuchara
cucharada
cuchillo
cuello
cuenta
cuento
cuero
cuerpo
cueva
cuidado (con-)
cultivar
cumpleaños (feliz-)
cura
curso

chalet
chaqueta
charlar
cheque
cheque de viajero
chico, a
chimenea
chocar (con)
chocolate
chófer
chorizo
chuleta
churros

dar
dar las gracias
dar un paseo
dar una vuelta
de
¿de dónde?
debajo de
deber
débil
decidir
decir
dedo
dejar
delante(de)
delgado
demasiado
dentista
dentro de (8 días)
departamento
depender
dependiente
deporte(s) (-de invierno)
derecha, (a la-)
desagradable
desayunar
desayuno
descansar
describir
descubrir
desde
desear
desgraciadamente
despacho (-de billetes)
despacio
despedirse (de)
despertarse
después (de)
destino, con – a
desván
detrás (de)
devolver
día (al-, -festivo, laborable)
diario
dibujar
dibjuo
dibujos animados
diciembre
diente
diferencia
diferente
difícil
dificultad
dígame
dinero
Dios
dirección
director
disco (-compacto)
discoteca
distancia
distinto
distracción
divertido
divertirse
doble
docena (de)
doctor
documental
dolor
dolor (-de cabeza)
domingo (-de Resurrección)
donde
¿dónde?
dormir(se)
dormitorio
droga
ducha
dueño
dulce
durante
durar
duro

e
echar (-una carta al buzón)
edad
edificio
educación (-física)
ejemplo
ejercicio
el, la, los, las
electricidad
eléctrico
embotellamiento
emocionante
empezar (a)
empleado (-de banco, de oficina)
empleo
empresa
encantado
encantar
encargado
encender
encima(de)
encontrar(se)
enero
enfadado
enfermero, a
enfermo
enfrente(de)
enhorabuena
ensalada (-mixta)
enseñar
entender
entonces
entrada (-gratis)
entrar
entre
entregar
entremeses
entrevista
enviar
envolver
época
equipaje (-de mano)
equipo
equitación
equivocarse
escalera
escaparate
escocés
Escocia
escoger
escribir(se)
escritorio
escuchar
escuela
ese
eso (a – de, por-)
espalda
España
español
esparadrapo
espectáculo
espectador
espejo
esperar
espeso
esposo, a
esquí (-acuático)
esquina

estación (-de autobuses, del ferrocarril, RENFE, de servicio, del año)
estadio
Estados Unidos
estanco
estar
estar bien
estar libre
estar mal
estar muerto
estar preocupado
estar seguro
estar sentado
este (= East)
este
estéreo
esto
estómago
estrecho
estrella (de dos estrellas) (-del cine)
estudiante
estudiar
estudio
estupendo
Europa
europeo
exactamente
exacto
examen
examinar
excelente
excursión
existir
explicar
expreso
extranjero
extraño
extraordinario

fábrica
fácil
falda
falso
faltar
familia
famoso
farmacéutico
farmacia
fatal
favor (por-, hacer el – de)
favorito
febrero
fecha (-de nacimiento)
Felices Pascuas
felicidades
felicitar
feliz
feo
fiesta
fila
fin (por-)
fin de semana
final (al – de)
finca
a fines de
firma
firmar
física
flan
flauta
flojo
flor (-silvestre)
folleto
formulario
foto
francés (franco-)
Francia
fregar (-los platos)
frente
fresa
fresco
frigo (rífico)
frío
fruta
frutería
fuego
fuente
fuera(de)
fuerte
fumador
fumar
funcionar
fútbol

gafas
Gales
galés
galleta
gallina
gambas
ganar
garaje
garganta
gas (con -, sin-)
gaseosa
gas – oil
gasolina
gastar
gato
gazpacho
generalmente
gente
geografía
gerente
gimnasia
golpe
gordo
gota
gracias
gramo
grande
granja
granjero
gratis
gratuito
grave
Grecia
griego
gripe
gris
gritar
grueso
grupo
guante
guapo
guardar (-cama)
guardia (-civil)
guerra
guía (-telefónica)
guisantes
guitarra
gustar

habas
haber
habitación (-doble, individual)
habitante
hablar
hace (15) días
hace bueno (buen tiempo)
hace calor
hace fresco
hace frío
hace malo (mal tiempo)
hace sol
hace viento
hacer
hacer los deberes (las compras)
hacer una pregunta
hacer una visita (una excursión)
hacerse (médico)
hacia
hallar(se)
hamburguesa
hámster
hasta (-luego)
hay
hay que
helado
herido
hermano, a
hermoso
hielo
hierba
hijo, a (- único, a)
historia
histórico
hoja (-de papel)
hola
hombre (-de negocios)
hora
horario
hospital
hotel
hoy
huevo
húmedo
humo

idioma
iglesia
igual
impermeable

importante
imposible
incendio
incluido
indicar
industria
información
informática
ingeniero
Inglaterra
inglés
inmediatamente
insolación
instituto
instrumento
inteligente
intentar
interés
interesante
interesar
interno
invierno
invitado
invitar (a)
ir
ir a (+ infinitive) (-buscar)
ir(se) (de paseo, de vacaciones)
Irlanda (del Norte)
irlandés
isla
Italia
italiano
izquierda, (a la-)

jabón
jamón (-de York)
jarabe
jardín
jefe
jersey
joven
judías (-verdes)
juego
jueves
jugar(a)
juguete
julio
junio
junto a
junto(s)

kilo
kilómetro

lado, (al – de)
ladrón
lago
lámpara
lana
largo
lástima (qué-)
lata
lavabo
lavadora
lavaplatos
lavar(se)
lección
leche
lechuga
leer
legumbres
lejano
lejos (de)
lento
lentamente
levantar(se)
libra (esterlina)
libre
librería
libro
ligero
limón
limonada
limpiar
limpio
lista (-de vinos)
listo
litro
localildad
lograr
Londres
luego
lugar
luna
lunes
luz (-eléctrica)

llamada
llamar (se) (-a un médico, por teléfono)
llave
llegada
llegar (-con retraso)
llenar (llénelo)
lleno
llevar (-ropa, al hospital)
llorar
llover
lluvia

madera
madre
maestro (a)
magnetofón
mal
maleta
malo
mamá
mandar
mano
manta
mantel
mantequilla
manzana
mañana
mapa
máquina (fotográfica)
mar
maravilloso
marca
marcar (un gol, un número)
marchar(se)
mareado
marido
marinero
mariscos
marrón
martes
marzo
más (-o menos)
matador
matar
matemáticas
matrimonio
máximo
mayo
mayor (persona-)
mayoría
mecánico
a mediados de
medianoche
medias
medicina
médico
medio (-kilo, litro) (media hora)
mediodía
mediterráneo
Méjico
mejicano
mejor
melocotón
melón
menor (persona-)
menos
menú
mercado
merendar
merienda (-en el campo)
mermelada
mes
mesa
meter
metro
mi, mí
miembro
mientras
miércoles
mínimo
minuto
mío
mirar
mismo
mitad
moda
moderno
modo
mojar(se)
molestar(se)
momento
moneda
monedero
montaña
montar (-a caballo, en bicicleta)
monumento
moreno

morir
mostrador
mostrar
moto(cicleta)
motor
mover(se)
mozo
muchacho, a
muchas (-gracias, veces)
mucho (-gusto)
muebles
muela
muerto
mujer (-de negocios)
mundo
muñeca
muro
museo
música (-clásica, pop, fuerte)
muy

nacer
nacionalidad
nada (de-)
nadar
nadie
naranja
naranjada
nariz
nata
natación
naturalmente
Navidad(es)
necesario
necesitar
negociante
negocios
negro
neumático
nevar
nevera
ni ... ni
niebla
nieve
nilón
ninguno
niño
nivel
no
noche
Nochebuena
Nochevieja
nombre
normal
normalmente
norte
norteamericano
nota
noticias
novela
noviembre
novio, a
nube
nuestro
nuevo
número
nunca

o
obligatorio
obra(s)
obrero
obtener
ocasión
ocio
octubre
ocupado
ocurrir
oeste
oficina (-de correos, de turismo)
oficio
ofrecer
oiga Vd (oye)
oír(se)
ojo
olor
olvidar (olvidarse de)
opinión
ordenador
oreja
orilla
a orillas de
oro
orquesta
oscuro
otoño
otro
oveja

padre(s)
paella
pagar(por)
página
país
paisaje
pájaro
palabra
palacio
pan (-tostado)
panadería
panecillo
pantalón(es)
pañuelo
papá
papel(es)
papelera
papelería
paquete (-de almuerzo)
par (un – de)
para
parabrisas
parada (-de autobús)
paraguas
parar(se)
parecer
parecido
pared
pariente
parque (-de atracciones, de bomberos)
parte (en-, de – de)
partido
partir (a – de)
pasado (el año-)
pasajero
pasaporte
pasar
pasarlo bien
pasatiempo
pasearse
paseo
pasillo
paso
pasta de dientes
pastel
pastelería
pastilla
patatas (-fritas)
patinaje
patinar
patio
pato
peatón
pedazo
pedir (- hora)
pegar
peinarse
peine
película(-de aventuras, de miedo, de ciencia – ficción, del oeste, de amor, policíaca)
peligro
peligroso
pelo
peluquería
pena (vale la- , es una-)
penique
pensar
pensión (media-, -completa)
peor
pequeño
pera
perder(se)
perdón
perdonar
perezoso
perfectamente
perfume
periódico
periodista
permiso (-de conducir)
permitir
pero
perrito caliente
perro
pesado
pesar
pesca (ir de-)
pescadería
pescado
peseta(s)
pez
piano
pie (estar de-, ir a-)

piedra
piel
pierna
pimienta
pintar
pintoresco
piragüismo
piscina
piso (-amueblado, bajo, primer-)
pizarra
plano
planta (-baja)
plástico
plata
plátano
plato
playa
plaza (-de toros)
pobre
poco (un – de)
poder
policía
polideportivo
pollo
pomada
poner (-la mesa)
ponerse la ropa
popular
por
por qué
porque
portero
Portugal
portugués
posible
postal
postre
practicar
prado
precio
preferir
preguntar
premio
preocupado
preparar
primavera
primero
primo, a
principal
principio (al-)
a principios de
probable
probar
problema
procedente de
profesor
profundo
programa
prohibir
prohibido
prometer
pronto (de-)
propietario
propina
propio
provincia
próximo (el año-)
publicidad
pudín
pueblo
puente
puerta
puerto
puesto
pulsera
puro

que
¡que aproveche!
¿qué?
¿qué hay?
¿a qué hora?
¿qué hora es?
¿qué tal?
quedar(se)
quehaceres
quemar(se)
querer
querido
queso
quien
¿quién?
química
quince días
quisoco
quitar (-la mesa)
quitarse la ropa
quizá(s)

ración
radiador
radio
rápido
rápidamente
raramente
rato
ratón
ratos libres
real
recado
recepción
recepcionista
recibir
recibo
recientemente
recoger
recomendar
recordar
recreo
recuerdo(s)
redondo
refresco
regalo
región
regresar
Reino Unido
reír(se)
reloj (-de pulsera)
rellenar
remedio
RENFE
repente (de-)
repetir
reservación
reservar
resfriado
responder
respuesta
restaurante
resultado(s)
retraso (con-)
reunión
reunirse
revisor
revista
rico
rincón
río
robar
rodilla
rogar
rojo
romper
ropa
rosa
roto
rubio
ruido
ruidoso

sábado
sábana
saber
sacar (una foto, una muela, entradas, buenas notas)
saco de dormir
sal
sala (-de espera, de estar, de fiestas)
salchicha
salida
salir (-bien)
salón
saltar
salud
saludar
saludo(s)
salvaje
sangre
sangría
sano
sarampión
sardina
sección (-de discos)
seco
secretario, a
seda
seguida (en-)
seguir
segundo
seguro
sello
semáforo
semana
Semana Santa

sencillo
sentado
sentarse
sentido
sentir (lo siento)
sentirse (-bien, mal, mejor, peor)
señal
señas
señor (a)
señorita
ser
servicio(s)
sesión
setiembre
si
sí
siempre
sierra
siesta
siglo
significar
siguiente (al día-)
¡silencio!
silla
sillón
simpático
sin (-embargo, empleo, plomo)
sitio
situado
sobre
sofá
sol
solamente
soldado
solo
sólo
sombra (a la-)
sombrero
sopa
sorprender
sorpresa
su
subir
sucio
sueldo
suelo
suerte (buena-)
sufrir
Suiza
suizo
súper
supermercado
sur
suyo

tabaco
taberna
tal (-vez)
Talgo
talla
tamaño
también
tan
tanto
tapa
taquilla
tarde
tarifa
tarjeta (-postal, de crédito)
tarta (-de manzana)
taxi
taza
té
teatro
tebeo
tecnología
techo
tejado
telediario
telefonear
teléfono
telenovela
televisión
temperatura
temprano
tendero
tenedor
tener
tener calor
tener dolor de
tener fiebre
tener frío
tener hambre
tener la intención de
tener prisa
tener razón
tener sed
tener suerte
tener (15) años
tenis (-de mesa)
tercero
terminar(de)
ternera
terraza
terreno
tiempo (mucho-)
tienda (-de comestibles, de recuerdos)
tierra
tío, a,
típico
tirar
tiza
toalla
tocadiscos
tocar
todavía
todo (-recto, seguido, el mundo) (todos los días)
tomar (-una bebida, el desayuno, el sol)
tomate
tonto
torcer
torero
tormenta
toro
torre
torta
tortilla (-española)
tos
tostada
total (en-)
trabajar
traer
tráfico
traje (-de baño)
tranquilo
tratar(de)
tren
trimestre
triste
trozo
turista
tuyo

u
último
un, una, (os, as)
único (hijo-)
uniforme
universidad
urgente
usar
útil
uva

vaca
vacaciones
vacío
vajilla
vale
valle
vaqueros
varios
vaso
vecino
vela
velocidad
venda
vendedor
vender
venir
ventana
ventanilla
ver (-la televisión)
veraneante
verano
verdad
verdadero
verde
verduras
verdulería
vestido
vestirse
vez (otra-, de – en cuando)
vía
viajar
viaje
viajero
vida
vidrio
viejo
viento
viernes (el Viernes Santo)

vino (-blanco, tinto)
violín
visitar
vista
vivienda
vivir
volar
volver
voz
vuelo
vuestro

wáter
windsurf

y
ya
yogur
zanahoria
zapatería
zapatos (-de deporte)
zona (-industrial)
zumo (-de fruta, de naranja)

16 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

Candidates identify and note main points and extract some details from simple language spoken clearly at near normal speed.

Candidates take part in simple transactions and conversations showing some ability to substitute words and phrases. Their pronunciation is intelligible, and although there are grammatical inaccuracies, the main points of the message are communicated.

Candidates identify main points and extract some information from short, simple texts, both printed and hand written. They use a bi-lingual dictionary or glossary to find out the meaning of unfamiliar words.

Candidates write short sentences, and respond to written texts by substituting words and set phrases. Although there will be mistakes in spelling and grammar, the main points of the message are communicated.

Grade C

Candidates identify and note main points and extract details and points of view from language spoken at normal speed. The spoken texts include narratives and future events. They are drawn from a variety of topics which include familiar language in unfamiliar contexts.

Candidates undertake transactions and develop conversations which include past, present and future events. They express personal opinions and show an ability to deal with some unpredictable elements. Although there are some errors, they convey a clear message, and their pronunciation and intonation are generally accurate.

Candidates identify and extract details and points of view from printed and hand written texts, authentic and simulated, drawn from a variety of topics and which include past, present and future events. They use bi-lingual dictionaries or glossaries to understand unfamiliar language.

Candidates express personal opinions and write about a variety of topics, including past, present and future events. They write simple formal letters or personal letters. The style is basic but despite errors the writing conveys a clear message.

Grade A

Candidates understand gist and identify main points and detail in a variety of types of authentic spoken language. They recognise points of view, attitudes and emotions and are able to draw conclusions.

Candidates initiate and carry through transactions, take part in conversations and narrate events. They express and justify ideas and points of view, and produce longer sequences of speech using a variety of vocabulary, structures and time references. They speak confidently, with good pronunciation and intonation. The message is clear although there may still be some errors, especially when candidates use more complex structures.

Candidates understand gist and identify main points and detail in a variety of types of authentic texts. They recognise points of view, attitudes and emotions and are able to draw conclusions. They select and make appropriate use of reference materials.

Candidates give factual information, narrate events and express and justify ideas and points of view. They produce longer sequences using a range of vocabulary, structure and time references. Their spelling and grammar are generally accurate, and the style is appropriate to the purpose.

APPENDIX
EXTRACT FROM NORTHERN IRELAND PROGRAMME OF STUDY

General Skills and Cultural Awareness

Developing Personal and Social Skills

Pupils should have opportunities, through the communicative process, to enhance their self-esteem by enjoying success and to develop positive attitudes to others. Such attitudes should include tolerance, empathy and appreciation of the talents and contributions of other people. Concentration and perseverance should be encouraged among pupils. These attitudes and qualities may be promoted by:

a working independently and collaborating in pairs and small groups;

b working on whole class activities;

c undertaking tasks in co-operation with the teacher or with another adult such as a language assistant or visitor;

d conducting or taking part in interviews, surveys or investigations;

e developing the skills of self-expression and presentation;

f taking part in decision-making;

g acknowledging their own contribution and that of peers.

Developing Language Learning Skills

Pupils should have opportunities to acquire, develop, and apply through the language learning processes, skills which include:

a memorising sounds, words and structures;

b note-taking;

c dealing with information;

d drawing conclusions and making inferences;

e predicting meaning from context;

f using resources independently;

g developing an awareness of sounds and language patterns;

h reading for a purpose;

i managing their own learning;

j solving problems;

k listening attentively;

l redrafting writing to improve accuracy and presentation.

Developing Cultural Awareness

Pupils should have opportunities to develop an awareness, understanding and appreciation of the culture of the country or community of the target language. They should have opportunities to develop a sense of European identity and to appreciate the diversity of European cultures and societies. By identifying similarities and acknowledging differences between cultures, they may learn to view their own culture more objectively. Pupils should have opportunities to:

- use authentic materials, for example, *magazines and videos*;
- meet native speakers of the target language, for example, *language assistants or visitors*;
- participate in correspondence and, where appropriate, visits to and exchange schemes with the country or community of the target language;
- experience or learn about the customs and traditions of the country or community of the target language through song, dance and the celebration of festivals.

