



LEAVING CERTIFICATE

GEOGRAPHY
SYLLABUS

(ORDINARY AND HIGHER LEVELS)

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INTRODUCTION

Rationale

Geography is concerned with the study of people and their environment. A study of geography will help students develop an understanding of their physical and human surroundings. It examines the changing inter-relationships between the physical and human worlds. Through their study of geography, students will develop geographical skills that will help them make informed judgements about issues at local, national, and international levels.

Aims

1. To develop a knowledge and understanding of a selection of contrasting physical and human (social, economic, and cultural) environments and of the relationships that exist between them.
2. To promote an awareness of the spatial, structural, and temporal patterns of environmental phenomena, both physical and human, at a variety of scales, and to realise that these patterns can change with time.
3. To understand the opportunities for, and challenges of, global interdependence.
4. To promote the conservation and sustained management of the earth's resources for the welfare and happiness of its inhabitants and for future generations.
5. To recognise, and be sensitive to other people and their culture, here in Ireland and elsewhere.
6. To develop a variety of geographical skills which can be applied to the world of work and to many other aspects of life.

7. To develop and promote active citizenship and to encourage informed participation, through lifelong learning, in society at local, national, European and global level.
8. To encourage the use of information and communication technologies in the teaching and learning of geography.
9. To assist students to become well-informed and responsible citizens and to enable them to progress to further studies or to enter the world of work.
10. To provide students, through their study of geography, with an interesting and enjoyable experience and imbue in them a lifelong love of their natural and cultural environment.

Objectives

The course objectives list the knowledge and understanding, concepts, skills and attitudes which students should acquire through their study of Leaving Certificate geography. They are based on, and progress from, the objectives in the Junior Certificate geography syllabus.

1. Knowledge and understanding

From this syllabus, students should acquire knowledge and develop an understanding, from a local, national and international perspective of

- basic spatial relationships
- physical and environmental phenomena and processes
- social, cultural, and economic phenomena and processes

- the interaction and inter-relationships between physical, environmental, social, cultural, and economic phenomena
- the practical aspects of these different phenomena as they relate to the student's local environment and community.

2. Course concepts

Students should understand the key concepts of

- location
- spatial distribution
- areal association
- inter-relationship
- spatial interaction
- density
- pattern
- region
- change over time.

Students, while developing their ability to use and apply these concepts, should also develop their problem-solving skills, and understand processes and systems relevant to each concept.

3. Skills

Students should have the opportunity to develop the following skills, where appropriate, as they study all aspects of the syllabus:

- information gathering skills
 - maps of various scales including Ordnance Survey maps and synoptic weather maps
 - figures (line graphs, bar graphs, pie charts, diagrams and pictorial models)
 - statistics
 - photographs, including aerial and satellite photographs
 - pictures, including cartoons
 - textual sources with geographical terminology

- information and communication technology sources (e.g. computerised data and packages, TV and radio programmes, internet, audio and digital sources) GIS and satellite imagery.
- presentation and communication skills
 - present and communicate information and ideas in a variety of ways (including maps, figures, statistics, written, and oral)
- investigative skills
 - select and use a variety of modes of investigation
 - carry out a geographical investigation using both primary and secondary sources of information
- social skills
 - develop social skills (e.g. working effectively alone or in groups, following instructions, teamwork and co-operation, use of verbal communication to find out, debate and pass on information)
- evaluation skills
 - synthesise, analyse, interpret and evaluate information (e.g. distinguish fact from opinion, draw conclusions, prove simple hypotheses, make informed judgements, suggest sensible solutions to problems and, where appropriate, suggest realistic plans for action).

4. Attitudes

Students should be encouraged to develop positive attitudes towards themselves, others, and their environment. Such attitudes include:

- a willingness to perceive and evaluate natural and cultural phenomena from the point of view of others
- an appreciation of social, cultural, and environmental diversity
- an awareness of the dangers of all types of stereotyping and prejudice
- sensitivity to the aesthetic quality of the natural and cultural environment, leading to a desire to maintain and enhance this quality.

SYLLABUS STRUCTURE

The syllabus is presented in the form of core, elective, and optional areas of study. The development of geographical skills should permeate teaching and learning across all aspects of the syllabus, as appropriate.

Format

The syllabus for Ordinary level is presented in the form of core and elective units. For Higher level it is presented in the form of core, elective and optional units. Each unit is sub-divided into statements and topics for study. Each unit is presented in four columns:

- Unit number
- Content description
- National settings
- International settings

The content description column contains the main guiding statements for the unit and a detailed breakdown of study areas under topics for study.

Settings

At all times teachers should endeavour to explain geographical phenomena by using local examples, where available and appropriate, to illustrate the topics. In addition, national and international examples are also provided throughout the syllabus. **These settings are not prescriptive and are for guidance only.** Teachers are also given the freedom to choose their own settings and case studies to illustrate the topics for study. Teachers should link, where appropriate, each of the topics for study throughout the syllabus to Core Unit 2 - regional geography - and vice versa. This will allow regional geography to provide appropriate settings and to become a natural and cohesive part of the overall syllabus.