Language Skills and Contexts for Learning

Language Skills

Throughout the programmes of study, pupils should be exposed to the target language and have frequent opportunities to use it. As a consequence, when responding to questions in a spoken or written form, pupils should use the target language except where a response in their first language is a necessary part of the task, for example, *in an interpreting exercise.*

Pupils should take part in activities which:

- combine two or more of the four language skills (listening, speaking, reading, writing) where appropriate;
- enable them to use the target language for real purposes;
- help them to acquire and use the target language to communicate with each other, their teacher and other speakers of the language;
- cultivate informed attitudes towards other people's lifestyles, social conventions, beliefs, opinions and ideas.

Pupils should have opportunities to develop language learning skills and awareness of language through the following activities:

- practising pronunciation and intonation;
- recognising how sounds are represented in writing;
- practising and internalising structures and vocabulary;
- developing awareness of different conventions and styles of language.

In order to develop and reinforce linguistic skills and to manipulate the target language, pupils should be taught to:

a listen for comprehension of general meaning and detail;

b listen for pleasure;

c seek and give information;

d ask about meanings and seek clarification or repetition;

e express preferences and reactions;

f take part in short exchanges and conversations;

g participate in imaginative and creative activities, for example, *drama, poetry and song*;

h follow instructions, for example, *when making and drawing*;

i read printed or handwritten texts for comprehension of general meaning and detail;

j read for information and for pleasure;

k use a range of reference materials and resources to aid comprehension and communication;

l select and copy;

m produce short pieces of continuous writing;

n write for pleasure;

o write formal and informal letters;

p interpret the meaning of language with the help of visual and other non-verbal clues;

q respond to different types of aural, visual and textual sources.

As they progress through the levels of attainment, teaching should enable pupils to engage in activities involving the higher order skills of:

r initiating and sustaining conversations;

s responding to unprepared situations;

t expressing feelings, opinions and ideas;

u discussing issues and making comparisons;

v adjusting language to suit context, audience and purpose;

w taking notes and reporting orally or in writing.

TECHNOLOGY (Product and Systems Design)

Candidates in this examination will be assessed in the accurate use of spelling, punctuation and grammar. Details regarding the criteria, and the components of the examination to which the criteria will be applied, will be issued annually.

1 INTRODUCTION

1.1 Technology is principally concerned with design and problem-solving processes involving the application of scientific principles and natural phenomena, and leading to the making, modelling and evaluation of an artefact or system. Technology is also concerned with the management of the environment, and familiarity with materials, energy and control.

1.2 The syllabus has been written to reflect the above principles by:

(i) requiring candidates in their coursework to present a technological project consisting of the design, implementation, and the evaluation of an artefact or system;

(ii) presenting the content in the form of a common core (the nature, process and impact of technology; materials; energy; control) and five modules.

All candidates will be expected to cover the common core together with the minimum requirement of two modules.

1.3 The syllabus incorporates a differentiated scheme of assessment based on two written papers and coursework. Paper 1 and coursework will be common to all candidates and will attract an award on the limited grade range C–G inclusive. Paper 2 will be an optional extension paper designed for candidates wishing to be considered for an award on the full range of grades A*–G.

1.4 The scheme of assessment is intended to discriminate across the full range of grades A*–G. Differentiation will be achieved by:

(i) allowing candidates to demonstrate different standards of attainment in coursework;

(ii) using differentiated papers.

1.5 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

2 AIMS

The aims set out below describe the educational purposes in following a course in Technology suitable to candidates of both sexes of the ability range appropriate to the GCSE examination. Some of these aims are reflected in assessment objectives; others are not because they cannot readily be translated into measurable objectives.

The aims of the syllabus are to develop:

2.1 an understanding of the technological process and apply this in the solving of technological problems;

2.2 the acquisition and understanding of a body of knowledge appropriate to the solving of technological problems;

2.3 a range of communication skills which are central to the technological process, including oral, written, graphic and model forms;

2.4 a range of production, assembly and constructional skills appropriate to the realisation of an artefact or system;

2.5 the ability to exercise value judgements of an aesthetic, technical, economic and moral nature;

2.6 a general awareness of technology,

to encourage

2.7 interest in and enjoyment of the study of technology;

2.8 pupils to relate the demands of their work to their personal interests and abilities and to available resources;

2.9 curiosity, enquiry, initiative, inventiveness, ingenuity, resourcefulness and discrimination;

2.10 discussion on the nature and role of technology;

2.11 the ability to co-operate with others in the solving of technological problems;

2.12 that sense of social responsibility necessary to enhance the quality of the environment.

3 ASSESSMENT OBJECTIVES

The assessment objectives listed below reflect those aspects of the educational aims as appear to be measurable.

Candidates should be able to:

3.1 describe and apply those facts, principles and concepts related to the design of an artefact or system;

3.2 demonstrate a range of communication skills necessary to give, in a clear and appropriate form, information about an artefact or system;

3.3 identify problems which can be solved through the technological process;

3.4 analyse problems of a technological nature which they have identified or which have been posed by others, and produce appropriate specifications;

3.5 identify the resources needed to solve a technological problem;

3.6 identify the constraints imposed by the availability of knowledge, resources and/or external factors which will influence the nature of proposed solutions to technological problems;

3.7 identify possible sources of information, collect, compile and assess if information is relevant to the solving of technological problems;

3.8 produce and/or interpret data from, for example, diagrams, charts, graphs, tables, measuring instruments;

3.9 generate and record ideas as potential solutions to a technological problem;

3.10 evaluate potential solutions to a technological problem against the original specification;

3.11 select and develop a solution to a technological problem taking into consideration the effects of time, cost, skill and availability of resources;

3.12 plan the implementation of the selected solution to a technological problem;

3.13 implement the selected solution to a technological problem;

3.14 propose or make modifications to a product or system both during implementation of the solution and after completion and evaluation;

3.15 compare and evaluate the performance of an artefact or system against its original specifications;

3.16 satisfy all mandatory and other necessary safety requirements during the designing, planning and realisation of an artefact or system;

3.17 describe some of the major technological developments and comment on the inter-relationship between technology, the economy, society and the environment.

4 CLASSIFICATION OF ASSESSMENT OBJECTIVES

4.1 The assessment objectives are classified into one of three broad categories: (Figures in brackets give the approximate percentage weighting of each for the total scheme of assessment).

(i) design skills (40%)

(ii) subject-related skills (35%)

(iii) knowledge (25%)

4.2 The classification of the assessment objectives in relation to the above categories is given in Table 4.2.

Table 4.2

Assessment Objectives	Design Skills	Subject-related Skills	Knowledge
3.1	X	X	X
3.2		X	
3.3	X		
3.4	X	X	X
3.5	X	X	X
3.6	X	X	X
3.7	X	X	
3.8		X	
3.9	X		
3.10	X		X
3.11	X	X	X
3.12	X	X	
3.13		X	
3.14	X	X	X
3.15	X	X	X
3.16	X	X	X
3.17			X

5 SCHEME OF ASSESSMENT

5.1 The differentiated scheme of assessment will consist of two written papers and coursework. Paper 1 and coursework may be termed the common component and are compulsory for all candidates. Paper 2 will be an optional extension paper.

Candidates taking the common component only will be considered for an award on the limited grade range C–G inclusive.

Candidates wishing to be considered for an award on the full range of grades must take the optional extension paper, Paper 2, in addition to the common component.

5.2 The common component, Paper 1 and coursework, will cover all the assessment objectives and will sample the whole range of the syllabus content. The standard of the papers will be such as to give all candidates the opportunity to show what they know, understand and can do.

5.3 Paper 2 will cover the modules section of the content. It will be more difficult than Paper 1. The questions will be more searching, placing a greater emphasis on the higher skills; application, analysis and evaluation.

5.4 Relationship between assessment objectives and examination components.

The following tables show the *approximate* weighting relationships between the grouped assessment objectives and the examination components.

Common Component (Paper 1 and coursework)

	Design	Subject-Related	Knowledge	
Paper 1	10	20	25	55
Coursework	30	15	0*	45
	40	35	25	100

* The 0% for knowledge does not imply that no knowledge is required for the completion of a successful project. It is expected that the candidate's project will show evidence of substantial knowledge drawn from both the CORE and the chosen MODULES together with additional knowledge gained as the project demands. It is however difficult to measure the depth of the candidate's own knowledge through the medium of project work.

Common Component and Optional Extension

For candidates taking the common component and optional extension paper the allocation of marks will be as follows:

Coursework: 45%, Paper 1: 35%, Paper 2: 20%.

Within Paper 2 equal weighting will be given to the assessment of subject-related skills and knowledge.

5.5 All candidates will be considered for an award in the range C–G in accordance with their standard of performance on the common component. Those candidates entered for the optional extension paper will in addition be considered for an award in the range A*–C. Candidates failing to achieve an award in the range A*–C will receive the grade awarded from the common component.

5.6 **Examination Components**

The components of the scheme of assessment will be as follows:

PAPER 1 (2 hours)

This paper will be designed to assess the CORE and the modules section of the syllabus and will consist of THREE sections:

Section A

Compulsory short-answer questions to test:

(a) the candidate's general understanding of the nature of technology and the technological process;

(b) the candidate's general understanding and knowledge of Materials, Energy and Control;

(c) the candidate's knowledge of some of the major technological developments and their social, economic and environmental effects.

(d) the candidate's technological comprehension of a particular issue.

Section B

A compulsory, structured question to test the candidate's ability to solve a problem through the technological process.

Section C

This section will assess the modules section of the subject content. One multi-part question will be set on each of the five modules. Candidates will be expected to answer any two questions.

Candidates will be advised to spend 30 minutes on Section A, 30 minutes on Section B and 1 hour on Section C.

Paper 2 (1 hour)

This paper will assess the modules section of the subject content. One multi-part question will be set on each of the five modules. Candidates will be expected to answer any two questions.

Coursework

The syllabus is accompanied by a memorandum containing full details and guidelines for teachers in the marking of projects. It is essential that teachers study this memorandum before commencing assessment.

Candidates must undertake a major technological project consisting of the design, implementation and evaluation of an artefact or system.

The project topic is left to the candidate, but it is expected that this will be a problem-solving project rather than an investigative one.

The project will be internally assessed by the candidate's teacher and externally moderated by the Council.

The completed project should consist of all associated design work presented in the form of a folio, together with the associated hardware, software or models as the project dictates. The completed project should reflect evidence of the candidate's full involvement in the complete technological process.

6 SYLLABUS CONTENT

6.1 **Introduction**

The syllabus content consists of the COMMON CORE together with five MODULES.

The course content is such that candidates can cover the common core together with the minimum requirement of **two** modules.

6.1.1 *Units and Background Knowledge in Mathematics and Science*

Candidates taking the GCSE Technology examination will be expected to be familiar with the following mathematical and scientific requirements. Other units in common use may be included in the examination papers but candidates will not be required to convert between such units or from such units to SI units.

(a) SI UNITS

Base Units	Symbol	Derived Units	Symbol
metre	m	hertz	Hz
kilogram	kg	newton	N
second	s	joule	J
ampere	A	watt	W
kelvin	K	volt	V
		ohm	Ω
		pascal	Pa

(b) NON-SI UNITS

Unit	Symbol
degree celsius, degree centigradent	°C
newtons per square millimetre	N/mm^2

(c) PREFIXES FOR SI UNITS

Sub-multiple	Prefix	Symbol	Multiple	Prefix	Symbol
10^{-2}	centi	c	10^{3}	kilo	k
10^{-3}	milli	m	10^{6}	mega	M
10^{-6}	micro	μ	10^{9}	giga	G
10^{-9}	nano	n			
10^{-12}	pico	p			

(d) MATHEMATICS

(i) Carry out simple calculations using the four basic processes—addition, subtraction, multiplication and division.

(ii) Apply the four basic processes to calculations involving fractions and decimal fractions.

(iii) Use formulae and transpose formulae.

(iv) Use ratios and percentages.

(v) Use indices and be able to manipulate large and small numbers and use approximations.

(vi) Interpret and draw graphs.

6.1.2 The main sections of the COMMON CORE are:

(a) The Nature of Technology.

(b) The Process of Technology.

(c) The Impact of Technology.

(d) Materials.

(e) Energy.

(f) Control.

The five MODULES are:

1. Computing and Control.
2. Electronics.
3. Fluid Power.
4. Materials and Structures.
5. Mechanisms.

Details on the core and each of the modules are as follows:

6.2 Common Core

The Common Core is intended as a general introduction to the nature of technology. While the general content of the Core syllabus has been laid down, specific details and examples have intentionally been omitted. It is expected that, through examples chosen by the teacher or pupil, the meaning of technology, an outline of its relationship with man, and some of its major developments might be brought to light and commented upon. Candidates will be given the opportunity to cite their own examples within particular Core areas and comment upon these.

6.2.1 *The Nature of Technology*

With the aid of suitable examples show an understanding of how technology satisfies human needs, including the need to solve problems, the need for efficiency and the needs of society.

6.2.2 *The Process of Technology*

Demonstrate an understanding of the stages in the technological process, ie identification and analysis of the problem, investigation and research, generation of solutions, implementation, and testing and evaluating.

6.2.3 *The Impact of Technology*

Name some of the major technological developments which have taken place in relation to agriculture, energy, manufacturing, transportation and information transfer and give brief comments on their effects.

Explain changes in standards of health, welfare, lifestyle, leisure, industry and commerce brought about through developments in technology.

6.2.4 *Materials*

Recognise common materials in use and account for choice of particular materials, eg electrical conductivity of copper in circuits.

Choose the most suitable material for a particular purpose with regard to cost, strength, weight, mechanical properties, physical properties, corrosion and degradation in service and environmental considerations.

Have an understanding of the term recycling of materials with reference to particular examples which are of economic importance and to the conservation of resources.

Identify and display a knowledge of the basic joining techniques which are used to join wood, metal and plastic materials.

6.2.5 *Energy*

Explain the nature of and methods of harnessing the following forms of energy—fossil fuel, nuclear, solar, wind, wave, hydro, tidal and geo-thermal.

Compare the above forms of energy in terms of efficiency, storage, transmission and conversion.

Give a few examples of ways in which energy forms can be converted by the use of machines into other useful forms.

6.2.6 *Control*

Outline with reference to everyday examples the meaning of the following control terms: manual, automatic, open-loop, closed-loop, on-off, continuous.

6.3 Module 1—Computing and Control

6.3.1 *Safety*

Describe the dangers associated with control equipment and its construction. State simple safety precautions.

6.3.2 *Control System Characteristics*

Compare and contrast with the aid of block diagrams and with reference to everyday examples the following:–

(i) manual control and automatic control;
(ii) open-loop control and closed-loop control
(iii) on-off control and continuous control.

Explain and analyse what is meant by the terms "positive feed-back" and "negative feed-back" in closed-loop systems.

6.3.3 *Computer Control Systems*

Explain the advantages and limitations offered by a computer control system compared with other control systems.

Sketch and describe a typical arrangement where a computer is used as a control device.

Draw a block diagram to illustrate a typical lay-out of a computer control system.

Explain what is meant by the terms ADDRESS, REGISTER, BIT, BYTE, ROM, PROM and EPROM, RAM, SERIAL AND PARALLEL INPUT/OUTPUT PORT.

6.3.4 *Number Systems*

Describe the binary, decimal and hexadecimal number systems and convert from one to another.

Outline how a microcomputer stores information.

6.3.5 *Analogue and Digital*

Explain the terms LOGIC 0 and LOGIC 1.

Outline the difference between analogue and digital signals.

6.3.6 *Computer Input*

Describe the nature of electrical signals which may be input to a typical microcomputer.

Outline the difference between a switch and a sensor.

Sketch and describe how a manual switch may be used to provide a logic 0 or logic 1 input to a microcomputer.

Describe the use of pull-up and pull-down resistors in switching circuits.

Construct circuits using a range of mechanical switches to provide digital inputs to a microcomputer, eg micro-switch.

Outline in simple terms, the function of an analogue to digital converter.

Describe how a sensor may be used in conjunction with a Schmitt trigger or potential divider/transistor circuit to provide a digital input to a microcomputer.

Construct simple circuits using the light dependent resistor (LDR) and thermistor in conjunction with other components to provide analogue or digital input.

6.3.7 *Computer Output*

Describe the nature of signals which may be output from the user port of a microcomputer.

Describe how a microcomputer may be used to switch other logic devices.

Explain the use of an opto-isolator as a means of providing electrical isolation of external circuitry.

Construct simple circuits to drive a light emitting diode (LED) using an inverter or other logic device.

Outline the need for driver circuits incorporating the transistor and/or relay.

Sketch and describe simple driver circuits that may be used to switch warning devices or indicators, eg a lamp, bell or buzzer.

Sketch and describe simple driver circuits which may be used to switch actuators, eg d.c. motor, a.c. motor, stepper motor.

Outline in simple terms, the function of a digital to analogue converter.

Outline how a microcomputer might be used to provide an analogue signal through the user port via a digital to analogue converter.

6.3.8 *Programming for Control*

Draw up a flow-chart for a simple control program.

Devise and document simple programs in BASIC to read information from switches or sensors.

Devise and document simple programs in BASIC to switch external indicators, warning devices and actuators.

Devise and document simple programs in BASIC to count pulses from a switch or sensor and to switch an output device when a particular count is reached.

Devise and document simple programs in BASIC to provide a number of time delays.

Devise and document control programs in BASIC to receive information from sensors and switches and to switch external lamps, warning devices and actuators according to the information received.

Compare the use of BASIC and machine code in devising control programs. (Programming in machine code is not expected).

6.3.9 *Practical Activities*

Plan and draw simple interface circuits and construct these on breadboard, stripboard and printed circuit board.

Identify simple control problems, construct appropriate circuitry and devise suitable programs to solve these problems.

6.4 Module 2—Electronics

6.4.1 *Safety*

Describe the dangers associated with electronic equipment and its construction.

State simple safety precautions.

6.4.2 *Systems Design*

Give examples of simple electronic and non-electronic systems and analyse these in terms of sub-systems.

Design systems to meet specified design problems.

6.4.3 *Analogue and Digital*

Explain the terms ANALOGUE and DIGITAL and give examples of each.

6.4.4 *Electronic sub-systems*

Demonstrate a knowledge of the following sub-systems (building blocks or modules)

Input sub-systems: switch unit, light sensing unit, temperature sensing unit and pulse generator.

Processing sub-systems: Logic Gates (AND, OR, NOT, NAND, NOR, EXOR), flip-flop, inverting amplifier, comparator, transistor switch and binary counter.

Output sub-systems: LED indicator unit, relay unit, bulb unit, motor unit, solenoid unit, buzzer unit and loudspeaker unit.

Candidates will be expected to have a knowledge of the FUNCTION of each of the above sub-systems sufficient for them to design required systems and interpret block diagrams of systems.

6.4.5 *Electronic components and their use in circuits*

Note: Candidates should consider these primarily in terms of the way in which they are used in the sub-systems of 6.4.4.

State and use Ohm's law.

Describe and use the potential divider and perform simple calculations based on it.

Be familiar with the use of the Colour Code and Preferred Values.

Outline the principle that capacitors may store charge and energy.

Explain how capacitors may be used in simple applications such as storing charge, blocking d.c. and passing a.c.

Explain how capacitors may be used to produce a time delay and calculate the time constant.

Draw and interpret voltage–time graphs for charging and discharging capacitors.

Recognise the use of switches in simple circuits.

Describe the use of relays in typical circuits.

Sketch an ideal characteristic for a silicon diode with a turn on voltage of 0.7V.

Outline the principle that a diode conducts current in one direction only.

Describe the use of diodes in switching inductive loads and other simple applications.

Outline the principle that a Light Emitting Diode emits light when a forward current flows.

Calculate the value and power rating of the series resistance.

Recognise the application of the LED in practical circuits.

Outline the principle that a Light Dependent Resistor has a very high resistance in the dark and that the resistance decreases as the illumination increases.

Recognise the application of the LDR in practical circuits.

Outline the principle that the resistance of a thermistor decreases with increase in temperature.

Recognise the application of the thermistor in practical circuits.

Explain the operation of the transistor as a switch.

Recognise the use of the transistor in conjunction with other components in switching circuits and explain their operation.

Describe the use of the 741 operational amplifier as an ideal inverting amplifier, and comparator.

Calculate closed-loop gain, resistor values, input and output voltages and currents for the above applications.

State (but not derive) relevant equations.

Explain the terms LOGIC 0 and LOGIC 1. (Positive logic used throughout this module).

Explain the functions AND, OR, EXOR, NOT, NAND and NOR, and construct truth tables.

Recognise and draw the international symbols for the above gates.

Show how switches can be used to form AND gates and OR gates.

Describe and draw a circuit for producing a flip-flop from two cross-coupled NAND gates.

Explain the operation of the flip-flop as a memory device.

The pulse generator. Describe the operation of a clock based on an astable multivibrator produced from a 555 timer.

Calculate frequency and component values.

Binary counter.

Describe the use of the binary counter to count pulses received at the input.

Represent graphically the relationship between the input and output pulses and time.

6.4.6 *Circuit Principles*

Outline the principle that the voltages across components in series are added to give the total voltage.

Outline the principle that the same voltage exists across components in parallel.

Outline the principle that the same current flows through components in series.

State and use the relationships POWER = VOLTAGE × CURRENT.

6.4.7 *Practical Concepts*

Demonstrate familiarity with the oscilloscope, multimeter and other common laboratory instruments and their use in measurement and fault finding.

6.5 **Module 3—Fluid Power**

Candidates will be expected to recognise and draw fluid power symbols as laid down by BSI/ISO.

Paragraphs 6.5.2—6.5.14 refer to pneumatics.

6.5.1 *Safety*

Describe the dangers associated with fluid power equipment and its construction.

State principal safety precautions.

6.5.2 *Pneumatic Systems*

Describe and illustrate examples of the use of pneumatics in industry or everyday life.

Discuss the advantages and disadvantages that pneumatic systems have over other systems, such as electrical or mechanical.

6.5.3 *Valves*

Decribe the use of 3-port and 5-port valves for pilot control and direct control of pneumatic cylinders, eg lever, push button, roller trip, pilot, plunger, diaphragm and solenoid operated valves.

6.5.4 *Single acting cylinder*

Describe the structure of the single acting cylinder, its function and use.

Sketch simple applications of the single acting cylinder.

6.5.5 *Single acting cylinder control*

Describe the control of the single acting cylinder using a range of mechanically operated 3-port valves and draw the appropriate circuit diagrams.

Describe the control of the single acting cylinder using a pilot operated 3-port valve and draw the appropriate circuit diagram.

Pipe up circuits to show the control of a single acting cylinder by a range of 3-port valves.

Describe how the single acting cylinder can be controlled from two different locations with the aid of the shuttle valve.

6.5.6 *Double acting cylinder*

Describe the structure of the double acting cylinder, its function and use.

Sketch simple applications of the double acting cylinder.

Compare and contrast the use of the single acting and double acting cylinders.

6.5.7 *Double acting cylinder control*

Describe the control of the double acting cylinder using a range of mechanically operated 3-port and 5-port valves and draw the appropriate circuit diagrams.

Describe the control of the double acting cylinder using a double pilot operated 5-port valve and two mechanically operated 3-port valves and draw the appropriate circuit diagram.

Sketch simple applications of the above circuit.

Pipe up circuits to show the control of a double acting cylinder by a range of 3-port and 5-port valves.

6.5.8 *Magnitude of motion*

Explain and use the relationship between force (N), pressure (N/mm^2) and cross-sectional area (mm^2) in a pneumatic cylinder.

Perform calculations using the relationship,

Force = Pressure × Area

6.5.9 *Control of piston speed*

Describe the action of the exhaust restrictor and flow regulator.

Describe and explain how the speed of the piston may be controlled by the use of exhaust restrictors or in-line flow regulators and draw the appropriate circuit diagrams.

Pipe up circuits which use the exhaust restrictor and flow regulator as a means of controlling piston speed.

Describe industrial examples of the use of piston speed control, eg sliding doors or simple automated systems.

6.5.10 *Production of time delay*

Describe with the aid of circuit diagrams, how reservoirs and flow regulators may be used to create a time delay.

Give examples of the practical application of time delays.

6.5.11 *Automatic cylinder actuation*

Describe with the use of circuit diagrams, how the piston of a double acting cylinder may be made to reciprocate, automatically, using two mechanically operated 3-port valves and a double pilot operated 5-port valve.

Describe with the use of circuit diagrams, how the piston of a double acting cylinder may be made to reciprocate, automatically, using two reservoirs, two flow regulators and a double pilot operated 5-port valve.

Outline with the aid of sketches, industrial applications of automatic reciprocating circuits, eg filing, sawing, etc.

6.5.12 *Sequential control*

Draw and describe simple circuits which can be used to control two cylinders (single acting or double acting) sequentially, eg simple automatic clamping and punching arrangements.

6.5.13 *Interfacing*

Describe how pneumatic and electrical systems can be interfaced using solenoid valves and pressure to electric valves.

6.5.14 *Practical activities*

Plan, construct and verify pneumatic circuits.

Identify simple pneumatic control problems and devise suitable circuits to solve these problems.

6.5.15 *Hydraulic systems*

Compare and contrast the advantages and disadvantages of a hydraulics system with a pneumatics system, eg compression of the fluid medium, cost, position control, force produced etc.

Describe with the aid of a diagram, the main elements of a hydraulic compressor system, ie motor, pump, reservoir, pressure relief valve, etc.

Outline examples of the application of hydraulics, eg excavators, lifts, etc.

6.6 Module 4—Materials and Structures

Safety and symbols

Candidates must be aware of the dangers associated with the testing and storage of materials.

6.6.1 *Nature of Materials*

Distinguish between naturally-occurring and man-made materials.

Explain in simple terms, crystal structure, molecular and cellular structure.

Classify materials in types—metals, wood, composites, plastics and ceramics.

Metals

Explain in simple terms the differences between ferrous and non-ferrous metals.

Plastics

Explain in simple terms the difference in behaviour of thermoplastic, thermoset and elastomer materials and outline their molecular structure.

List the constituents of concrete and outline the reasons for the predominant position of concrete as a building material.

Outline the main difference between hard woods and softwoods.

6.6.2 *Properties of Materials*

State the meaning of the terms tensile strength, compressive strength, hardness, ductility, toughness and stiffness.

Describe simple tests for hardness, tensile strength, stiffness and toughness.

Distinguish between elastic and plastic deformation.

Draw a stress v strain graph for a common material.

Be able to interpret stress v strain graphs for common materials.

State and apply in simple calculations

Stress = force/area.

Strain = change in length/original length.

Young's Modulus = stress/strain.

Be aware of the effects of environmental conditions on the degradation of materials—select appropriate materials for a stated environmental condition and suggest appropriate methods of protection. Show a general appreciation of the properties of natural timbers.

6.6.3 *Enhancement of Materials*

Metals

Describe the method and effect of work hardening.

Describe the method and purpose of annealing.

Describe the method and purpose of heat treatment in carbon steels.

State that an alloy is a metallic mixture and/or compound of two or more elements.

Give examples of the use of alloying to improve properties of strength, hardness and resistance to corrosion.

Plastics

Explain how the properties of polymers can be changed by the addition of fillers, extenders, pigments and foaming agents.

Concrete

State that the characteristics of concrete can be changed by altering the ratio of the ingredients.

Explain how the properties of concrete can be changed by the addition of admixtures, ie pigments, accelerators and retarders.

Appreciate how the tensile strength of concrete structures is greatly increased by methods of steel reinforcement.

Composite Materials

Distinguish between layer composites (eg Formica), fibre composites (eg GRP) and particle composites (eg concrete) and appreciate the range of composites in everyday use.

6.6.4 *Forces*

Understand what is meant by a force, and that force is a vector.

Understand the terms resultant force and equilibrant.

Determine the resultant of two inclined forces using vector diagrams.

Outline the conditions necessary for a body to remain in equilibrium under the action of coplanar concurrent forces.

Solve simple problems involving three coplanar concurrent forces.

Resolve a force into two components.

Understand what is meant by the moment of a force.

Understand the principle of moments and describe a simple experiment to illustrate the concept.

Outline that for coplanar forces acting on a body in equilibrium the total of upward forces = the total of downward forces.

Structural Forms

Understand the requirements of a structure in terms of limiting deformation, stability and strength.

Classify various types of structures, eg arch structures, frame structures, beam structures, box structures and identify these in typical structures.

Describe with the aid of sketches the effect of forces on structures, ie tension, compression, bending, shearing, twisting and buckling.

Sketch the appropriate shape of cross section necessary to support the above loads.

Joints in a Structure

Describe and illustrate how structural members may be joined by bolting, welding, riveting, using pin joints and adhesives.

Select an appropriate jointing method for a particular situation.

Analysis of Structures

Apply the conditions of equilibrium to calculate the reactions at beam supports.

Use the concept of centre of gravity in applying the principle of moments to problems relating to the stability of structures.

Explain that bending of a beam results in tension and compression and appreciate the use of steel reinforcement in concrete beams.

Apply Bow's notation to a given framework of not more than seven members.

Analyse problems on simple frameworks subjected to point loads.

Classify members in a framework as struts and ties.

Testing of Structures

Explain what is meant by factor of safety and outline its importance in structural design.

Outline the difference between destructive and non-destructive testing and give an example of each.

Describe the use of the dial gauge indicator to measure the deflection of simple structures.

State the principle of the strain gauge and sketch and describe its main features including the active and passive axes.

6.7 Module 5—Mechanisms

6.7.1 *General terms*

Explain and use in simple calculations the terms load, effort, mechanical advantage, velocity ratio and efficiency.

Describe what is meant by force and work, and perform simple calculations using correct units.

6.7.2 *Types of motion*

Using practical examples explain what is meant by linear, rotary, oscillating and reciprocating motion.

Give examples of mechanisms which may be used to convert one form of motion into another.

6.7.3 *Levers and linkages*

Explain the principle of 1st, 2nd and 3rd order levers and give two examples of each.

Perform simple calculations involving moments of forces applied and exerted by the ends of a lever.

Sketch simple examples of levers in use, eg car handbrake.

Explain the practical applications and uses of levers.

Design and construct simple mechanical linkages.

6.7.4 *Pulleys, belts, sprockets and chains*

Describe with the aid of sketches, the various types of belt drives, eg flat, vee and toothed.

Explain why toothed belts are necessary in some situations.

Explain the terms driver, driven, ratio, idler and rev/min.

Make simple calculations of ratios and relative speeds for simple and compound pulleys.

Sketch simple examples of the use of pulleys and sprockets.

Compare belt and chain drives, listing advantages and disadvantages, eg safety factors.

Describe and sketch a simple machine which uses pulleys (eg engine hoist, lathe or drilling machine).

6.7.5 *Gears*

Describe a spur gear and explain how the rotational speed is related to the number of teeth.

Explain how the idler gear is used to change direction without affecting the overall ratio of a gear train.

Perform simple calculations involving driver, driven and idler gear wheels.

Describe two applications of simple and compound gear trains.

Sketch and describe the use of worm, bevel and helical gears.

Sketch and describe the principle of the rack and pinion and suggest applications.

Describe and sketch an application of each type of gear (eg lathe lead screw, steering and gearboxes).

Be aware of the form and factors (including safety) influencing the choice of gears for practical applications.

6.7.6 *Cams, eccentrics and ratchets*

Explain how rotational movement can be changed to linear movement by the use of a cam.

Sketch and suggest uses of two types of cam and cam follower.

Sketch and describe a ratchet and pawl mechanism and give examples of its application.

6.7.7 *Crank/slider and screw mechanisms*

Explain how an inclined plane can be used to gain mechanical advantage.

Describe an example of an inclined plane in use, eg a car ramp.

Explain the terms thread, pitch, internal and external diameter, thread shape, eg vee, square and buttress.

Give examples of situations where screw threads can be used to gain mechanical advantage.

Sketch and describe how a crank can be used to convert rotary motion into linear motion.

Explain how the speed of a slider changes during the rotation of a crank and how the quick return mechanism can be achieved.

6.7.8 *Coupling and shafts*

Suggest three methods by which gear wheels, sprockets or pulleys may be fixed to the drive shaft.

Explain the principle of the universal coupling to allow shafts to be joined at an angle to each other (eg a motor-car propshaft).

Explain how lateral movement and rotation of shafts may be achieved by the use of keys and splines.

6.7.9 *Friction, brakes and clutches*

Explain the terms friction, static friction and dynamic friction.

Explain the term coefficient of friction.

Perform calculations involving the coefficient of friction.

Explain the terms brake and clutch.

Explain the principle of the dog, centrifugal and friction clutches.

Describe the general composition of the friction material used for brake and clutch linings.

Explain the function of a brake.

Sketch and describe the main parts of a typical braking system.

List the advantages and disadvantages of the different types of clutch and brake systems.

6.7.10 *Lubrication*

Explain the need for lubrication of moving parts.

Describe the term viscosity and how it is affected by temperature.

Sketch two typical arrangements for lubrication of moving parts, eg meshing gear teeth and a shaft rotating in a plain bearing.

6.7.11 *Bearings*

Describe and sketch plain, ball, roller and thrust bearings.

Give suitable applications of each type of bearing taking into account operational conditions.

7 GRADE DESCRIPTIONS

7.1 The following grade descriptions are provided to give a general indication of achievement likely to have been shown by candidates awarded particular grades. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall and may thus conceal weakness in one aspect of the examination which is balanced by above average performance in another.

Grade C

The average Grade C candidate would be likely to:

be able to identify a problem;

be able to identify most of the important aspects of the problem and draw up a limited specification;

be able to identify most of the resources required to solve a problem;

show awareness of the constraints imposed on the solving of a technological problem;

show evidence of collection and use of information gained from a limited range of sources;

show evidence of the ability to present and interpret information from graphs, diagrams, tables, etc;

be able to generate and record a number of ideas for the solution of a problem;

present good reasons for the selection/rejection of generated solutions to a problem;

select and develop one solution to a problem showing evidence of awareness of the constraints of time, cost, resources, etc;

demonstrate a good degree of skill in the planning and implementation of the solution to a problem;

demonstrate a good standard and range of communication skills sufficient to convey ideas to others;

be able to carry out an evaluation of the realised solution to a problem against an original specification and show evidence of suggestions for improvements, where appropriate;

recognise and discuss some of the inter-relationships that exist between technology and society;

show some awareness of major technological developments;

show a good understanding of the general nature of technology;

display a good knowledge, understanding and application of the chosen technology modules.

Grade F

The average Grade F candidate would be likely to:

be able to carry out a limited analysis of a problem posed by others;

be able to specify some of the main features of the problem undertaken;

collect and present some relevant information from a small number of sources;

generate only one possible solution which may include simple variations on one presented idea;

carry out a superficial evaluation based on a limited number of simple criteria;

indicate chosen resources for the implementation of any selected solution to a problem;

show a restricted range of communication skills, displaying incomplete or poor drawings and superficial written accounts;

demonstrate a limited degree of skill in the implementation of the artefact or system, possibly resulting in only a part of the artefact or a sub-system being either complete or operational;

carry out a limited evaluation of the solution to a problem making limited reference to main points only;

show a limited awareness of the inter-relationship between technology and society;

list some major technological developments;

show only a limited awareness of the nature of technology;

show a superficial knowledge of the chosen modules of study without any real understanding or ability to apply.

MEMORANDUM ON THE INTERNAL ASSESSMENT OF COURSEWORK

1 INTRODUCTION

1.1 The scheme of assessment in Technology carries a 45% weighting for coursework which requires each candidate to submit a technologically based project consisting of the design, implementation and evaluation of an artefact or system.

1.2 The project will be internally assessed by the candidate's teacher and externally moderated by the Council.

2 BACKGROUND

2.1 One of the aims of following a course of study in Technology is:

"To develop an understanding of the technological process and apply this in the solving of technological problems."

2.2 The purpose of the project is to give candidates the opportunity to demonstrate what they know, understand and can do in relation to the technological process without the constraints imposed by formal examinations.

3 NATURE OF PROJECT

A technological project should be conducted along the following lines:

(i) Identification and analysis

Candidates are required to identify at least one problem of a technological nature, and after some initial investigation formulate a design brief stating the major factors which are to be considered in solving the problem.

(ii) Investigation and research

Candidates are required to investigate the problem through a number of different approaches, eg by analysis of existing models, book and magazine searches. The specification produced should clearly state precisely what is to be made.