Geographical skills

The learning, use, and application of geographical skills is central to a student's experience of Leaving Certificate geography. Geographical skills are central to all parts of the syllabus. The core geographical skills are listed for study in Core Unit 3 and are to be studied by all students. A list of skills is also included in the introduction to each of the syllabus units. These listed skills should be integrated into the teaching of all the syllabus units as appropriate. These core geographical skills will also be used and applied in the preparation of the geographical investigation at both Higher and Ordinary levels. The student's competency in the application and use of geographical skills will be examined in the context of the terminal written examination and the geographical investigation.

The Geographical Investigation

The geographical investigation is a core area of study and as such is compulsory for all students. Field studies and investigations using primary and secondary sources are central to the geographical education and experience of all students. The investigation will allow the student to experience the practical application of the core geographical skills that are central to all units of the syllabus. The geographical investigation will allow the student to experience the key aims of the syllabus in the context of their own environment. The investigation also encourages students to develop positive attitudes by both experiencing and questioning relationships and issues in their own environment. The investigation represents the practical application of the core geographical skills listed in the syllabus. The students, having studied and practiced the geographical skills listed, will then apply the appropriate skills to the investigation topic. In the process of completing the geographical investigation students will be required to

- devise a strategy and identify aims, objectives, and hypotheses to allow for the effective investigation of the topic
- select methods of collection and gathering appropriate to the investigation topic
- use appropriate methods of gathering and collection of information
- prepare a report
- analyse and interpret results and draw valid conclusions.

Differentiation

The structure of the syllabus has a clear differentiation between Higher and Ordinary levels. The introduction to each of the syllabus units shows clear differentiation between the outcomes for Higher and Ordinary level. Only Higher level students must study an optional unit.

Units of study — Ordinary level

Ordinary level students are required to study:

Core Unit 1	Patterns and processes in the physical environment
Core Unit 2	Regional geography
Core Unit 3	Geographical Investigation and Skills

One of the following two electives:

Elective Unit 4	Patterns and processes in economic activities
Elective Unit 5	Patterns and processes in the human environment

Units of study — Higher level

Higher level students are required to study:

Core Unit 1	Patterns and processes in the physical environment
Core Unit 2	Regional geography
Core Unit 3	Geographical Investigation and Skills

One of the following two electives:

Elective Unit 4	Patterns and processes in economic activities
Elective Unit 5	Patterns and processes in the human environment

One of the following four optional areas of study:

Optional Unit 6	Global interdependence
Optional Unit 7	Geoecology
Optional Unit 8	Culture and identity
Optional Unit 9	The atmosphere—ocean environment

ASSESSMENT

Assessment will take the form of a terminal written examination and a report on the geographical investigation. There will be a separate written examination for Higher level and for Ordinary level students. The terminal written examination will have an assessment weighting of 80%. The report on the geographical investigation will have an assessment weighting of 20%. The two forms of assessment will reflect the syllabus content and the learning outcomes specified in each unit of the syllabus. The terminal written examination will consist of questions requiring short answers and multi-part questions requiring more developed answers. Longer essay-style discursive answers will be required only in the assessment of the optional units. All questions will contain stimulus material and a geographical skills element, where appropriate. The report on the geographical investigation will be assessed outside of the terminal written examination.

LEAVING CERTIFICATE GEOGRAPHY SYLLABUS

CORE UNITS

CORE UNITS

ALL THREE CORE UNITS MUST BE TAKEN BY BOTH ORDINARY
AND HIGHER LEVEL STUDENTS.

Core Unit 1:	Patterns and processes in the physical environment
Core Unit 2:	Regional geography
Core Unit 3:	The Geographical Investigation and skills unit

CORE UNIT 1

PATTERNS AND PROCESSES IN THE PHYSICAL ENVIRONMENT

AIMS

This unit aims to examine the relationship between the tectonic cycle, the rock cycle and the processes of landform development.

SKILLS

In the study of this unit, students understand and use, where appropriate, the geographical skills of

- map interpretation
- figure interpretation
- photograph analysis
- statistical analysis
- figure drawing
- information technology applications.

OUTCOMES: ORDINARY LEVEL

On completion of this unit, the ordinary level student should be able to

- explain the theory of plate tectonics
- show an understanding of the processes of rock formation, weathering and erosion
- explain the processes of landform development involving the interaction of the tectonic cycle, rock cycle, and surface processes
- show how human activities can affect these processes
- understand and use the skills listed to describe the physical environment.

OUTCOMES: HIGHER LEVEL

On completion of this unit, the student should be able to

- show a detailed understanding of the theory of plate tectonics
- illustrate how crustal structures are created, modified and destroyed by the tectonic cycle
- explain and illustrate the continual process of rock formation, change and destruction
- explain and illustrate how landforms develop from the interaction of the tectonic cycle, rock cycle, and surface forces
- illustrate how landforms represent a balance, through time, between endogenic (internal) and exogenic (external) forces
- assess, at different scales, the impact of human activity on the physical processes at work on the landscape
- understand and use the skills listed above to interpret the physical environment.

SETTINGS

At all times, teachers should endeavour to explain geographical phenomena by using local examples, where available, to illustrate the topics. National and international examples are also provided throughout the syllabus. These settings are provided as examples and are not prescriptive. Teachers are also given the freedom to choose their own settings and case studies to illustrate the topics for study. The topics for study and the chosen settings should, where possible, be linked to the regions studied in Core Unit 2.

CORE UNIT 1: PATTERNS AND PROCESSES IN THE PHYSICAL ENVIRONMENT

	Content description	National settings	International settings
<p>1.1</p>	<p>The tectonic cycle</p> <p>Statement: The mobility of the earth's crust produces endogenic forces, which give rise to geological structures within it. Crustal structures are created, modified and destroyed as part of the tectonic cycle.</p> <p>Students should study:</p> <ul style="list-style-type: none"> the internal structure of the earth the plate tectonics model plate boundaries as zones of crustal construction and destruction the geography of volcanoes and earthquakes and how they and their effects may be predicted. 	<p>The position of Ireland in relation to plate boundaries now and in past geological periods.</p> <p>Antrim basalt extrusion in relation to the opening of the Atlantic.</p>	<p>Global geography of lithospheric plates.</p> <p>Global geography of volcanic and seismic activity.</p>
<p>1.2</p>	<p>The rock cycle</p> <p>Statement: Rocks are continually formed, modified, destroyed and reconstituted as part of the rock cycle. They are formed and modified by endogenic forces; they are destroyed by exogenic forces of erosion on exposure to weather and climate; they are reconstituted by the deposition of sediments.</p> <p>Students should study</p> <ul style="list-style-type: none"> the geotectonic setting of the formation of igneous (both plutonic and volcanic), metamorphic and sedimentary rocks the processes of weathering (both physical and chemical), mass wasting and erosion by rivers, sea, ice and wind (N.B. This can be studied in conjunction with section 1.5 below) <p>The human interaction with the rock cycle, paying particular attention to one of the following: mining, extraction of building materials, oil gas exploitation, geothermal energy production.</p>	<p>Irish rock types as illustrations of plutonic, volcanic, metamorphic, and sedimentary settings.</p> <p>Appropriate national examples.</p>	<p>The North American continent with its active and trailing plate margins.</p> <p>Appropriate international examples.</p>

CORE UNIT 1: PATTERNS AND PROCESSES IN THE PHYSICAL ENVIRONMENT (continued)

	Content description	National settings	International settings
1.3	<p>Landform development (i)</p> <p>Statement: The development of landforms is influenced by geological structures which have resulted from the operation of the tectonic cycle</p> <p>Students should study the effects of the following on landform development:</p> <ul style="list-style-type: none"> • volcanic and plutonic structures, lava flows, volcanoes, joints etc • sedimentary structures, bedding planes, joints etc • structures of deformation including folding, doming, and faulting (by both vertical and horizontal displacement). 	<p>Appropriate examples e.g. Landforms of the Antrim plateau and the Leinster batholith.</p> <p>for example Dartry-Cuilcagh upland.</p> <p>for example South Ireland ridge and valley province, Armorican thrust front, Donegal thrust and tear faults etc.</p>	<p>Appropriate examples e.g. Hawaii, Iceland Devon and Cornwall.</p> <p>for example Paris Basin, Brecon Beacons etc.</p> <p>for example The Appalachians, The Weald, The Alps.</p>
1.4	<p>Landform development (ii)</p> <p>Statement: The development of landforms is influenced by rock characteristics which have resulted from the operation of the rock cycle</p> <p>Students should study</p> <ul style="list-style-type: none"> • landforms associated with particular rock types • the way in which spatial variations in rock type may influence the physical landscape. 	<p>Appropriate Irish examples e.g. The Burren, Marble Arch upland, Mask-Corrib lowland, Wicklow Granite landscapes.</p>	<p>Appropriate examples e.g. Slovenia, S.W. China, Kentucky, Jamaica.</p> <p>Appropriate examples e.g. Dartmoor.</p>

CORE UNIT 1: PATTERNS AND PROCESSES IN THE PHYSICAL ENVIRONMENT (continued)

	Content description	National settings	International settings
1.5	<p>Landform development (iii)</p> <p>Statement: The development of landforms is influenced by surface (exogenetic) processes which may vary (both spatially and temporally) in their intensity and frequency of operation.</p> <p>Students should study all of the surface processes listed and focus in detail on one of the following:</p> <ul style="list-style-type: none"> • mass movement processes and the factors governing their operation • fluvial processes, patterns, and associated landforms • coastal processes, patterns, and associated landforms • glacial processes, patterns, and associated landforms 	<p>Appropriate Irish examples e.g. Antrim coastal landslides, bog bursts in N.W. Ireland etc.</p> <p>Appropriate Irish examples.</p> <p>Appropriate Irish examples.</p> <p>Appropriate Irish examples.</p>	<p>for example, Mudslides in Italy. Middle East, S. America etc.</p>
1.6	<p>Landform development (iv)</p> <p>Statement: All landforms represent a balance between endogenetic and exogenetic forces; this balance may change through time.</p> <p>Students should study the way in which landforms result from a combination of crustal uplift (in response to isostatic readjustment) and denudation by surface processes, and that sometimes landscapes illustrate that these opposing forces are temporarily out of balance. Students should study</p> <ul style="list-style-type: none"> • isostasy • fluvial adjustment to base level • cyclic landscape development and peneplains. 	<p>Rivers of N.W. Ireland.</p> <p>Planation surfaces in Munster.</p>	
1.7	<p>Human interaction</p> <p>Statement: Human activities can impact on the operation of surface processes.</p> <p>Students should study one of the following:</p> <ul style="list-style-type: none"> • mass movement processes and the impact of overgrazing, overcropping and deforestation • river processes and the impact of hydro-electric dams, canalisation and flood control measures • coastal processes and the impact of recreational pressures, coastal defence work, conservation and management measures. 	<p>Appropriate Irish examples.</p>	<p>Appropriate examples.</p>

CORE UNIT 2

REGIONAL GEOGRAPHY

AIMS

This unit aims to examine how economic, human, and physical processes interact in regional settings.