(iii) Solution

Candidates are required to generate a number of possible solutions to the problem which matches the detail of the specification, select the most suitable solution giving reasons for choice and produce appropriate drawings capable of being interpreted by a third party. For the purpose of adequate clarification of detail candidates should be encouraged to produce a scale model.

(iv) Implementation

Candidates are required to implement their final design in terms of an artefact or system and in cases where the project is such that full-sized implementation is not possible, an extensive model should be produced. Candidates will be assessed on their ability to relate to their working drawing and produce a well-made, well-finished article which performs in relation to the design criteria. It is estimated that the project should take about 60 hours.

(v) Testing and evaluation

Candidates are required to test and evaluate their finished project against the original brief and specification. Reference should be made to such things as performance, time-management, availability of resources and costing. The candidates should also outline suggested modifications and areas of the project requiring further research

(vi) Organisation and presentation

Candidates will be assessed on their ability to organise and present the project in a logical and aesthetically-pleasing manner.

4 ROLE OF THE TEACHER

4.1 Teachers will be expected to give candidates guidance in the planning of each project so as to ensure that:—

4.1.1 it relates to a technological problem;

4.1.2 it has an appropriate title for the task undertaken and a clear aim and method of approach;

4.1.3 it is a task which allows the individual candidate to demonstrate a good variety of skills, techniques and knowledge;

4.1.4 it can be appropriately marked using the assessment criteria;

4.1.5 except in as far as the candidate received appropriate guidance from the teacher, it is the unaided work of the candidate;

4.1.6 projects must not contravene the Health and Safety at Work legislation.

4.2 Teachers will be required to sign a declaration to certify that to the best of their knowledge all the work submitted for assessment is the candidate's own with the exceptions given in paragraph 4.1 where appropriate.

5 ASSESSMENT CRITERIA

5.1 For the purpose of assessment the project should be considered under each of the following six components:

1. Identification and Analysis.
2. Investigation and Research.
3. Solutions.
4. Implementation.

5. Testing and Evaluation.

6. Organisation and Presentation.

5.2 Each of the above components is further divided into a number of areas which are summarised in paragraph (5.3).

Each of the areas is to be assessed against one of three bands of attainment.

Band 1: Basic.
Band 2: Intermediate.
Band 3: High.

In order that candidates may show what they can do rather than what they cannot do, the bands of attainment in each area are written in positive terms rather than negatively. Thus candidates will be rewarded for positive achievements rather than penalised for failures. Full details on the bands of attainment for each of the component areas are given in paragraph 6.

5.3 **Component Areas**

Component 1—Identification and Analysis (5%)		Maximum Marks
Areas		
1.1	Problem identification and analysis	3
1.2	Design brief	6

Component 2—Investigation and Research (15%)		Maximum Marks
Areas		
2.1	Information sources and their use	6
2.2	Evaluation of existing solutions	6
2.3	Factor analysis	6
2.4	Specification	9

Component 3—Solutions (15%)		Maximum Marks
Areas		
3.1	Generation of solutions	6
3.2	Communication of ideas and production of appropriate drawings	12
3.3	Appraisal of proposed, and selection of final, solution(s)	9

Component 4—Implementation (35%)		Maximum Marks
Areas		
4.1	Material awareness and choice	6
4.2	Extent of implementation	24
4.3	Quality of implementation	21
4.4	Relationship to final design	6
4.5	Safety of final solution	6

Component 5—Testing and Evaluation (20%)		Maximum Marks
Areas		
5.1	Testing and evaluation against specification	12
5.2	Evaluation of materials used	3
5.3	Costing evaluation	3
5.4	Implementation method evaluation	3
5.5	Evaluation of safety considerations	3
5.6	Evaluation of aesthetic and ergonomic factors	6
5.7	Suggested modifications	6

Component 6—Organisation and Presentation (10%)		Maximum Marks
Areas		
6.1	Organisation, general presentation and quality of report	12
6.2	Time management	3
6.3	Creativity and Ingenuity	3

6 ASSESSMENT PROCEDURE

6.1 Each candidate is to be assessed for each component area and the mark recorded on a Candidate's Record Sheet which will be supplied by the Council.

6.2 A zero mark should only be awarded when a candidate refuses to tackle an area.

6.3 In reaching a decision on the mark to be awarded to each area teachers must firstly decide on the band of attainment (see paragraph 5.2) which has been displayed. In those areas where the maximum mark for Band 3 is 3 (eg area 1.1), no further refinement of the mark is required. However, in those areas where the maximum mark exceeds 3 (eg area 2.1) then the bands should be considered as mark range limits and further refinement is required. For example in Area 2.1 a teacher can use his/her professional judgement to award intermediate marks 1, 3, 5. In heavily weighted areas (eg area 4.2) teachers are encouraged to spread the marks to aid discrimination.

6.4 Coursework must be assessed not later than 1st May in the year of the examination.

6.5 Details on the bands of attainment for each of the component areas are given below:

Component 1—Identification and Analysis

Area 1.1	*Problem identification and analysis*	*Mark*
Band 1	Identify and carry out a superficial analysis of the problem.	1
Band 2	Identify and carry out an analysis of some aspects of the problem.	2

Band 3	Identify and carry out an analysis of all aspects of the problem.	3
Area 1.2	*Design Brief*	
Band 1	Produce an imprecise, unclear brief after superficial analysis of the problem.	2
Band 2	Produce a limited brief with some of the aspects of the problem having been analysed.	4
Band 3	Produce a very precise brief with all aspects of the problem having been analysed.	6

Component 2—Investigation and Research

Area 2.1	*Information Sources and their Use*	*Mark*
Band 1	Show evidence that information has been obtained and some of it applied.	2
Band 2	Show evidence that information has been obtained from a variety of sources and some of it applied.	4
Band 3	Show evidence that information has been obtained from an extensive number and variety of sources and that much of it has been applied.	6
Area 2.2	*Evaluation of Existing Solutions*	
Band 1	Produce a sketchy, written evaluation of existing solutions.	2
Band 2	Produce a quite general evaluation of existing solutions.	4
Band 3	Produce an in-depth evaluation of existing solutions.	6
Area 2.3	*Factor Analysis*	
Band 1	Produce a limited list of the factors including safety which must be taken into account in solving the problem.	2
Band 2	Identify the key factors including safety which must be taken into account in solving the problem.	4
Band 3	Identify most of the factors including safety which must be taken into account in solving the problem.	6
Area 2.4	*Specification*	
Band 1	Produce a vague specification of the problem.	3
Band 2	Produce a limited specification of the problem.	6
Band 3	Produce a detailed specification of the problem.	9

Component 3—Solutions

Area 3.1	*Generation of Solutions*	*Mark*
Band 1	Generate one solution to the problem.	2
Band 2	Generate two different solutions.	4
Band 3	Generate three or more different solutions.	6
Area 3.2	*Communication of Ideas and Production of Appropriate Drawings*	
Band 1	Present a limited range of drawings and written account with only some of the detail included.	4
Band 2	Present a number of drawings and written account with most of the detail included.	8
Band 3	Present a variety of drawings and written account with good attention to detail.	12
Area 3.3	*Appraisal of Proposed, and Selection of Final Solution(s)*	
Band 1	Produce a sketchy critical appraisal taking into account only a few of the important points.	3
Band 2	Produce a quite detailed critical appraisal taking into account most of the important points.	6
Band 3	Produce a very detailed critical appraisal taking into account all of the important points.	9

Component 4—Implementation

Area 4.1	*Material Awareness and Choice*	*Mark*
Band 1	Show a very limited knowledge of possible materials for use in the project and choose materials with no sound reason stated.	2
Band 2	Show a fairly detailed knowledge of possible materials for the project with few obvious omissions and choose a material stating a few reasons for choice.	4
Band 3	Show a detailed knowledge of the possible materials for use in the project and select materials stating sound and realistic reasons.	6
Area 4.2	*Extent of Implementation*	
Band 1	Project only partially complete with major work still required or is a complete project but the demands of the project are so limited that the candidate is not provided with the opportunity to	

	display other than a basic standard of skills, techniques and knowledge.	8
Band 2	The project almost complete but sufficiently advanced to demonstrate principles involved or is a complete project but the demands of the project are such that the candidate is provided with the opportunity to display a higher standard of skills, techniques and knowledge than the basic standard.	16
Band 3	The project complete and fully operational and it allows the candidate to demonstrate skills, techniques and knowledge at a high standard.	24
Area 4.3	*Quality of Implementation*	
Band 1	Solution to problem finished to a basic standard.	7
Band 2	Some aspects of the solution finished to a good standard and demonstrating sound workmanship.	14
Band 3	Solution to problem finished to a high standard, exhibiting sound choice of materials and showing good attention to detail.	21
Area 4.4	*Relationship to Final Design*	
Band 1	Final solution bears a limited relationship to final design.	2
Band 2	Some aspects of the final solution bear a close resemblance to the final design.	4
Band 3	The majority of aspects of the final solution bear a close resemblance to the final design.	6
Area 4.5	*Safety of Final Solution*	
Band 1	Project demonstrates little regard for safe use, possibly resulting in danger to users.	2
Band 2	Final solution generally safe to use but possibly becoming dangerous with prolonged use.	6
Band 3	Final solution exhibits a high standard of safety for the user.	6

Component 5—Testing and Evaluation

		Mark
Area 5.1	*Testing and Evaluation against Specification*	
Band 1	A sketchy testing and evaluation of the complete or partially complete project with little reference to the original specification.	4
Band 2	A good testing and evaluation of the complete or partially complete project with most of the factors relating to the original specification being considered.	8
Band 3	A careful and critical testing and evaluation of the complete project compared directly with all of the factors of the original specification being considered.	12
Area 5.2	*Evaluation of Materials Used*	
Band 1	A sketchy evaluation with only passing reference to choice of materials.	1
Band 2	A fairly complete evaluation of the project with detailed reference to choice of materials.	2
Band 3	A very complete evaluation of the project with detailed reference to choice of materials.	3
Area 5.3	*Costing Evaluation*	
Band 1	A sketchy evaluation with only passing reference to costing.	1
Band 2	A fairly complete evaluation of the project with reference to costing.	2
Band 3	A very complete evaluation of the project with reference to costing.	3
Area 5.4	*Implementation Method Evaluation*	
Band 1	A sketchy evaluation with only passing reference to method of implementation.	1
Band 2	A fairly complete evaluation of the project with reference to method of implementation.	2
Band 3	A very complete evaluation of the project with detailed reference to method of implementation.	3
Area 5.5	*Evaluation of Safety Considerations*	
Band 1	A sketchy evaluation with only passing reference to safety considerations.	1
Band 2	A fairly complete evaluation of the project with reference to safety considerations.	2
Band 3	A very complete evaluation of the project with detailed reference to safety considerations.	3
Area 5.6	*Evaluation of Aesthetic and Ergonomic Factors*	
Band 1	A sketchy evaluation with only passing reference to aesthetics.	2

Band 2	A fairly complete evaluation with reference to aesthetics and ergonomics.	4
Band 3	A very complete evaluation of the project with detailed reference to aesthetics and ergonomics.	6
Area 5.7	*Suggested Modifications*	
Band 1	Evidence of suggestions for modifications to some aspects of the solution.	2
Band 2	Clear evidence of a number of suggestions for modifications to most aspects of the solution.	4
Band 3	Realistic criticisms of most aspects of the work together with realistic and imaginative suggestions for possible modifications.	6

Component 6—Organisation and Presentation

Area 6.1	*Organisation, General Presentation and Quality of Report*	*Mark*
Band 1	Some elements of report presented in an orderly manner and to a reasonable standard.	4
Band 2	Most elements of report presented in an orderly manner and to a reasonably high standard with most of the key aspects highlighted.	8
Band 3	Most elements of report presented in a logical and orderly manner, with attention given to referencing and inclusion of photographs and exhibiting quality and depth of study.	12
Area 6.2	*Time-Management*	
Band 1	Shows evidence of the need to consider the importance of time-management in the project.	1
Band 2	Shows evidence of the need to consider time-management in the project, with some elements completed within a general timing schedule which has been stated.	2
Band 3	Shows evidence of time-management with most elements of the project completed within stated time limits.	3
Area 6.3	*Creativity and Ingenuity*	
Band 1	Exhibited creativity and ingenuity in a few aspects of the project.	1
Band 2	Exhibited creativity and ingenuity in some of the major aspects of the project.	2
Band 3	Exhibited creativity and ingenuity throughout the project.	3

7 MODERATION PROCEDURES

The procedures will be in accordance with the Council's general policy on coursework monitoring and moderation.

TECHNOLOGY AND DESIGN

1 INTRODUCTION

1.1 This syllabus has been designed to meet the requirements of the Northern Ireland GCSE Regulations and subject criteria for technology and design. It also meets the requirements of the Northern Ireland programme of study for Key Stage 4.

1.2 A course based on this syllabus will help to facilitate the further study of technology and design at a more advanced level.

1.3 In developing schemes of work for, and in the delivery of a course based on this syllabus, teachers must fulfil the statutory requirement to promote, through the teaching of contributory subjects, the objectives of the educational (cross-curricular) themes.

1.4 This syllabus has been designed to be as free as possible from political, ethnic, gender, religious or other forms of bias.

2 RATIONALE

2.1 Capability in Technology and Design is developed principally through designing, which includes the manufacture of products. Technology and Design links naturally with, and complements, many other subjects. It makes a major contribution to the curriculum by providing students with opportunities to engage in practical activity resulting in outcomes designed to meet specific requirements. This designing activity also has an important contribution to make to students' general education as part of preparation for living and working in a modern technological society.

2.2 Technology and Design seeks to enable all pupils to become confident and responsible in solving real life problems, striving for creative solutions, independent learning, product excellence and social consciousness.

2.3 Technology and Design activities are intended to encourage students to make responses to identified design opportunities in both familiar and unfamiliar contexts. It is concerned primarily with the production of quality products. Teachers should also promote the development of attitudes such as concern for the welfare and development of society, the preservation of the environment and adherence to safe working practices.

2.4 It is important that opportunities are taken through the teaching of the syllabus to help students develop competencies which are valued by employers. This syllabus will help develop the ability to:

- communicate visually and verbally;
- work independently and as a member of a group;
- undertake problem-solving activities;
- plan and complete particular tasks within time constraints;
- review and identify the strengths and weaknesses in their own work and suggest improvements;
- critically appraise the work of others;
- observe, assess and analyse a given situation;
- handle practical tasks successfully;
- engage in imaginative and creative activities;
- be self-motivated when undertaking work tasks;
- undertake mathematical calculations;
- maintain a safe working environment.

3 AIMS

The aims set out below describe the educational purposes of following a course in Technology and Design. Some of these aims are reflected in the assessment objectives whilst others are not because they cannot be readily assessed.

The aims of the syllabus are to:

3.1 foster enjoyment in the experience of learning and encourage students to take pride in their achievements;

3.2 focus on the complex needs and opportunities which arise from a wide range of contexts, including home, leisure and industry;

3.3 provide opportunities to work with a range of constructional materials including plastics, metal and wood and other materials where appropriate;

3.4 encourage the careful consideration and appropriateness of the materials selected in relation to the function and the environment in which the products are to be used;

3.5 provide opportunities to engage in market research to determine user needs and market potential for products;

3.6 provide opportunities to consider the influence of advertising on the demand for products;

3.7 appreciate the importance of total quality in all aspects of the design and manufacture of products;

3.8 gain an appreciation of industrial design and production;

3.9 draw upon appropriate knowledge and understanding, particularly from science;

3.10 appreciate that the use and manufacture of products can have social, economic and environmental implications;

3.11 appreciate that, in the past and in other cultures, people have engaged in similar design activities and that these activities have often resulted in different outcomes to those realised in our modern society;

3.12 maintain a safe and organised immediate working environment and adopt safe working practices when using hand tools, machines and equipment;

3.13 prepare young people to be effective members of a technological society;

3.14 encourage students to take account of the importance and influence of the European dimension in technology and design activity;

3.15 provide opportunities for students to work both individually and as members of a team;

3.16 provide opportunities for development of knowledge, understanding and skills related to the statutory educational themes.

4 ASSESSMENT OBJECTIVES

The assessment objectives indicate the skills and abilities which will be assessed.

Students should demonstrate the ability to design products. More specifically, for the purposes of this syllabus, students should demonstrate the capabilities of Designing, Communicating, Manufacturing and Using Energy and Control outlined below. The order in which the capabilities are presented does not imply a hierarchy of importance or a linear progression. This syllabus promotes the holistic nature of the subject and supports the principle that the knowledge, understanding and skills associated with the subject should be developed in parallel. Therefore, for the purposes of assessment, students will be assessed on their ability in respect of knowledge, understanding and skills associated with the capabilities of:

4.1 **Designing**

- evaluate products designed by others and the products which they are involved in designing;
- appraise the designing process which they have undertaken;
- generate and refine ideas linked to possible needs and opportunities by engaging in creative questioning and thinking;
- produce an appropriately detailed specification related to the function and performance of the product to be designed.

4.2 **Communicating**

- acquire and accurately use technology and design vocabulary;
- communicate effectively with specific audiences for specific purposes;
- make effective use of spelling, punctuation and grammar.

4.3 **Manufacturing**

- manipulate, using appropriate tools and equipment, a range of materials and components to manufacture products while maintaining a safe working environment;
- make modifications, if appropriate, to the product during manufacture as a result of on-going evaluation.

4.4 **Using energy and control**

- understand that there are various types of control systems including mechanical, electronic and pneumatic; and understand their principles of operation;
- use an understanding of energy and control systems when designing products.

5 SCHEME OF ASSESSMENT

The scheme of assessment presents a description of each component of the examination, its weighting and the details of the assessment methods and techniques to be used.

5.1 The scheme of assessment has been designed to enable students to demonstrate their ability in relation to the assessment objectives, combining evidence from the coursework component with that produced through the terminal examination.

The scheme of assessment will consist of (i) coursework (ii) terminal examination papers appropriate to the grades targeted.

5.2 Two tiers of entry are available, giving access to different grades as indicated below.

Foundation Tier: for students entering for grades C–G.

Higher Tier: for students entering for grades A*–D(E).

Grade E may be awarded exceptionally to candidates entered for the Higher Tier who do not achieve grade D but who demonstrate the qualities associated with a grade E performance.

5.3 **The Examination Components**

(i) **The Coursework Component** (60%)

The Coursework component will be the main means through which Technology and Design capability will be assessed.