SKILLS

In the study of this unit, students should understand and use, where appropriate, the geographical skills of

- map interpretation
- figure interpretation
- statistical analysis
- information technology applications.

OUTCOMES: ORDINARY LEVEL

On completion of this unit the ordinary level student should be able to

- explain the idea of a region as identified by selected criteria
- show how physical, economic, and human processes interact within regions in Ireland, Europe and in one continental / sub continental region
- illustrate the complexity of regions and how boundaries can change over time
- use the skills listed above, where possible, in the study of regions.

OUTCOMES: HIGHER LEVEL

On completion of this unit the Higher level student should be able to

- explain and illustrate, at different scales, the concept of a region as identified by selected criteria
- show a detailed understanding of how physical, economic, and human processes interact in Irish and European regions and in one continental / sub continental region
- assess the complexity of this interaction, and the potential for change in the boundaries and extent of regions using specific examples
- use the skills listed above, where possible, to interpret how economic, human, and physical processes interact in a regional setting.

SETTINGS

Having examined the concept of a region from a variety of scales and indices, students will then focus on the study of **five regions**. Students should study **two** contrasting regions in Ireland and two European regions. In addition students should study **one** continental or subcontinental region other than Europe. **These regional settings should also be used, where possible, to represent the content of Unit 1 and either of elective units 4 or 5 and the chosen optional unit (higher level only).**

CORE UNIT 2: REGIONAL GEOGRAPHY

	Content description	National settings	International settings
<p>2.1</p>	<p>The concept of a region</p> <p>Statement: A region is an area of the earth's surface, which can be identified by selected criteria operating at a variety of scales. Single or multiple indices may be used to study these regions.</p> <p>Students should study physical regions:</p> <ul style="list-style-type: none"> • climatic regions, in particular the cool temperate oceanic • geomorphological regions including: <ul style="list-style-type: none"> – Karst landscapes – Munster ridge and valley – Northern European plain. • administrative regions at different scales • cultural regions <ul style="list-style-type: none"> – regions associated with language – regions associated with religion • socio-economic regions <ul style="list-style-type: none"> – less-developed regions – core regions – peripheral regions – regions of industrial decline • nodal/city/urban regions <ul style="list-style-type: none"> – urban areas and hinterland 	<p>Irish climate.</p> <p>for example Burren. for example South Munster.</p> <p>Local council/corporations, constituency boundaries, county divisions.</p> <p>Examples in Ireland. Examples in Ireland.</p> <p>Regional examples chosen here can be linked with 2.2, Irish regions.</p> <p>Irish cities.</p>	<p>North West Europe.</p> <p>French departments.</p> <p>Belgium. The Islamic world. Examples in Europe.</p> <p>Regional examples chosen here can be linked with 2.2, European regions.</p> <p>European cities.</p>
<p>2.2</p>	<p>The dynamics of regions</p> <p>Statement: The study of regions show how economic, human, and physical processes interact in a particular area.</p> <p>Students should study</p> <ul style="list-style-type: none"> • two contrasting Irish regions: the study of each region should include <ul style="list-style-type: none"> – physical processes, e.g. climate, soils, relief, drainage – economic processes 		

CORE UNIT 2: REGIONAL GEOGRAPHY (continued)

	Content description	National settings	International settings
2.2	<p>The dynamics of regions (cont'd)</p> <ul style="list-style-type: none"> - primary activities e.g. agriculture, forestry, fishing, mining/energy - secondary activities e.g. patterns in manufacturing activities - tertiary activities e.g. tourism and transport — human processes, e.g. language, religion, urban and rural development, population dynamics <p>• two contrasting European regions. Students can choose one region from Scandinavia and/or one from western/central Europe (including the United Kingdom) and / or one from the Mediterranean. The study of the region should include</p> <ul style="list-style-type: none"> — physical processes e.g. climate, soils, relief, and drainage — economic processes <ul style="list-style-type: none"> - primary activities e.g. agriculture, forestry, fishing, mining/energy - secondary activities e.g. patterns in manufacturing activities - tertiary activities, e.g. transport and tourism. — human processes, e.g. language, religion, urban and rural development and population dynamics <p>• one continental/subcontinental region. The study should include</p> <ul style="list-style-type: none"> — physical processes, e.g. climate, soil, relief and drainage — economic processes, <ul style="list-style-type: none"> - primary activities e.g. agriculture, forestry, fishing, mining/energy - secondary activities e.g. patterns in manufacturing activities - tertiary activities, e.g. transport and tourism. — human processes, e.g. language, religion, urban and rural development and population dynamics. 		<p>European regions</p> <p>A non-European region.</p>

CORE UNIT 2: REGIONAL GEOGRAPHY (continued)

	Content description	National settings	International settings
<p>2.3</p>	<p>The complexity of regions (i)</p> <p>Statement: The study of regions illustrates the geographical complexity of the interaction between economic, cultural and physical processes.</p> <p>Students should study</p> <ul style="list-style-type: none"> • the interaction of economic, political and cultural activities • the interaction of different cultural groups and political regions • the future of the Europe and the European Union, with particular reference to the issues relating to political union, economic union, and sovereignty. 	<p>The Republic of Ireland and Northern Ireland.</p>	<p>European examples.</p> <p>The EU.</p>
<p>2.4</p>	<p>The complexity of regions (ii)</p> <p>Statement: The boundaries and extent of regions may change over time.</p> <p>Students should study</p> <ul style="list-style-type: none"> • changes in the boundaries and extent of language regions • urban growth and the expansion of city regions • European Union development and expansion • changes in political boundaries and their impact on cultural groups. 	<p>Gaeltacht areas from 1850. Dublin Council structures. Irish economic regions.</p>	<p>Appropriate examples. Post-war development, eastern European expansion.</p>

CORE UNIT 3

THE GEOGRAPHICAL INVESTIGATION AND SKILLS UNIT

AIMS

This unit aims to encourage the development of skills in handling spatial information leading to the completion of an individual geographical investigation.

SKILLS

In the study of this unit, students should understand and use a range of geographical skills including

- map interpretation
- photograph analysis
- statistical analysis
- information technology applications
- geographical information systems
- planning a geographical investigation
- data collection
- the use of documentary sources
- report planning
- analysis and presentation of results and conclusions.

OUTCOMES: ORDINARY LEVEL

On completion of this core unit Ordinary level students should be able to

- understand and use some or all of skills listed
- work through the distinct stages of a geographical investigation
- use statistical analysis and information technology in the interpretation of basic results and conclusions
- apply some or all of the geographical skills listed to complete a geographical investigation
- experience, where possible, working conditions similar to those likely to be encountered in employment.

OUTCOMES: HIGHER LEVEL

On completion of this core unit, Higher level students should be able to

- understand, use and apply the skills listed to complete a geographical investigation
- work through the distinct stages of a geographical investigation
- use statistical analysis and information technology in the interpretation and analysis of results and conclusions
- analyse and evaluate their work, and make comparisons with other studies
- experience, where possible, working conditions similar to those likely to be encountered in the world of work.

THE GEOGRAPHICAL INVESTIGATION FOR ORDINARY AND HIGHER LEVEL STUDENTS

Students must complete a geographical investigation from an annual list of topics issued to schools by the State Examinations Commission in Leaving Certificate Year 1. A report on the completed geographical investigation will be submitted for assessment at the end of term one in Leaving Certificate Year 2. While it is recognised that class groups may work on one investigation, each candidate must present a full and complete report for assessment purposes. No group projects will be accepted. Primary and secondary sources of information should be used in the investigation to a ratio of 60% primary sources and 40% secondary sources. The report on the geographical investigation will be assessed outside of the terminal written examination. The geography teacher and the school principal will verify the authenticity of the investigation report as being that of each individual Leaving Certificate candidate.

STRUCTURE AND ORGANISATION OF THE INVESTIGATION

Students must submit a report of an investigation as detailed below.

Stage	Activities
Introduction: Posing the problems and devising a strategy	<ul style="list-style-type: none"> • the selection of a topic for investigation • a clear statement of hypothesis or aim • an outline of the objectives • identification of the types of information required
Planning: Preparation of the work to be carried out	<ul style="list-style-type: none"> • the selection of methods for the collection and gathering of information • the design of a questionnaire or recording sheets • decisions on locations for the investigation
Collection of data	<ul style="list-style-type: none"> • the use of instruments to make measurements • records of observations made in the field • the use of questionnaires and surveys as appropriate • the use of a variety of secondary sources, e.g. documentary sources • a discussion of the problems encountered
Preparation of the report	<ul style="list-style-type: none"> • the organisation of data • the use of illustrations, graphs, maps, and tables • the use of ICT, where appropriate, to prepare and present results and conclusions
Conclusion and evaluation	<ul style="list-style-type: none"> • analysis and interpretation of results • the drawing of valid conclusions • the comparison of findings with established theory • the evaluation of hypotheses • the examination of the validity of the investigation and suggestions for improvements

THE APPLICATION OF SKILLS AT ORDINARY LEVEL

The teaching and application of these geographical skills should be integrated into the teaching of the core units and the chosen elective where appropriate.

1. Map and aerial photograph interpretation

Students should be able to understand and use

- co-ordinate systems (latitude and longitude)
- grid references
- scale, distance and direction
- altitude and slope
- sketch maps
- symbol recognition
- pattern recognition.

2. Satellite imagery

Students should study satellite imagery of the physical and human landscapes. Students should relate and use satellite imagery in the study of the content of the core and elective units, where appropriate.

3. Figure interpretation

Students should represent and understand information in the form of figures, graphs, and tables.

4. Census of population data

Students should study recent census returns for Ireland and use the information to study the demographic structure of a population. Students should study published census information and examine population trends in their local area.

5. Weather maps and weather data

Students should study daily weather maps, the information shown, and the symbols used. Students should examine media weather reports and synoptic weather maps.