Coursework tasks will be determined by the student and structured so that the relevant assessment objectives can be addressed. Teachers may offer specific guidance to students to enable them to identify appropriate tasks.

In the coursework component differentiation will consist of a suitable combination of differentiation by task and differentiation by outcome. The opportunity exists for all students to achieve the full range of marks available. Tiering arrangements do not apply to the coursework component.

The Coursework component will consist of two activities:

- **Coursework Activity 1:** Focused Tasks
- **Coursework Activity 2:** The Design Project

Coursework Activity 1: Focused Tasks 10%

Students are required to present evidence of having engaged in **two** focused tasks.

Focused tasks are activities undertaken as part of normal teaching and learning, they should not be undertaken as a special activity but rather as being integral to the course. When undertaking focused tasks students are practising particular skills, and developing knowledge and understanding, associated with specific aspects of the course.

The Focused Tasks target specific Assessment Objectives. The Assessment Objectives addressed in this examination are:

- 4.1 Designing 5%
- 4.2 Communicating 5%

The Focused Task associated with Designing

Students are required to demonstrate knowledge, understanding and skills associated with **one** of the following:

(a) product evaluation;

(b) product development;

(c) product analysis.

The Focused Task associated with Communicating

Students are required to demonstrate knowledge, understanding and skills associated with **one** of the following:

(a) a computer generated drawing;

(b) a presentation drawing;

(c) a technical report.

Guidance on how these focused tasks might be undertaken and assessed is given in Appendix 2.

Coursework Activity 2: the Design Project

The Design Project will be identified by the student. Teachers may offer guidance to enable the student to address the appropriate Assessment Objectives. Students will be required to address Using Energy and Control (Assessment Objective 4.4) in the Design Project.

Each designed product should be accompanied by a portfolio which will include both written and graphical material detailing the development of the product.

Further details on the Design Project can be found in the Coursework memorandum and in Appendix 2.

(ii) **The Terminal Examination** (40%)

Two tiers of assessment are offered:

- **Foundation Tier:** (2 hours): for students entering for grades C–G; and
- **Higher Tier:** (2½ hours): for students entering for grades A*–D(E).

Students will be required to select the appropriate tier when entering for the examination.

Each tier will consist of a paper with three sections:

Section A will consist of short-answer questions and simple structured questions;

Section B will consist of structured questions of increasing difficulty;

Section C will consist of structured design-based questions.

All formulae required in terminal examination papers will be printed on the appropriate examination paper.

5.4 The Relationship Between the Assessment Objectives and the Examination Components

Table 5.4, below, shows the approximate relationships between the assessment objectives and the examination components.

Table 5.4

Assessment Objectives	Coursework		Terminal Examination	Overall Weighting
	Activity 1	Activity 2		
DESIGNING				
Knowledge, understanding and skills associated with **Designing**	5%	10%	5%	20%
Knowledge, understanding and skills associated with **Communicating**	5%	5%	10%	20%
MAKING				
Knowledge, understanding and skills associated with **Manufacturing**	–	25%	5%	30%
Knowledge, understanding and skills associated with using **Energy and control**	–	10%	20%	30%
Total	10%	50%	40%	100%

6 CONTENT

The Syllabus Content is set out under the headings of: ***Designing, Communicating, Manufacturing, and Energy and Control.*** *These headings relate directly to the four assessment objectives. This does not imply that content should be taught as separate entities or in this sequence, rather that the holistic nature of the subject should be retained.*

Content relevant to students entered for the Foundation Tier (Grades C–G) is presented in plain text. Content relevant to students entered for the Higher Tier (Grades A*–D(E)) consists of the content in plain text and the content in italics. The content in italics is additional to that set out for students entered for the Foundation Tier.

6.1 *Designing*

Students should be able to

(a) undertake detailed and systematic investigations in familiar and unfamiliar contexts in order to focus on design opportunities.

— draw upon previous knowledge and experience of other design situations and undertake appraisals to identify needs and opportunities.

(b) show evidence that they have identified and analysed a range of relevant factors, *including appropriate aspects of ergonomics,* derived from previous research and investigation to develop a specification.

— consider the *cost* and availability of materials, components and equipment in drawing up proposed solutions *appreciating that various standards such as health and safety regulations, may influence their planning.*

(c) generate, explore and develop a range of ideas.

— produce possible and alternative solutions in the form of clear sketches with supporting detail notes (diagrams, sections, circuit diagrams etc).
Provide material and construction details.

— detail ideas, using illustrative techniques and Information Technology where appropriate using two-dimensional and three-dimensional representations.

(d) make two- or three-dimensional models of their design ideas to test and/or evaluate.

— use a range of modelling materials and techniques *and the production of working model(s)* to develop and refine ideas and proposals.

— *distinguish between various techniques of modelling (i.e. breadboard construction, scale models, use of commercial modelling kits, and computer modelling) and use appropriate techniques for developing proposals.*

(e) *critically* evaluate their own work *and that of others; take account of the comments made, particularly those of the potential users.*

— evaluate the product manufactured in relation to the design specification, comment on the modifications made during development, assess the effectiveness of the changes made and consider further developments.

— *appraise design proposals taking into consideration the evidence provided by the investigation and the views of others, to modify and develop a final proposal which can be manufactured.*

6.2 ***Communicating***

Students should be able to

(a) develop and use Technology and Design vocabulary.	
(b) present information in an integrated and coherent manner including ideas, planning details and proposals to a range of audiences.	
(c) recognise and use relevant symbolic notation and *be familiar with international standards.*	— identify symbols, eg safety, pneumatic, electronic. (Refer to Appendix 3)
(d) use Information Technology tools, including CAD software, to record, process and present information.	— make use of Information Technology as and when appropriate, eg presentation of data, drawing, word-processing.
(e) use two-dimensional and three-dimensional graphical techniques.	— use appropriate two-dimensional and three-dimensional graphical techniques which may incoprorate colour and/or texture, and be annotated.
(f) produce drawings containing sufficient information to allow products or systems to be manufactured.	— *produce working drawings.*

6.3 ***Manufacturing***

Students should be able to

(a) correctly select and use appropriate hand tools, machines and equipment and appreciate the necessity of maintenance and correct storage.	— select and use a range of hand and machine tools to work a variety of materials and a range of technological components in a safe and correct manner. — appreciate the need to check on the condition of the above before use. — *demonstrate a knowledge of sound manufacturing procedures and competences.*
(b) join materials and components in permanent and semi-permanent forms.	— select the most appropriate method of joining materials and components, including permanent, eg welding, soldering, adhering; and semi-permanent methods, eg bolting. — select and use techniques, processes and resources to demonstrate a knowledge of shaping, joining, and assembling.
(c) select, and, where appropriate apply finishes to materials, products and systems.	— identify finishes used for aesthetic purposes, to prevent corrosion and to prolong working life, eg paints and oils, plastic coating, wax and protective films.
(d) develop a range of manufacturing skills giving consideration to the working properties of materials and components, selecting appropriate assembly and construction techniques and processes when working with these materials and components.	— safely and accurately employ a range of manufacturing techniques to produce quality outcomes which clearly reflects the design details in the proposed solution. — use templates, jigs and fixtures when appropriate.
(e) inspect and test components during manufacture using appropriate equipment.	

(f) have a working knowledge of the physical properties and characteristics of a range of constructional materials (including metal, plastics and wood) and components and use these in the manufacture of products or systems.

— understand the main properties and uses of:
- thermoplastics and thermosetting plastics;
- hardwoods and softwoods; common manufactured boards;
- ferrous and non-ferrous metals and common alloys;
- composites.

— *know the properties of the materials as having elasticity, tensile strength, compressive strength, and shear strength.*

— *show the ability to match the selection of materials with particular working characteristics to appropriate manufacturing processes and scale of production.*

(g) design structures which will take account of form, stability, loading and physical properties of materials and should gain an understanding of the principles of equilibrium in order to determine the nature and sizes of forces in framed structures.

— be aware of different types of structures to include man-made and natural. They should be aware of the different forces affecting a structure.

— recognise examples of tension, shear, torsion, and bending.

— show an understanding of triangulation *and demonstrate the use of ribbing and reinforcement to improve the strength of the structure.*

— recognise the need for a factor of safety.

— show that materials can be constructed to resist bending.

(h) show that objects are changed by the forces applied to them and that all forces related to the structures can be recognised, measured and need to be balanced.

— understand and identify the forces in the following members: a beam, a strut, a tie.

— explain in the context of the framework what is meant by a redundant member and identify these in practice.

— *show an understanding of moments and stress and strain in materials under load. Understand the principles of flexibility and elasticity when applied to a structure.*

6.4 *Energy and Control*

Students should be able to

(a) appreciate that systems can take various forms including mechanical, electronic and pneumatic, and understand their principles of operation.

Computer and microprocessor control systems.

— *consider the appropriateness of control systems and gain an appreciation of the advantages of, and limitations imposed by, the use of computers and microprocessors in control systems.*

(b) analyse control systems to identify input, process and output elements, and feedback.

— recognise and describe input/process/output and the function of feedback in a system. Understand that it can be both positive and negative, eg washing machine programmes, central heating, intruder alarm systems.

(c) design mechanical control systems.

Select from a range of components, including gears, pulleys, cams, linkages, belts, and chains, and use these in assembling mechanisms.

— identify and describe simple levers/linkages, gears, pulleys, cams.

(d) know and use the formula for mechanical advantage and velocity ratio.

— identify and use simple and compound gear systems limited to a maximum of four gears.

— *understand how speed ratios can be altered in gear and pulley systems.*

(e) inter-connect pneumatic valves and cylinders in circuits in order to achieve desired effects.

— two, three and five port valves, single and double acting cylinders.

— use construction kits to model simple mechanical and pneumatic systems and recognise related symbols.

— identify and observe the safety precautions to be adopted when using mechanical and pneumatic systems.

— understand the advantage and disadvantages of using mechanical and pneumatic systems.

(f) discuss alternative sources of energy.

— outline the advantages and disadvantages of alternative sources of energy, eg solar and geothermal energy, wind and wave generators, biomass energy and compost production.

(g) outline methods for converting, transferring and storing energy.

— recognise energy transfer problems, eg heat build up on machine tools, vibration, and amplification of noise.

(h) assemble electronic control systems. Select electronic input, conditioning, and output components, including switches, temperature and light sensors, resistors, capacitors, transistors, ICs (eg 555 timers), lamps, light emitting diodes and motors and assemble these in circuits to achieve desired effects. They should be aware of the range of production techniques, such as strip board and PCB, used in the manufacture of circuits.

— know the common systems of switching, eg SPST, SPDT, DPDT, NO/NC switches, reed switches, membrane and tilt switches.

— use LDR's and thermistors in circuits to detect changes in light and heat.

— recognise the transistor as a switch.

— recognise and use appropriate component values, eg resistors.

— recognise the above components with reference to their symbolic notation.

— use components to trial circuits, including the use of LEDs as indicators, capacitors in timing circuits, relays as interface devices and ICs as processors, as appropriate, eg devise a system to turn on a cooling fan inside a machine when the temperature rises to a damaging level. **Specific ICs will not be examined in the terminal examination.**

(i) understand and apply Ohm's Law *and the formula for a potential divider.*

(j) investigate the principles of operation of input including LDR mechanical switches and sensors, output including lamp, motor, buzzer, solenoid, and signal conditioning devices, and how these can be used in conjunction with interfaces, computers and microprocessors in control systems.

— understand and describe the switching capability of a computer.

— appreciate that a signal can exist in analogue or digital form. Appreciate that an interface can be used to interconnect external devices to a computer system.

— use control software and interface. Use flow charts to assist in the design of a control programme. Assemble computer control systems in conjunction with external devices, eg mechanical, pneumatic or electronic devices.

— write a programme using control software for a defined task, which may include the use of loops, subroutines, counts, and time delays.

(k) *demonstrate an awareness of manual and automatic control systems.*

— *design, model, and construct computer control systems with multiple input/output functions.*

— *explain the principles of automatic control of a process, using electrical input and output devices connected to computers.*

— *use interface boards, or ICs as appropriate, eg 741, 555. Logic chips, to prototype circuit designs or link with IT equipment. Understand the role of a computer in control, eg a surveillance and security system for a retirement home.*

- **In the terminal examination formulae will be provided on the paper (See Appendix 1).**

7 GRADE DESCRIPTIONS

Grade descriptions are provided to give a general indication of the standards of achievement likely to have been shown by candidates awarded particular grades. The descriptions must be interpreted in relation to the content specified by the syllabus; they are not designed to define that content. The grade awarded will depend in practice upon the extent to which the candidate has met the assessment objectives overall. Shortcomings in some aspects of the examination may be balanced by better performances in others.

Grade F

When designing and making, candidates gather information and use it to help generate a number of ideas. They recognise that users have views and preferences. They draw upon their understanding of how materials have been used in existing products and how materials can be combined and processed in order to create more useful properties. A specification is produced which identifies some of the key features of their product. They evaluate their work, bearing in mind the purposes for which it is intended. They illustrate alternatives using sketches and models and make choices between them showing an awareness of any constraints.

Candidates produce a plan which identifies the main stages in making and lists the tools, materials and processes needed. They cut, measure and mark out simple forms and join them using a range of techniques. They show some accuracy in their work. They identify what is, and what is not working well in their products.

Grade C

When designing and making, candidates identify the appropriate sources of information and use them to help generate ideas. They investigate the characteristics of familiar products – including form, function, production processes and any scientific principles used – to develop their ideas. They develop design specifications which take into account appearance, function, safety, reliability and the purposes for which they are intended and use these to formulate a design proposal. They consider the future lifetime of their products and design for product maintenance. They make preliminary three-dimensional models to explore and test their design thinking and use formal drawing methods to communicate their intentions.

Candidates produce plans which predict the time needed to carry out the main stages in making and match their choice of materials and components with tools, equipment and processes. They adapt their methods of manufacture to changing circumstances, providing a sound rationale for any deviations from the design proposal. They are becoming skilful in the use of the techniques and processes and use tools and equipment to work materials precisely and allow for waste and fine finishing. They use given techniques to evaluate their products in use and to identify ways of improving them.

Grade A

When designing and making, candidates use a range of strategies to help them generate appropriate ideas. They identify how the needs and preferences of users are reflected in existing products and their markets, and relate these ideas to their own work. They make decisions on materials and techniques based on an understanding of their physical and working characteristics. Their designs achieve optimum use of materials and provide comprehensive details concerning the product, methods of manufacture and tolerances. They identify the conflicting demands upon their designs, identify and communicate how each design idea addresses these demands and use this analysis to produce a design proposal.

Candidates produce detailed working schedules which identify where decisions have to be made, set realistic deadlines for the various stages of manufacture and allow for alternative methods of manufacture. They organise their work to ensure that processes can be carried out accurately and consistently, and use tools and techniques with the degree of precision required by their plans. They ensure consistency when items are being manufactured in quantity and apply quality control and assurance procedures. When testing their final products, they identify a range of criteria which address issues beyond the purpose for which they were designed.

8 PROHIBITED COMBINATIONS

Students taking this subject are constrained in the choice of other CDT/Technology and Design subjects which may be taken in the same series of examinations. They **may** take GCSE CDT: Design and Realisation in combination with Technology and Design.

Students **are not permitted** to take Technology and Design in combination with GCSE Technology (Product and Systems Design).

MEMORANDUM ON THE INTERNAL ASSESSMENT OF COURSEWORK

1 INTRODUCTION

1.1 The content of this memorandum applies to Technology and Design coursework. The memorandum should be read in conjunction with the GCSE Technology and Design syllabus.

1.2 The syllabus content section highlights the holistic nature of Technology and Design and emphasises that teaching and assessment of the subject should support and promote this holistic philosophy. This is most applicable in respect of assessment of the coursework project.

Final grades for achievement in Technology and Design are based on performance in coursework and in the terminal examination.

1.3 The Scheme of Assessment carries weightings as follows:

Coursework	60%
Terminal Examination	40%

1.4 The coursework component for all students consists of two activities:

- **Coursework Activity 1**—Focused Tasks—10%
- **Coursework Activity 2**—Design Project—50%

Coursework Activity 1— Focused Tasks

Students are required to present evidence of having engaged in two focused tasks.

Focused tasks are activities undertaken as part of normal teaching and learning, they should not be undertaken as a special activity but rather as being integral to the course. The Focused Tasks target specific Assessment Objectives.

The Assessment Objectives addressed are:

- 4.1 Designing 5%
- 4.2 Communication 5%

The Focused Task associated with Designing

Students are required to demonstrate the knowledge, understanding and skills associated with **one** of the following:

(a) product evaluation;

(b) product development;

(c) product analysis.

The Focused Task associated with Communicating

Students are required to demonstrate the knowledge, understanding and skills associated with **one** of the following:

(a) a computer generated drawing;

(b) a presentation drawing;

(c) a technical report.

Guidance on how these focused tasks might be undertaken and assessed is given in Appendix 2.

1.5 **Coursework Activity 2—Design Project**

The **design project** will be identified by the student with the support of the teacher. Teachers should offer guidance to enable the students to address the Assessment Objectives. Students will be required to address all Assessment Objectives, including the energy and control aspect.

Guidance on the Design project is given in Appendix 2.

1.6 The coursework activities can be taken in any order and at any time throughout the course but it is strongly recommended that the Focused Tasks are undertaken in the first year of the course and the Design Project in the second year. Both activities will be assessed at the end of the course.

2 TEACHER RESPONSIBILITY

2.1 In respect of the coursework activities the teacher should be a facilitator to the students undertaking the course. The teacher should ensure that the activities undertaken by the student are appropriate, are in accordance with the syllabus requirements and can be assessed according to the assessment criteria set out in paragraph 4 of this memorandum.

2.2 It is recommended that centres should provide adequate time for teachers to undertake assessment and internal standardisation of coursework marking. Teachers should have all documentation associated with assessment completed prior to the arrival of the Council's moderators.

2.3 Formal assessment of both coursework activities must be recorded in the appropriate spaces on the Candidate Record Sheets supplied by the Council.

2.4 **Teachers should ensure that students do not incorporate the use of mains electricity in their products/systems.**

3 TEACHER ASSESSMENT OF THE COURSEWORK PROJECTS

3.1 It is expected that over the duration of the course the student will demonstrate knowledge, understanding and skills associated with the Assessment Objectives as set out in paragraph 4 of the syllabus.