6. Textual sources

Students should understand and use, where possible, textual and secondary sources of information (from both the past and present), particularly in relation to their geographical investigation.

THE APPLICATION OF SKILLS AT HIGHER LEVEL

The teaching and application of these geographical skills should be integrated into the teaching of the core units, and chosen elective and optional units where appropriate.

1. Map and aerial photograph interpretation

Students should use and apply the spatial concepts of

- co-ordinate systems (latitude and longitude)
- grid references
- scale, distance, and direction
- altitude and slope
- sketch maps
- symbol recognition
- cross-sections
- pattern recognition
- statistical mapping
- absolute and relative location using maps and aerial photographs.

2. Satellite imagery

Students should use satellite imagery in the examination of large areas of the physical and cultural landscape. Students should relate and use satellite imagery in the study of the content of the core and elective units.

3. Figure interpretation

Students should analyse and evaluate information in the form of figures, graphs, and tables.

4. Census of population data

Students should study recent census returns for Ireland. They should use a range of census information to study the demographic structure of a population. Students should study published census information and examine population trends in their local area.

5. Weather maps and weather data

Students should study daily weather maps and examine the information shown and symbols used. Students should examine media weather reports and interpret synoptic weather maps.

6. Textual sources

Students should understand and use, where possible, a range of textual and secondary sources of information (from both the past and present), particularly in relation to their geographical investigation.

7. Geographical information systems (GIS)

GIS, as a specialised investigative tool, can be used to combine data sources in the study of particular areas or geographical problems. Studies should involve a combination of skills in the study of **one** of the following:

- the use of aerial photographs, census material, and maps in the study of urban sprawl
- the use of satellite images and statistical information in the study of changing agricultural land use
- the use of aerial photographs, maps, and statistical information in the study of forestry development
- the use of maps, aerial photographs, and the record of monuments and places in the study of the destruction of archaeological sites.

LEAVING CERTIFICATE GEOGRAPHY SYLLABUS

ELECTIVE UNITS

ELECTIVE UNITS

ONE OF THE FOLLOWING TO BE TAKEN BY BOTH
ORDINARY AND HIGHER LEVEL STUDENTS:

Elective Unit 4:	Patterns and processes in economic activities
Elective Unit 5:	Patterns and processes in the human environment

ELECTIVE UNIT 4

PATTERNS AND PROCESSES IN ECONOMIC ACTIVITIES

AIMS

This unit will examine patterns in economic development and the growth of a single interdependent global economy.

SKILLS

In the study of this unit, students should understand and use, where appropriate, the geographical skills of

- map interpretation
- figure interpretation
- statistical analysis
- photograph analysis
- figure drawing
- information technology applications.

OUTCOMES: ORDINARY LEVEL

On completion of this unit, the student should be able to

- describe the uneven patterns in levels of economic development
- trace the process of change in economic development
- show a basic understanding of the development of a single interdependent global economy
- examine Ireland's role as a member of the EU within the global economy
- examine the environmental impact of economic activities
- use the skills listed above, where appropriate, to assist in the examination of patterns in economic development and the growth of a single interdependent economy.

OUTCOMES: HIGHER LEVEL

On completion of this unit the student should be able to

- explain and illustrate the uneven patterns in the distribution of economic activities and levels of economic development
- show a detailed understanding of the complexity of the process of change in levels of economic development
- analyse the issues arising from and impact of the development of a single interdependent global economy
- assess Ireland's role as a member of the EU within the global economy
- assess the environmental impact of economic activities at different scales
- use the skills listed above, where appropriate, to assist in the examination of patterns in economic development and the growth of a single interdependent economy.

SETTINGS

At all times, teachers should endeavour to explain geographical phenomena by using local examples, where available, to illustrate the topics. National and international examples are also provided throughout the syllabus. These settings are provided as examples and are not prescriptive. Teachers are also given the freedom to choose their own settings and case studies to illustrate the topics for study. The topics for study and the chosen settings should, where possible, be linked to the regions studied in Core Unit 2.

ELECTIVE UNIT 4: PATTERNS AND PROCESSES IN ECONOMIC ACTIVITIES

	Content description	National settings	International settings
<p>4.1</p>	<p>Economic Development</p> <p>Statement: Economic activities are unevenly distributed over the earth.</p> <p>Students should study</p> <ul style="list-style-type: none"> • gross national product as a measure of economic development • the human development index as a broad measure of development. 	<p>Ireland.</p>	<p>Appropriate relevant European and global examples.</p>
<p>4.2</p>	<p>Statement: Levels of economic development show major spatial variations and can change over time. Levels of economic development evolve through the complex interaction of factors including physical, social, cultural, and political.</p> <p>Students should study</p> <ul style="list-style-type: none"> • a case study from developed economies. This case study should include regions dominated by service and footloose industries, financial services and/or mass tourism regions. The case study should also, where appropriate, examine evidence of industrial decline • a case study of a developing economy outlining the impact of colonialism, and adjustments to a global economy • the global issues and a justice perspective relating to these patterns. 	<p>Ireland.</p>	<p>Appropriate relevant European and global examples.</p>

ELECTIVE UNIT 4: PATTERNS AND PROCESSES IN ECONOMIC ACTIVITIES (continued)