Therefore for all purposes of assessment, students should demonstrate ability in respect of knowledge, understanding and skills associated with:

4.1 **Designing**

— evaluate products designed by others and the products which they are involved in designing;

— appraise the designing process which they have undertaken;

— generate and refine ideas linked to possible needs and opportunities by engaging in creative questioning and thinking;

— produce an appropriately detailed specification related to the function and performance of the product to be designed.

4.2 **Communicating**

— acquire and accurately use technology and design vocabulary;

— communicate effectively with specific audiences for specific purposes;

— make effective use of spelling, punctuation and grammar.

4.3 **Manufacturing**

— manipulate, using appropriate tools and equipment, a range of materials and components to manufacture products while maintaining a safe working environment;

— make modifications, if appropriate, to the product during manufacture as a result of on-going evaluation.

4.4 **Using energy and control**

— understand that there are various types of control systems including mechanical, electronic and pneumatic; and understand their principles of operation;

— use an understanding of energy and control systems when designing products.

The objectives above reflect the four sections of syllabus content.

3.2 The two coursework activities, as outlined in 1.4 (see previous page), should be presented together in the student's centre, or in any other location agreed by the Council, for assessment and moderation. To enable the process of moderation to proceed efficiently where possible students' coursework should be presented in rank order.

3.3 When assessing the coursework activities each activity initially should be assessed holistically using informed professional judgement. This initial assessment should suggest the mark band which the teacher considers to be appropriate to the total submission for that coursework component.

The teacher should then attempt to confirm this initial judgement by assessing the work against the specific criteria detailed by the Council in the guidance which accompanies the syllabus.

In a situation where the more detailed assessment does not confirm the initial assessment the work must be reviewed again until both methods of assessment suggest the same mark band.

3.4 **Coursework Activity 1: Focused Tasks**

When assessing each Focused Task the teacher should make an initial assessment based on informed professional judgement. This assessment will be informed by the advice given in Appendix 2.

The teacher should then attempt to confirm this initial judgement by assessing the work against the mark descriptors detailed in the guidance. The mark awarded will depend in practice upon the extent to which the candidate has met the requirements of the task overall. Shortcomings in some aspects of the task may be balanced by better performance in others.

It is not anticipated that the mark descriptors will be subdivided and a weighting given to each subdivision. It is anticipated that the total Focused Task submission will be viewed as a whole and a mark in the range 0–5 awarded.

3.5 **Coursework Activity 2: Design Project**

When assessing the Design Project the teacher should make an initial assessment based on informed professional judgement of the whole project. This assessment will be informed by the advice given in Appendix 2.

The teacher should then attempt to confirm this initial judgement by assessing the work against the mark descriptors detailed in the guidance. The teacher will be required to assess:

Designing in the mark range 0–5 (using half marks if appropriate)

Communicating in the mark range 0–5 (using half marks if appropriate)

Manufacturing in the mark range 0–10 (using half marks if appropriate)

Using Energy and Control in the mark range 0–10 (using half marks if appropriate)

Weightings will be applied as follows:

Designing	raw mark × 2
Communicating	raw mark, no weighting
Manufacturing	raw mark × 2½
Using Energy and Control	raw mark, no weighting

The raw marks and weighted marks will be recorded on the Candidate Record Sheet as appropriate.

Each mark should be supported by relevant comments which make reference to aspects of the mark descriptors.

The marks for each assessment objective should be totalled to arrive at a mark in the range 0–50. Marks should be rounded to the nearest whole mark, where appropriate.

The general descriptions of the mark bands are set out below.

General Description	Mark Band
Excellent work	49–50
Very good work	40–48
Good work	30–39
Average work	20–29
Weak work	10–19
Unsatisfactory work	1–9

3.6 Determining the Mark for Coursework

Total the marks awarded to the Focused Tasks and the Design Project to arrive at a mark in the range 0–60.

Confirm the proposed mark band suggested by assessment of both Coursework Activities using the table below:

General Description	Mark Band
Excellent work	59–60
Very good work	48–58
Good work	36–47
Average work	24–35
Weak work	12–23
Unsatisfactory work	1–11

4 MARK CRITERIA

Coursework Activity 1—Focused Tasks:

- Designing 5 marks
- Communicating 5 marks

These focused tasks are essentially teaching/learning exercises which are generated by the teacher. The teacher should identify the general criteria for each of the five marks available for each task.

The criteria should reflect the following structure:

Excellent work 5 marks
Very good work 4 marks
Good work 3 marks
Average work 2 marks
Weak work 1 mark

Coursework Activity 2—Design Project

The Design Project should address all four Assessment Objectives.

Marks should reward competence as follows.

Designing

Excellent work 5 marks
Very good work 4 marks
Good work 3 marks
Average work 2 marks
Weak work 1 mark

Half marks may be awarded, when appropriate, in the Design Project.

When a weighting of 2 is applied the total mark available for *Designing* is 10.

Communicating

Excellent work 5 marks
Very good work 4 marks
Good work 3 marks
Average work 2 marks
Weak work 1 mark

Half marks may be awarded, when appropriate, in the Design Project.

A weighting is not applied so the total mark available for *Communicating* is 5.

Manufacturing

Excellent work 9–10 marks
Very good work 7–8 marks
Good work 5–6 marks
Average work 3–4 marks
Weak work 1–2 mark

Half marks may be awarded when appropriate.

When a weighting of 2½ is applied the total mark available for *Designing* is 25.

Using energy and control

Excellent work 9–10 marks
Very good work 7–8 marks
Good work 5–6 marks
Average work 3–4 marks
Weak work 1–2 mark

Half marks may be awarded when appropriate.

A weighting is not applied so the total mark available for *Using energy and control* is 10.

More detailed guidance is given in Appendix 2.

5 GUIDANCE FOR COURSEWORK

5.1 It is recognised that the practical activities involved in Technology and Design are often carried out in the classroom as a group activity as well as on an individual basis. For the purpose of assessing the coursework, however, it will be necessary to assess each student's individual achievement.

5.2 The coursework component comprises of two Coursework activities. The Focused Tasks will be based on coursework activities identified by the Council. Centres will be notified of the activities two years in advance of the year of the examination. The Design project will be determined through consultation between the student and the teacher, so that all aspects of the relevant Assessment Objectives can be addressed.

5.3 Each student is required to submit:

(a) evidence of having engaged in the Focused Tasks;

(b) a portfolio to accompany the product designed in the Design Project. The portfolio will include both written and graphic material.

Emphasis in the assessment of these activities will be on the quality of the work rather than on the quantity. Students will be assessed on their level of spelling, punctuation and grammar in the Design Project as part of Assessment Objective 4.2: Communicating. Students will be expected to present their work in a concise and attractive form, some of which might be typewritten or word processed and accompanied by appropriate graphics. Photographs and other illustrative material should be included to complement the written work.

The portfolio which accompanies the designed product should contain **all** the rough work which is a natural part of designing. The portfolio should clearly demonstrate the route which the student has followed from initial thinking to realisation and appraisal of the final product.

It is anticipated that each portfolio will be distinctive and directly relevant to the nature of the project rather than conform to a predetermined format. Emphasis throughout the designing/manufacturing activity should be on the holistic nature of the activity. This should be reflected in the assessment of the project.

6 GUIDANCE FOR ASSESSMENT

6.1 Differentiation will be achieved by students:

- undertaking tasks which are appropriate to the Syllabus Content and Assessment Objectives;
- demonstrating different degrees of competence in the activity outcome.

6.2 It is possible for students to demonstrate basic degrees of competence in certain areas while also demonstrating intermediate or high degrees of competence in other areas.

6.3 Since students will be coping with the activities at a level appropriate to their ability it will be possible to reward virtually all students for positive achievements.

6.4 Zero marks should only be awarded in the following situations:

- where the student does not provide evidence of working towards an Assessment Objective;
- where the student does not undertake the activity;
- where the student has attempted the coursework but there is no evidence of any positive achievement to warrant a mark.

7 AUTHENTICATION

7.1 The coursework produced by each student must be his/her own work. It is accepted that certain elements of students' coursework may be taken from other sources. In the event all such uses must be clearly identified and fully acknowledged.

7.2 The signing by the teacher of the Candidate Record Sheets and the Teacher Assessed Component Sheet is a certification that the marks shown were awarded in accordance with the marking criteria. It is also a declaration by the teacher that the student's activities have been carefully monitored and kept under regular supervision and that to the best of their knowledge the work is the student's own.

7.3 It is recognised that the teacher may not be in a position to exercise the same close control over the whole of the research work for both the Design Project and the Focused Tasks as some aspects of the work are likely to have been done in the student's own time. Consequently teachers should warn students that they are forbidden to indulge in unfair practice during the preparation of their coursework. Any student who uses, or is suspected of using, any unfair means must be reported to the Council. If the Council is satisfied that an offence has been committed the student will be liable for disqualification in accordance with the Council's Regulations.

8 CANDIDATE RECORD SHEETS

8.1 The marks for each student must be recorded on the Candidate Record Sheet provided by the Council.

8.2 The student's coursework should be presented for assessment by the teacher. The following are details of the procedure to be followed.

(a) When completing the Candidate Record Sheet, award and record a mark on the appropriate scale for each of the relevant assessment objectives for both the Focused Tasks and Design project.

(b) Add supporting comments, based on the mark criteria, in the appropriate columns of the Candidate Record Sheet.

8.3 **Aggregation of marks**

Instructions will be given on the Candidate Record Sheet as to how this should be done.

The procedure is as follows.

- Enter the coursework mark for each of the assessment objectives for the Focused tasks and Design Project in the appropriate columns.
- Apply the appropriate weightings for aspects of the Design Project.
- Total the marks for both Coursework Activities (maximum mark 60).
- Round to the nearest whole number, if appropriate.

9 AGREEMENT TRIALS

Agreement trials will be held annually and centres entering students for the first time should send one representative. At these meetings assessment by teachers will be discussed and standards established. Agreement Trials are normally held in the Autumn Term of the second year of the course.

10 MODERATION PROCEDURE

The purpose of moderation is to ensure that the implementation of a mark scheme by an individual teacher in relation to the level of performance of a student is consistent with standards throughout Northern Ireland. After teachers have recorded the coursework marks and the work has been displayed, moderators appointed by the Council will visit each centre and apply the moderation procedures. This will involve scrutiny of work in both Coursework Activities. The scrutiny sample will be drawn from across the ability range of each teaching group in the centre.

10.1 The date of moderation will be notified to centres in advance.

10.2 During moderation the area used for the display should be subject to the same controls and regulations as to other areas used for examination purposes.

10.3 The presentation of work must be easily accessible and contain all peripheral devices to enable the Council's moderators to carry out an inspection on the functionality of the project.

10.4 The moderators will aim to confirm the teacher's rank order. In the event of moderators feeling that the teacher has been too lenient or too severe they will discuss the issues with the Head of Department and attempt to agree the marks to be awarded. If the moderators feels that it is necessary to amend the teacher's rank order, this will also be discussed with the Head of Department. If agreement cannot be reached, the teacher and/or moderators must refer the work to the Council's Moderation Appeals Procedure.

Appeals for final moderation can only be accepted at the time of the moderators' visit.

Marks agreed during moderation must not be divulged to students.

10.5 **Appeals**

Work will be reviewed by the chief moderator and a mark will be awarded on the basis of his/her assessment of the work, taking into account the marks and comments of the teacher and the visiting moderators and the standards agreed at the Agreement Trials.

10.6 **Return of Work**

Centres are advised not to return any work to students until 31 October following the examination.

APPENDIX 1
FORMULAE REQUIRED FOR GCSE TECHNOLOGY AND DESIGN

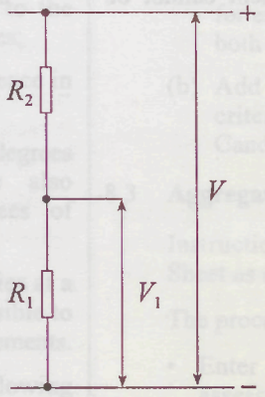
Students should use, where appropriate, the formulae given below when answering questions which include calculations.

1 Work done = force × distance moved in the direction of the force

$(W = f \times d)$

2 Potential Difference = current × resistance $(V = IR)$

3 For potential divider $V_1 = \dfrac{R_1}{(R_1 + R_2)} \times V$



4 Series Resistors $R_{Total} = R_1 + R_2 + R_3$ etc.

Parallel Resistors $\dfrac{1}{R_{Total}} = \dfrac{1}{R_1} + \dfrac{1}{R_2} + \dfrac{1}{R_3}$ etc.

5 Gear ratio of a simple gear train = $\dfrac{\text{number of teeth on driven gear}}{\text{number of teeth on driver gear}}$

NB. For a compound gear train

Total Gear ratio = the product of the gear ratios of all the subsystems

ie $G.R_T = G.R_1 \times G.R_2 \times G.R3 \ . \ . \ .$

6 Mechanical Advantage = $\dfrac{\text{Load}}{\text{Effort}}$

7 Velocity Ratio = $\dfrac{\text{Distance moved by effort}}{\text{Distance moved by load}}$

These formulae will be provided with examination papers.

APPENDIX 2
ASSESSMENT OF THE COURSEWORK COMPONENT

1 INTRODUCTION

1.1 For the purpose of assessment coursework is the work carried out by the student normally during five terms leading to the examination. It is representative of the quality expected of a student in the final stages of the GCSE Technology and Design course. Students should present their best quality work, reflecting a range of experience and showing evidence of involvement in the whole technology and design process.

1.2 Students should submit evidence of having undertaken two focused tasks and one design project. The focused tasks will each concentrate on one assessment objective. The design project must satisfy the visiting Moderators that all assessment objectives have been achieved within the project.

1.3 Teachers should advise students on the selection of appropriate coursework. It is important that teachers ensure that all coursework can be appropriately marked using the assessment criteria.

1.4 In the design project each student will be assessed on his/her ability to engage with:

- designing;
- communicating;
- manufacturing; and
- using energy and control.

1.5 Technology and design products should be able to be realised in a combination of suitable materials and components in the school workshop, and should reflect the highest level of manufacturing skill of which the student is capable.

1.6 Students should produce a design portfolio for the design project. The portfolio should include all investigatory work, the final working drawings, evaluation and suggested modifications.

1.7 In normal circumstances the candidate's performance throughout the duration of the course will improve and, therefore, the most recent assessment of learning potential will be the most accurate. It should not, therefore, be necessary to take account of other units of work completed during the course unless there are extenuating circumstances.

1.8 The two focused tasks and the design project will be marked by the student's teacher. This assessment will be subject to moderation by visiting Moderators appointed by the Council.

2 GENERAL GUIDANCE

2.1 The scheme of assessment for Technology and Design carries a weighting of 60% for coursework. Each student is required to submit:

- two focused tasks (2 × 5%); and
- a design project (50%).

2.2 The nature of the focused tasks and the design project should reflect the standard and complexity of this subject at Key Stage 4. Both coursework activities should provide challenges appropriate to the candidate's ability. It is anticipated that students are likely to undertake the focused tasks in the first half of the course and the design project in the second half. For those following the course in schools, it is anticipated therefore that the focused tasks will initially be undertaken in Year 11 and the design project will be given initial consideration in Year 11 and completed in Year 12.

2.3 To ensure that students have the opportunity to show what they can do rather than what they cannot do, individual mark indicators are written in positive terms. Thus students will be rewarded for positive achievement rather than penalised for negative achievement or failure.

2.4 A zero mark should only be awarded in the following extreme circumstances:

(a) the student fails to submit the coursework component;

(b) the student does not demonstrate the knowledge, skills or understanding appropriate to a specific activity, even following frequent guidance and direction from the teacher.

3 NOTES FOR GUIDANCE RELATING TO TEACHER ASSESSMENT OF COURSEWORK

3.1 Component 1: The Focused Tasks

The combined total for the **two** focused tasks will be 10 marks. The total mark awarded for the two focused tasks can be used as a general indication of a candidate's overall competency in Coursework Component 1 as follows:

Excellent	10 marks
Very good	8–9 marks
Good	6–7 marks
Average	4–5 marks
Weak	2–3 marks
Unsatisfactory	1 mark

For **each** focused task 5 marks will be available.

Excellent	5 marks
Very good	4 marks
Good	3 marks
Average	2 marks
Weak	1 mark

3.2 It is recommended that the assessment of **each** focused task be undertaken in two stages:

(a) a provisional assessment to be conducted as each task is undertaken and initially presented as part of the course;

(b) a final presentation of the completed focused task.

The purpose of the provisional assessment is to allow for teacher advice/guidance to take place and hence to permit the student, if they wish, to demonstrate an improvement on their initial level of competence at a suitable time later in the course.

3.3 A focused task submitted for assessment must be distinct from any similar task undertaken when developing and presenting work for assessment as part of the design project. The same evidence cannot be submitted for both a *focused task* and as part of the *design project.*

For example:

- in the focused task associated with *Designing* the student should not present a product evaluation which arises from *Designing* related to the *Design Project*; or
- in the focused task associated with *Communicating* the student should not present a computer generated drawing which arises from *Communicating* related to the *Design Project.*

3.4 **Criteria for Assessing the Focused Tasks**

Mark indicators for each of the qualities to be assessed are specified below. Teachers are asked to apply the criteria as specified and draw the fine distinction between mark bands on the basis of the standard of work presented.

In assessing each of the qualities, it is likely that some students will need assistance and direction from the teacher in order to complete the task. Assessment should take account of this and, where students require such assistance and direction, maximum marks which can be awarded may need to be restricted. The following guidance is offered to help teachers when considering the issue of assistance and direction.

- Students who have had little or no assistance or direction from the teacher in a focused task should be eligible for a mark up to the maximum of 5;
- Students who have had a major amount of assistance and direction from the teacher in a focused task should be eligible for a mark up to the maximum of 3.

3.5 It is anticipated that most focused tasks will be presented in the form of hard copy on paper. However other suitable media are acceptable. Where a focused task is presented using a medium other than paper, for example computer or video, in order to assist with moderation it will be necessary to have hard copy paper evidence available.

4 THE FOCUSED TASKS ASSOCIATED WITH DESIGNING

Students are required to present for assessment a focused task associated with **one** of the following:

- Product evaluation;
- Product development;
- Product analysis.

When identifying products for use in a Focused Task the student must ensure that he/she chooses a technological product. Technological products can take the form of artefacts or systems. The following questions will help identify a technological product:

- Does the product need an energy source to make it work?
- Does the product include a control system comprising input, process and output?

The focused task is to be assessed against a number of mark indicators. Indicators for marks 5, 3 and 1 are presented below. A student awarded a mark of 4 would more than satisfy the indicator for a mark of 3 but would not satisfy the indicator for a mark of 5.

4.1 **Product evaluation**

In product evaluation students will be required to:

- select an appropriate technological product which will lend itself to critical appraisal, and justify the selection;
- measure performance of the product against appropriate criteria identified by the student (for example technical performance, choice of materials, aesthetics);
- make a critical appraisal of the product;
- present the evaluation clearly, logically and concisely;
- make realistic proposals for modification.

Guidance in respect of size – four sides of A4 paper or equivalent. The report should use a combination of text and illustration as appropriate to the product being evaluated.

Excellent work 5 marks

Selection of a technological product which lends itself to critical appraisal, with justification given for choice. An in-depth, realistic critical appraisal of the strengths and weaknesses of a product chosen by the student. Evidence of having tested the product against clearly specified criteria devised by the student. Clear and logical presentation of results with appropriate detailed criticism. Realistic modifications suggested as a result of detailed evaluation.

Good work 3 marks

The product may not have been chosen by the student, with little justification given for choice. An attempt made at evaluation which goes some way to a realistic evaluation but lacking breadth and depth in certain respects. Some evidence of having tested the product against general criteria devised by the student. Presentation of results suggests some appropriate modifications.

Weak work 1 mark

The product may not have been chosen by the student. In situations where it has been chosen by the student no justification will have been given. Little evaluation undertaken with minimal presentation of results. No evidence of having tested the product against specified criteria. Very limited, and at times unrealistic, suggestions for modifications.

4.2 Product development

In product development students will be required to:

- progress an initial technological concept or idea;
- arrive at a complete solution which shows sufficient detail to demonstrate that the development is realistic;
- propose realistic use of appropriate materials and/or components;
- document the proposals in sufficient detail to provide clear guidance for manufacture;
- demonstrate that the final proposal has evolved through a series of stages from the original concept or idea.

Guidance in respect of size – four sides of A4 paper or equivalent. The development should use a combination of text and illustration as appropriate to the product being developed.

Excellent work 5 marks

Clear evidence that the initial technological concept or idea has been progressed and developed and that a complete, realistic solution has been proposed. The proposals have been presented in sufficient detail to provide clear guidance for manufacture. The evidence demonstrates clearly that the final proposal has evolved through a series of stages from the original concept or idea.

Good work 3 marks

Some evidence that the initial technological concept or idea has been progressed and developed and that a generally realistic solution has been proposed. The proposals have been presented in sufficient detail to provide some guidance for manufacture, although clarification on some aspects may be necessary. The evidence demonstrates that, in general terms, the final proposal has been based on the original concept or idea and some stages of development are evident.

Weak work 1 mark

Little evidence that the initial technological concept or idea has been progressed or developed to propose a realistic solution. The proposal contains only minimal guidance for manufacture, with major clarification on most aspects necessary. The evidence demonstrates that, in the final proposal, little attention has been paid to the original concept or idea or to stages of development.

4.3 Product analysis

In product analysis students will be required to:

- give a clear description of the purpose of the technological product, speculate on, and justify their understanding of, what the designer had in mind when he/she conceived the product;
- determine the extent to which the product would meet the needs of a typical user group;
- discuss the method of manufacture for multiple production, including the materials used;
- discuss how convenient the product is to use and to service;
- analyse energy input and output in both the manufacture and use/operation of the product.

Guidance in respect of size – four sides of A4 paper or equivalent. The analysis should use a combination of text and illustration as appropriate to the product being analysed.

Excellent work 5 marks

Gives a very clear description of the purpose of the product and, showing a high degree of insight, speculates on and justifies their understanding of what the designer had in mind when designing the product. Carefully outlines the procedures used and demonstrates how they determined the extent to which the product meets the needs of a typical user group. Demonstrates, in detail, an understanding of the method of manufacture and the materials used. Discusses, with clarity, how convenient the product is to use and to service. Critically analyses the input and output of energy in both the manufacture and use/operation of the product.

Good work 3 marks

Gives a satisfactory description of the purpose of the product, speculating on and justifying their understanding of what the designer had in mind when designing it. Broadly outlines the procedures used when determining the extent to which the product meets the needs of a typical user group. Demonstrates an understanding of the method of manufacture, including the materials used. Discusses in general terms how convenient the product is to use and to service. Analyses in general terms the input and output of energy in both the manufacture and use/operation of the product.

Weak work 1 mark

Gives a loose description of the purpose of the product and briefly speculates on the designer's intention when designing it. Outlines how they tried to determine the extent to which the product meets the needs of a typical user group. Demonstrates a little knowledge of the method of manufacture including the materials used. States briefly how convenient the product is to use and/or to service. Makes little attempt to analyse the input and output of energy in the manufacture or use/operation of the product.

5 THE FOCUSED TASKS ASSOCIATED WITH COMMUNICATING

Students are required to present for assessment a focused task associated with **one** of the following:

- A computer generated drawing;
- A presentation drawing;
- A technical report.

Each focused task is to be assessed against the following mark indicators. Indicators for marks 5, 3 and 1 are presented below. A student awarded a mark of 4 would more than satisfy the indicator for a mark of 3 but would not satisfy the indicator for a mark of 5.

5.1 A computer generated drawing

In a computer generated drawing students will be required to:

- convey intended information accurately;
- employ techniques which are appropriate to the target audience and to the nature of the product;
- accurately use the graphics tools and facilities offered by the computer hardware and software (for example: lines, fill-patterns, colour, elements, symbols, annotation) as appropriate;
- employ recognised European/International standards;
- demonstrate the use of a range of facilities and capabilities available on the computer hardware and software.

Guidance in respect of size – one side of an A4 or an A3 page. The drawing may include text where it is appropriate to the purpose of the drawing.

Each drawing presented for assessment should have a cover page specifying the hardware and software facilities available to the student. Each computer drawing should be generated from first principles. The use of library symbols is acceptable provided they are used in a suitably challenging context.

It is anticipated that the computer generated drawing would include one or more of the following as appropriate:

- PCB layouts;
- circuit diagrams;
- working drawings;
- packaging graphics;
- charts and graphs.

Excellent work 5 marks

Conveys the intended information very clearly and accurately. Employs a drawing technique which is most appropriate to the target audience and to the nature of the product. Accurately uses appropriate graphics tools and facilities and other capabilities available on the computer hardware and software. Presents a drawing which fully adheres to recognised European/International standards.

Good work 3 marks

Generally conveys the intended information clearly and accurately. Employs a drawing technique which is generally appropriate to the target audience and to the nature of the product. Uses appropriate graphics tools and facilities and other capabilities available on the computer hardware and software. Presents a drawing most of which adheres to recognised European/ International standards.

Weak work 1 mark

Conveys the intended information but at times it is not clear and is often inaccurate. Employs a drawing technique which may not be appropriate to the target audience and to the nature of the product. At times uses inappropriate graphics tools and facilities, or uses appropriate facilities wrongly. Does not fully utilise capabilities available on the computer hardware and software. Presents a drawing most of which does not adhere to recognised European/International standards.

5.2 A presentation drawing

In a presentation drawing students will be required to:

- produce a pictorial representation which accurately depicts a three-dimensional technological product;
- employ techniques which are appropriate to the nature of the product so that the drawing has the desired impact on the intended audience;
- demonstrate rendering skills using appropriate media (for example: line, pattern, texture, tone and colour in coloured pencil or watercolour or on a computer);
- demonstrate a good understanding and use of scale and proportion;
- use carefully considered annotation, where appropriate.

Guidance in respect of size – one A3 or one A4 page. The drawing may include text where it is appropriate to the purpose of the drawing.

Excellent work 5 marks

A pictorial representation which accurately depicts a three-dimensional technological product, employing techniques which are entirely appropriate to the nature of the product. The drawing is likely to have the desired impact on the intended audience. The drawing demonstrates a high standard of rendering skills using appropriate media. The drawing demonstrate a good understanding and use of scale and proportion and uses carefully considered annotation, where appropriate.

Good work 3 marks

A competent pictorial representation of a three-dimensional technological product employing techniques which are generally appropriate to the nature of the product. The drawing is likely to have some impact on the intended audience. It demonstrates a good standard of rendering skills using appropriate media. The drawing demonstrates an understanding of scale and proportion, and uses well considered annotation, where appropriate

Weak work 1 mark

A barely competent pictorial representation of a three-dimensional technological product employing techniques which vary in their appropriateness to the nature of the product. The drawing is likely to have little impact on the intended audience. It demonstrates a poor standard of rendering skills rarely using appropriate media. The drawing demonstrates little understanding of scale or proportion, and uses poorly considered annotation, at times inappropriately.

5.3 A technical report

In a technical report students will be required to:

- prepare and present a report on their direct experience of a technological product, an industrial visit, a product survey or a technological process;
- concisely and accurately convey information to the target audience;
- make appropriate and accurate use of technical language and vocabulary;
- include statistical information, where appropriate;
- make judgements and express opinions which are more objective than subjective and which are supported by convincing backing evidence.

Guidance in respect of size – four sides of A4 paper or equivalent. The report should be between 300 and 400 words. The report should be word processed or typed and should use graphic illustrations, such as tables, charts or graphs, or photographs, when appropriate. A report of an equivalent size in a different format would be equally acceptable, eg video, tape/slide presentation, overhead transparencies, computer presentation.

Excellent work 5 marks

The report is based on direct experience. It concisely and accurately conveys information to the target audience making appropriate and accurate use of technical language and vocabulary. Where it is appropriate the report includes useful statistical information. The report is very objective and judgements and opinions are supported by convincing backing evidence.

Good work 3 marks

The report is based on direct experience. It conveys information to the target audience using generally appropriate technical language and vocabulary. Where it is appropriate the report includes some suitable statistical information. The report is generally objective and most judgements and opinions are supported by generally sound backing evidence.

Weak work 1 mark

The report is not likely to be based on direct experience. It is weak in conveying information to the target audience. Technical language and vocabulary are rarely used. Suitable statistical information is likely to be missing. The report is generally subjective and most judgements or opinions are not supported by any evidence.

6 NOTES FOR GUIDANCE RELATING TO TEACHER ASSESSMENT OF COURSEWORK

6.1 Component 2: The Design Project

The design project forms the major part of the scheme of assessment for this subject. The project carries a weighting of 50%. The project enables students to demonstrate their ability to design and manufacture a technological product. This will include designing, communicating, manufacturing and using energy to control the product. The design project therefore provides an opportunity to work in a holistic and integrated way demonstrating an understanding of the issues involved, and the constraints to be considered, when responding to an identified need or opportunity.

A valid design project would require a student to:

- address a genuine need or opportunity which they have identified and which calls for a technological solution;
- engage in research and creative thinking, generating and refining ideas and proposing technological solutions;
- produce a sufficiently detailed specification which takes account of the function, required performance and needs of the user;
- manufacture a tangible solution using appropriate materials, components, processes and resources;
- evaluate the product against the specification and appraise the designing route/process followed.

6.2 The Design Project Portfolio

The design portfolio is an integral part of the design project. Each design project will have its own characteristics and relevant processes but it is likely that most design project portfolios will include most of the following.

(NB: It is important to emphasise that the suggestions which follow do not represent the sequence of activities involved in undertaking the Design Project and certainly do not define a designing route or process, nor do they determine the order in which the portfolio is presented.)

- A written statement of the identified problem, need or opportunity.
- Relevant analysis, investigation and research.
- A statement of the design criteria and constraints.
- A specification of the characteristics and performance of a successful resolution of the problem.
- A range of possible ideas or approaches to the problem.
- Evidence of rational selection of the most promising idea for development.
- Evidence of how thinking about the chosen idea was developed, improved and refined.
- The use of modelling (using commercially available kits or using appropriate software) if it is relevant to the resolution of the development.
- Details of any modifications suggested by the modelling and how they have been incorporated into the solution.
- A plan to aid production, including the use of time and the sequence of manufacture.
- A relevant record of the manufacturing process.

- A record of testing the product against the original specification.
- A record of any changes made as a result of evaluation during manufacturing.
- An evaluation of the product against the original design criteria and constraints.
- Consideration of social, economic and environmental factors, if relevant.
- An appraisal of the original analysis and the designing route/ process followed.

6.3 **Evidence relevant to the Design Project**

The Assessment Objectives detailed in paragraph 4 of the syllabus provide the structure for assessment of the design project. The Assessment Objectives are associated with:

- Designing (10 marks);
- Communicating (5 marks);
- Manufacturing (25 marks);
- Using energy and control (10 marks).

The nature of evidence associated with each of these is discussed below.

6.3.1 ***Designing***

Evidence of the student's ability to design is likely to include:

- an analysis of various situations in an attempt to identify likely needs, opportunities or problem situations based on personal experience;
- an appraisal of contemporary and/or historical solutions to similar problems;
- market research, where relevant;
- a detailed specification;
- proposals for possible resolutions to design problems;
- an indication of the quality of the student's flair and imagination;
- initial ideas and proposals in the form of quick exploratory sketches, annotated where relevant;
- evaluation of the initial ideas including identification of ideas worthy of further development;
- evidence of having made a comparison of the design ideas and the justification for adoption or rejection;
- modelling of the better ideas to further test their feasibility;
- a range of final drawings to enable manufacturing to take place;
- details of manufacturing procedures to assist repeat production, where appropriate;
- details of any modifications made during manufacture;
- evidence of objective testing and evaluation against the specifications;
- independent appraisal of the product;
- discussion of the successful and less successful features of the product, and suggestions for improvements.

6.3.2 ***Communicating***

Evidence of the student's ability to communicate is likely to include:

- visual work which uses a range of media and graphic processes including charts and graphs, where appropriate;
- the use of information technology;
- the accurate use of subject specific terminology;
- sketches of initial ideas and their development, annotated when appropriate;
- two-dimensional and three-dimensional modelling to test ideas before proceeding;
- final drawings in sufficient detail and to recognised standards to meet the needs of different users;
- presentation drawings;
- the accurate use of spelling, punctuation and grammar.

6.3.3 ***Manufacturing***

Evidence of the student's ability to manufacture is likely to include:

- planning the most appropriate sequence of manufacturing activities, including the most appropriate use of tools and processes to successfully overcome problems and ensure production of the intended outcome;
- demonstration of the ability to select, manipulate and finish materials in order to safely realise intentions;
- a working knowledge of the properties of a wide range of materials and appropriate finishing techniques to achieve desired effects;
- manufacture of the product to an appropriate level of quality;
- evidence to explain and justify the selection and use of equipment, components, tools and materials.

6.3.4 ***Using energy and control***

Evidence of the student's awareness of the importance of energy considerations and its transfer for use in the control systems of the product which they are designing. This is likely to include:

- an awareness of how energy can be converted, transferred and controlled;
- an appreciation that the choice of energy source depends on a number of factors including cost, reliability, performance and environmental effects;
- an appreciation that control systems can take various forms including mechanical, electrical, electronic and pneumatic;

- an appreciation of the principles by which control systems can be interconnected;
- an analysis of control systems to identify those which are most appropriate for use in the product which they are designing;
- an awareness of the appropriateness of manual, automatic or continuous control and a selection of the most appropriate for use in the product which they are designing;
- an appreciation of the advantages of, and limitations imposed by, the use of computers and microprocessors in control systems which they are considering using in the product which they are designing;
- an appreciation of the systems approach: input, process and output;
- identification of components associated with various sub-systems.

7 ASSESSMENT PROCEDURE FOR THE DESIGN PROJECT

7.1 Each student is to be assessed for each assessment criterion and the mark recorded on the Candidate Record Sheet provided by the Council. Coursework must be assessed not later than 1 May in the year of the examination.

7.2 A zero mark should only be awarded when in the following extreme circumstances:

(a) the student fails to submit evidence relevant to a specific criterion, even following frequent guidance and direction from the teacher;

(b) the student refuses to tackle specific aspects of the design project.

7.3 In reaching a decision on the mark to be awarded to each assessment criterion teachers must decide on whether the performance is excellent, very good, good, average, weak or unsatisfactory.

7.4 Details of the assessment criteria are given below.

Assessment Objective 1 – Designing

A mark in the range 0–5 should be awarded.

For *Designing* half marks may be used.

A weighting of 2 is applied.

Excellent work 5 marks

Students should be able to:

- make a detailed, in-depth evaluation of relevant products designed by others;
- make a critical, relevant evaluation of the product which they are involved in designing, throughout the process and at the end;
- make a detailed, realistic appraisal of the designing route which they have undertaken and how this has affected the nature of the designed product;
- identify a range of needs or opportunities and justify, with detailed reasoning, their selection;
- assemble, from a wide variety of sources, relevant and imaginative research;
- critically and logically analyse the most relevant aspects of the research;
- produce a clear design brief;
- produce a detailed specification against which the designed product can be tested;
- generate, improve and refine a range of possible solutions which demonstrate that all relevant factors, including safety, have been considered;
- use modelling, as appropriate and demonstrate clearly that all relevant information gained has been incorporated in the proposed solution;
- undertake careful and critical testing against the original specifications;
- produce a very detailed evaluation of the extent to which the product meets the design brief, taking into account all of the important points;
- estimate the potential of the product for manufacture, taking account of relevant social, economic or environmental factors.

Good work 3 marks

Students should be able to:

- make a quite detailed evaluation of relevant products designed by others;
- make a relevant evaluation of the product which they are involved in designing, throughout the process and at the end;
- make a realistic appraisal of the designing route which they have undertaken and how this has affected the nature of the designed product;
- identify a limited range of needs or opportunities and justify most of the reasons for their election;
- assemble, from a limited variety of sources, relevant research;
- critically analyse some relevant aspects of the research;
- produce a design brief which is quite clear;
- produce a general specification against which the designed product can be tested;
- generate, improve and refine a limited number of possible solutions which demonstrate that some relevant factors, including safety, have been considered;
- use modelling techniques, as appropriate, and demonstrate that some of the relevant information gained has been incorporated in the proposed solution;
- undertake some testing against the original specification;
- produce a general evaluation of the extent to which the product meets the design brief, taking into account some of the important points;
- estimate the potential of the product for manufacture, taking account of some relevant factors.