	Content description	National settings	International settings
4.4	<p>Ireland and the European Union</p> <p>Statement: Ireland as a member of the EU is part of a major trading bloc within the global economy.</p> <p>Students should study</p> <ul style="list-style-type: none"> • EU trading patterns within the single market and also external EU trade • Irish trading patterns with the EU and how the EU influences the Irish economy, for example: <ul style="list-style-type: none"> – common agricultural policy – common fisheries policy – regional development funds – social funding. 	<p>Appropriate relevant national examples.</p>	<p>Internal and external trading patterns</p>
4.5	<p>Environmental impact</p> <p>Statement: Economic activities have an environmental impact.</p> <p>Students should study</p> <ul style="list-style-type: none"> • the use of renewable and non-renewable resources in the economy • the impact of the burning of fossil fuels and the use of alternative energy sources • environmental pollution at a local/national and global scale • sustainable economic development so as to control its environmental impact. Students should examine past experiences, future prospects and the necessity for environmental impact studies • conflicts that may develop between local and global economic interests and environmental interests. Students should be familiar with the issues relating to at least two examples. 	<p>National energy resources.</p> <p>Smoke free zones. Patterns of production and consumption.</p> <p>National issues, the role of the EPA. Depletion of fish stocks, mining sites.</p> <p>Appropriate national examples e.g. Irish fish stocks, tourism, and heritage.</p>	<p>Production and consumption of energy - appropriate European examples. Acid rain - a European issue.</p> <p>Relevant global issues, e.g. global warming.</p> <p>Appropriate global examples.</p>

ELECTIVE UNIT 5

PATTERNS AND PROCESSES IN THE HUMAN ENVIRONMENT

AIMS

This unit will examine the dynamic nature of population and the pattern and distribution of settlement.

SKILLS

In the study of this unit, students should understand and use, where appropriate, the geographical skills of

- map interpretation
- figure interpretation
- photograph analysis
- statistical analysis
- figure drawing
- information technology applications.

OUTCOMES: ORDINARY LEVEL

On completing this unit, the student should be able to

- outline how population characteristics change over time and space, and impact on human development
- describe the impact of population movements
- examine rural and urban settlement patterns
- identify problems associated with the growth of urban centres
- use the skills listed above, where appropriate, to examine the dynamic nature of population and the pattern and distribution of settlement.

OUTCOMES: HIGHER LEVEL

On completing this unit, the student should be able to

- show a detailed understanding and be able to illustrate how population characteristics change over time and space and impact on human development
- assess and evaluate the varying impact of population movements
- examine, in detail, patterns of rural and urban settlement
- identify and analyse the differing scale of problems associated with the growth of urban centres
- use the skills listed above, where appropriate, to examine the dynamic nature of population and the pattern and distribution of settlement.

SETTINGS

At all times, teachers should endeavour to explain geographical phenomena by using local examples, where available, to illustrate the topics. National and international examples are also provided throughout the syllabus. These settings are provided as examples and are not prescriptive. Teachers are also given the freedom to choose their own settings and case studies to illustrate the topics for study. The topics for study and the chosen settings should, where possible, be linked to the regions studied in Core Unit 2.

ELECTIVE UNIT 5: PATTERNS AND PROCESSES IN THE HUMAN ENVIRONMENT

	Content description	National settings	International settings
5.1	<p>5.1-5.3 The dynamics of population</p> <p>Statement: Population characteristics change over time and space</p> <p>Students should study changes in</p> <ul style="list-style-type: none"> • population distribution • population density • growth patterns • population structure, changing fertility, and mortality rates. 	Census material to show patterns of change in Ireland.	Appropriate European and global examples.
5.2	<p>Statement: Population characteristics have an impact on levels of human development.</p> <p>Students should study the causes and effects of over-population paying particular attention to</p> <ul style="list-style-type: none"> • the impact of the development of resources • the influence of society and culture • the impact of income levels • the impact of technology on population growth. <p>Students should study the impact of growth rates on development.</p>		Appropriate case studies.
5.3	<p>Statement: Population movements have an impact on the donor and receiver regions.</p> <p>Students should study</p> <ul style="list-style-type: none"> • changing migration patterns in Ireland • migration policy in Ireland and the EU • ethnic, racial and religious issues which arise from migration • contrasting impacts of rural/urban migration in the developed and developing regions. 	<p>20th century Irish census. Post-1950 migration to/ from Ireland.</p> <p>Government policy.</p> <p>Growth in Irish cities.</p>	Appropriate examples.

ELECTIVE UNIT 5: PATTERNS AND PROCESSES IN THE HUMAN ENVIRONMENT (continued)