Weak work 1 mark

Students should be able to:

- make a very basic evaluation of relevant products designed by others;
- make minimal evaluation of the product which they are involved in designing, either throughout the process or at the end;
- make a very basic appraisal of the designing route which they have undertaken;
- identify a limited range of needs or opportunities and make some basic justification for their selection;
- assemble, from a very limited variety of sources, some relevant research;
- analyse, to a limited extent, some aspects of the research;
- produce a vague design brief;
- produce a very basic specification against which it will be possible to test the designed product;
- generate a very limited number of possible solutions which may not necessarily demonstrate that relevant factors, including safety, have been considered;
- use basic modelling techniques, as appropriate, and demonstrate that some information has been gained;
- undertake very basic testing against the original specifications;
- produce a basic evaluation of the extent to which the product meets the design brief, taking into account a few of the important points;
- make a basic estimation of the potential of the product for manufacture.

7.5 **Assessment Objective 2 – Communicating**

A mark in the range 0–5 should be awarded.

For *Communicating* half marks may be used.

A weighting is not applied.

Excellent work 5 marks

Students should be able to:

- demonstrate competence in a wide range of communication skills, including information technology;
- use subject specific vocabulary with total accuracy;
- present, in a very attractive manner, all of the following: information, ideas, planning details and proposed solutions;
- use effectively illustrative techniques using two-dimensional and three-dimensional representations;
- clearly and accurately communicate through written, graphical and numeric forms;
- use recognised technical and symbolic notation to clearly identify components and accurately convey information related to design detail;
- produce good quality working drawings which fully conform to recognised standards;
- present a very competent presentation drawing;
- spell, punctuate and use the rules of grammar with almost faultless accuracy, employing a range of grammatical constructions.

Good work 3 marks

Students should be able to:

- demonstrate competence using a range of communication skills, including information technology;
- use subject specific vocabulary with a good degree of accuracy;
- present, in a fairly attractive manner, most of the following: information, ideas, planning details and proposed solutions;
- use generally competent illustrative techniques using two-dimensional and three-dimensional representations;
- clearly and with a fair degree of accuracy communicate through written, graphical and numeric forms;
- use recognised technical and symbolic notation to identify most components and convey some information related to design detail;
- produce fairly good quality working drawings which generally conform to recognised standards;
- produce a competent presentation drawing;
- spell, punctuate and use the rules of grammar with considerable accuracy.

Weak work 1 mark

Students should be able to:

- demonstrate basic competence using a few communication skills, usually including information technology;
- use some subject specific vocabulary with a fair degree of accuracy;
- present, in a fairly attractive manner, some of the following: information, ideas, planning details and proposed solutions;
- use illustrative techniques which use two-dimensional and/or three-dimensional representations;
- communicate through written and/or graphical and/or numeric forms;
- make basic use of recognised technical and symbolic notation;
- produce basic working drawings which generally conform to recognised standards;
- present a competent presentation drawing;
- spell, punctuate and use the rules of grammar with reasonable accuracy.

7.6 **Assessment Objective 3 – Manufacturing**

A mark in the range 0–10 should be awarded.

For *Manufacturing* half marks may be used.

A weighting of 2½ is applied.

Excellent work 9–10 marks

Students should be able to:

- show a detailed knowledge of possible materials and components which could be used in the manufacture of the product;
- state sound and realistic reasons to justify the materials and components chosen;
- show a detailed knowledge of possible techniques and processes which could be used in the manufacture of the product;
- state sound and realistic reasons to justify the techniques and processes chosen;
- show that they have thoroughly planned the most appropriate sequence of manufacturing activities;
- show that the planned manufacturing programme has been managed in a very successful manner leading to a high quality outcome;
- show that the product has been finished to a high standard showing excellent attention to detail;
- show that a lot of consideration has been given to cost, aesthetic and environmental factors;
- show that the majority of aspects of the manufactured solution bear a close resemblance to the final design;
- show that they have demonstrated flexibility throughout manufacturing to take account of unforeseen circumstances, that they were able to respond effectively and justify actions taken;
- show that the manufactured product exhibits a high standard of safety for the user.

Good work 5–6 marks

Students should be able to:

- show a good knowledge of possible materials and components which could be used in the manufacture of the product;
- state some reasons to justify the materials and components chosen;
- show a good knowledge of possible techniques and processes which could be used in the manufacture of the product;
- state some reasons to justify the techniques and processes chosen;
- show that they have generally planned the most appropriate sequence of manufacturing activities;
- show that the planned manufacturing programme has been managed in a quite successful manner leading to a good quality outcome;
- show that the product has been finished to a good standard showing excellent attention to detail;
- show that some consideration has been given to cost, aesthetic and environmental factors;
- show that some of the aspects of the manufactured solution bear a close resemblance to the final design;
- show that they have demonstrated some flexibility throughout manufacturing to take account of unforeseen circumstances, that they were able to respond fairly effectively and give some justification for actions taken;
- show that the manufactured product exhibits a good standard of safety for the user.

Weak work 1–2 marks

Students should be able to:

- show a basic knowledge of possible materials and components which could be used in the manufacture of the product;
- state one or two reasons to justify the materials and components chosen;
- show a basic knowledge of possible techniques and processes which could be used in the manufacture of the product;
- state one or two reasons to justify the techniques and processes chosen;
- show that they have basically planned the sequence of manufacturing activities;
- show that the manufacturing programme has been subject to some management leading to a low quality outcome;
- show that the product has been finished to a poor standard showing little attention to detail;
- show that a little consideration has been given to cost, aesthetic and environmental factors;
- show that a few of the aspects of the manufactured solution bear a little resemblance to the final design;
- show that they have demonstrated a little flexibility throughout manufacturing to take account of unforeseen circumstances, that they were able to respond at a basic level and give basic justification for actions taken;
- show that the manufactured product exhibits a poor standard of safety for the user.

7.7 **Assessment Objective 4 – Using Energy and Control**

A mark in the range 0–10 should be awarded.

For *Using Energy and Control* half marks may be used.

A weighting is not applied.

Excellent work 9–10 marks

Students should be able to:

- demonstrate that they understand that control systems can take various forms and that the most appropriate have been very successfully incorporated in the product which they have designed;

- show that they have critically analysed the control system which they have used in terms of input, process and output.

Good work **5–6 marks**

Students should be able to:

- demonstrate that they have some understanding that control systems can take various forms and that a generally appropriate system has been quite successfully incorporated in the product which they have designed;
- show that they have critically analysed the control system which they have used in terms of input, process and output.

Weak work **1–2 marks**

Students should be able to:

- demonstrate that they have a limited understanding that control systems can take various forms and that a basic system has been incorporated in the product which they have designed;
- show that they have made a basic analysis of the control system which they have used and can identify one or more of input, process and output.

APPENDIX 3: SYMBOLS SHEETS

These Technology and Design Symbols Sheets present the graphical symbols with which students following the GCSE syllabus should be familiar.

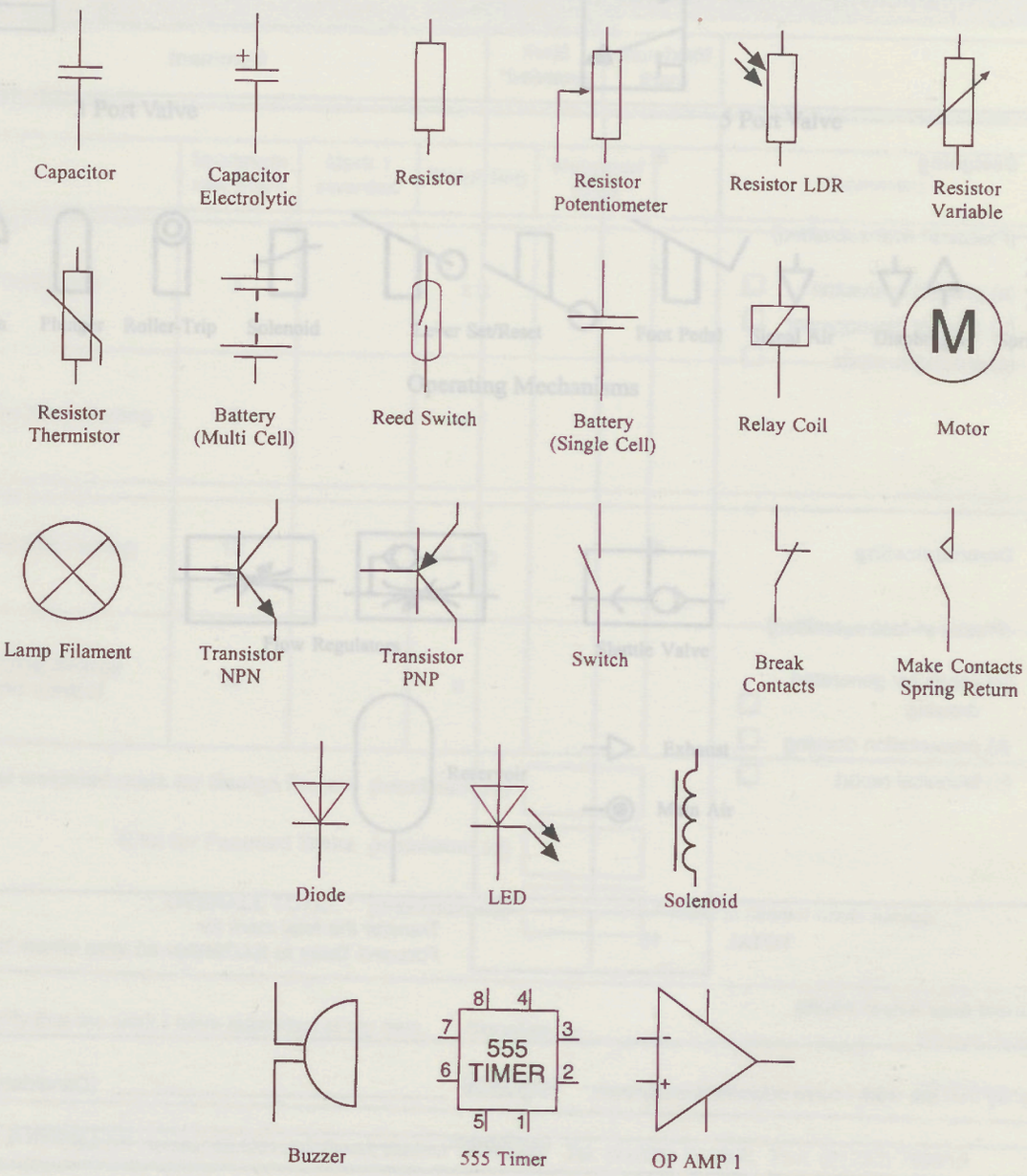
The symbols are presented under the following categories:

- Electronic Circuit Symbols;
- Pneumatic Symbols.

Most of the symbols presented below conform to those recommended by the Association for Science Education. Additional information can be found in the Association's publication: *Signs, Symbols and Systematics* ISBN 0 86357 232 4, June 1995.

The Association for Science Education, College Lane, Hatfield, Herts AL10 9AA.

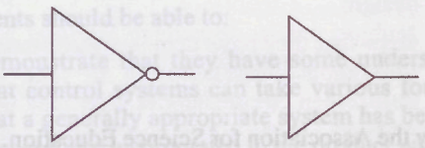
ELECTRONIC CIRCUIT SYMBOLS



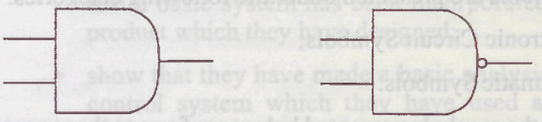
Georg-Eckert-Institut für internationale Schulbuchforschung Braunschweig -Schulbuchbibliothek-

ELECTRONIC CIRCUIT SYMBOLS (continued)

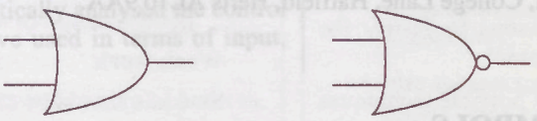
Logic Symbols



Inverter Buffer

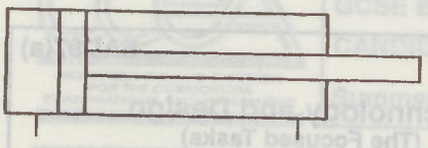


AND Gate 2 Input NAND Gate 2 Input

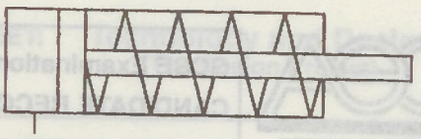


OR Gate 2 Input NOR Gate 2 Input

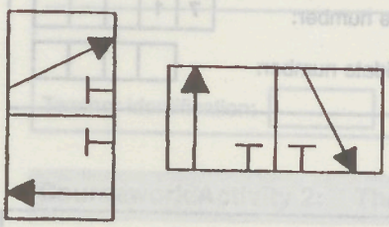
PNEUMATIC SYMBOLS



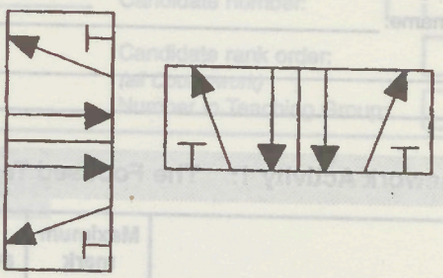
Double Acting Cylinder



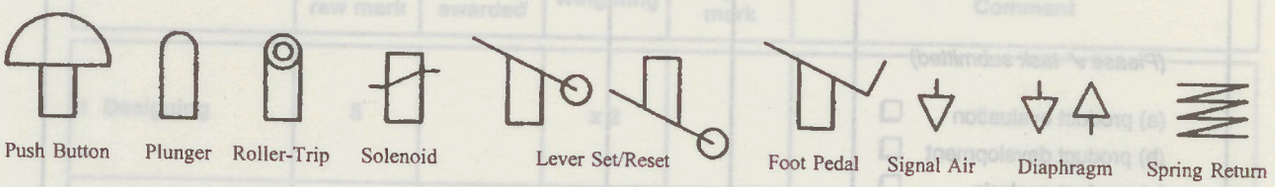
Single Acting Cylinder



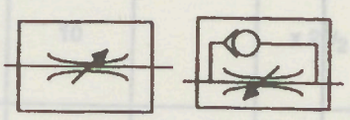
3 Port Valve



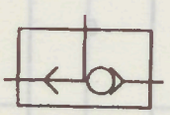
5 Port Valve



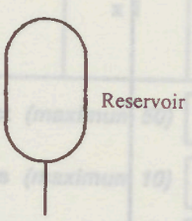
Operating Mechanisms

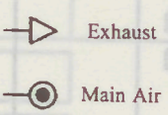


Flow Regulators



Shuttle Valve





APPENDIX 4: CANDIDATE RECORD SHEETS

CCEA NI
NORTHERN IRELAND COUNCIL FOR THE CURRICULUM EXAMINATIONS AND ASSESSMENT

EAD97(a)

GCSE Examinations
CANDIDATE RECORD SHEET: Technology and Design
(The Focused Tasks)
Summer 199_

Centre name: _____ Centre number: 7 1 _ _ _

_____ Candidate number: _ _ _ _

Coursework Activity 1: The Focused Tasks

	Maximum mark	Mark awarded*	Comment
1 Designing *(Please ✔ task submitted)* (a) product evaluation ❑ (b) product development ❑ (c) product analysis ❑	5		
2 Communicating *(Please ✔ task submitted)* (a) computer generated drawing ❑ (b) presentation drawing ❑ (c) technical report ❑	5		
TOTAL	10		*Transfer the total mark for Focused Tasks to EAD97(b)*

** Award only whole marks*

I certify that the work I have submitted is my own. Signature: _____ (Candidate)

Confirmed: _____ (Teacher)

Beechill House, 42 Beechill Road, Belfast BT8 4RS Tel: (01232) 704666, Fax: (01232) 799913

EAD97(a)/1/96

NORTHERN IRELAND COUNCIL FOR THE CURRICULUM EXAMINATIONS AND ASSESSMENT

GCSE Examinations **EAD97(b)**

CANDIDATE RECORD SHEET: Technology and Design
(The Design Project)

Summer 199_

Centre name: _____ Centre number: 7 1 | | | | |

_____ Candidate number: | | | | |

Candidate rank order: | |
(all Coursework)

Teacher identification: | | Number in Teaching Group: | |

Coursework Activity 2: The Design Project

Title: _____

	Maximum raw mark	Mark † awarded	Weighting	Weighted mark	Comment
1 Designing	5		x 2		
2 Communicating	5		x 1		
3 Manufacturing	10		x $2^1/_2$		
4 Using energy and control	10		x 1		

Total weighted mark for Design Project ***(maximum 50)*** | |

Total for Focused Tasks ***(maximum 10)*** | |

OVERALL TOTAL * ***(maximum 60)*** | | ** round to nearest whole number*

† Half marks may be used

I certify that the work I have submitted is my own. Signature: _____ (Candidate)

Confirmed: _____ (Teacher)

Beechill House, 42 Beechill Road, Belfast BT8 4RS Tel: (01232) 704666, Fax: (01232) 799913

EAD97(b)/1/96

GCSE TECHNOLOGY AND DESIGN SYLLABUS 1998

CCEA
NORTHERN IRELAND COUNCIL FOR THE CURRICULUM EXAMINATIONS AND ASSESSMENT

GCSE Examinations
CANDIDATE RECORD SHEET: Technology and Design
(The Design Project)
Summer 199_

EAD97(b)

Centre name: _____ Centre number: 7 1

Candidate number:

Candidate rank order: (all Coursework)

Teacher identification: Number in Teaching Group:

Coursework Activity 2: The Design Project

Title: _____

	Maximum raw mark	Mark † awarded	Weighting	Weighted mark	Comment
1 Designing	5		x 2		
2 Communicating	5		x 1		
3 Manufacturing	10		x 2½		
4 Using energy and control	10		x 1		

Total weighted mark for Design Project (maximum 50)

Total for Focused Tasks (maximum 10)

OVERALL TOTAL * (maximum 60) * round to nearest whole number

† Half marks may be used

I certify that the work I have submitted is my own. Signature: _____ (Candidate)

Confirmed: _____ (Teacher)

Beechill House, 42 Beechill Road, Belfast BT8 4RS Tel: (01232) 704666, Fax: (01232) 799913

EAD97(b)/A6

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