	Content description	National settings	International settings
5.4	<p>5.4-5.6 The dynamics of settlement</p> <p>Statement: Settlements can be identified in relation to site, situation and function.</p> <p>Students should study the locational characteristics for</p> <ul style="list-style-type: none"> • pre-historic and historic settlements • rural settlement patterns • dispersed and clustered rural settlement • ribbon development • planning strategies in rural areas • site characteristics of urban settlements: an examination of hierarchy, hinterland and central place theory • how the functions and services of urban centres can change over time. 	<p>Historic development of Irish towns. National examples.</p> <p>County and National Development Plan.</p> <p>Appropriate Irish towns and cities.</p>	
5.5	<p>Statement: Urban settlements display an ever changing landuse pattern and pose planning problems.</p> <p>Students should study</p> <ul style="list-style-type: none"> • landuse zones within the modern city • changes in landuse and planning issues, to include movement in industrial, residential and commercial landuse • land values in cities and social stratification within cities • the expansion of cities and pressures on rural landuse. 	<p>An Irish city.</p>	<p>Appropriate world cities.</p>
5.6	<p>Statement: Problems can develop from the growth of urban centres</p> <p>Students should study</p> <ul style="list-style-type: none"> • urban problems of traffic movement and congestion • urban decay and urban sprawl and the absence of community • heritage issues in urban areas • environmental quality • the effectiveness of urban planning strategies and urban renewal in solving urban problems • the expansion and problems in developing world cities • the future of urbanism. Issues related to the cities of the future. 	<p>Appropriate examples from Irish towns and cities.</p> <p>Strategic urban plans.</p>	<p>Case studies from developed world cities.</p> <p>Case studies from developing world cities.</p>

LEAVING CERTIFICATE GEOGRAPHY SYLLABUS

OPTIONAL UNITS

OPTIONAL UNITS

HIGHER LEVEL ONLY. STUDENTS TAKE ONE OF THE FOLLOWING UNITS:

Optional Unit 6:	Global interdependence
Optional Unit 7:	Geoecology
Optional Unit 8:	Culture and identity
Optional Unit 9:	The atmosphere — ocean environment

OPTIONAL UNIT 6

(Higher Level Only)

GLOBAL INTERDEPENDENCE

AIMS

This unit aims to examine the interdependent nature of global economic, social, and political processes and to challenge the differing views of development.

SKILLS

In the study of this unit, students are expected to understand and use, where appropriate, the geographical skills of

- map interpretation
- figure interpretation
- photographic analysis
- statistical analysis
- information technology applications.

OUTCOMES

On completing this unit, the student should be able to

- evaluate the differing views of development and underdevelopment
- show a detailed understanding of the interdependent nature of the global economy
- assess the impact of current economic patterns on developing economies or regions
- discuss human development as a focus for change
- examine the idea of sustainable development as a model for the future
- use the skills listed above, where appropriate, to examine the interdependent nature of global economic, social and political processes to challenge the differing views of development.

SETTINGS

At all times, teachers should endeavour to explain geographical phenomena by using local examples, where available, to illustrate the topics. National and international examples are also provided throughout the syllabus. These settings are provided as examples and are not prescriptive. Teachers are also given the freedom to choose their own settings and case studies to illustrate the topics for study. The topics for study and the chosen settings should, where possible, be linked to the regions studied in Core Unit 2.

OPTIONAL UNIT 6: GLOBAL INTERDEPENDENCE

	Content description	National settings	International settings
6.1	<p>Statement: Views of development and underdevelopment are subject to change.</p> <p>Students should</p> <ul style="list-style-type: none"> challenge all views of development critically examine contrasting models and approaches to development including: <ul style="list-style-type: none"> determinist and modernisation approaches to development images and language associated with developing societies a critical examination of the idea of "first world and third world" north and south eurocentric thinking. 		<p>Appropriate examples from a world region.</p>
6.2	<p>Statement: We live in an interdependent global economy. Actions or decisions taken in one area have an impact on other areas.</p> <p>Students should study</p> <ul style="list-style-type: none"> a case study of a specific multinational company with reference to the impact of global trading patterns in relation to both producer and consumer regions the global environmental issues of <ul style="list-style-type: none"> deforestation desertification global warming the impact of social and political decisions, including <ul style="list-style-type: none"> economic and political refugees migration patterns human rights issues. 	<p>Irish trade, MNCs in Ireland.</p> <p>Immigration of refugees.</p>	<p>Appropriate examples from a continental or sub continental region.</p> <p>European examples, e.g. managed forests in Scandinavia.</p> <p>European examples.</p>

OPTIONAL UNIT 6: GLOBAL INTERDEPENDENCE (continued)

	Content description	National settings	International settings
	<p>Statement: Empowering people is a way of linking economic growth with human development.</p> <p>Students should study</p> <ul style="list-style-type: none"> the weight of national debt and its impact on the cycle of poverty the "aid" debate. Who benefits? the role of NGOs land ownership patterns and their impact on development decision-making processes and levels of participation levels of exploitation at local and global scales differing gender roles in society. 	<p>Irish aid programmes. Irish NGOs. Nineteenth century Ireland. Co-operatives. Local enterprise boards.</p>	<p>EU aid programmes. European examples of co-operation. Appropriate examples from a continental or sub continental region.</p>
6.4	<p>Statement: Sustainable development as a model for future human and economic development.</p> <p>Student should study</p> <ul style="list-style-type: none"> the sustainable use of resources the goal of fair trade and its potential impact on development justice issues, particularly in relation to minority groups the idea of self reliance - development as self-help. 	<p>Irish examples.</p>	<p>Appropriate examples from a continental or sub continental region.</p>

OPTIONAL UNIT 7

(Higher Level Only)

GEOECOLOGY

AIMS

This unit will examine the inter-relationships, at a global scale, between soils, climates, plants and animals. It will examine the factors controlling the spatial variations in the resultant biomes of the earth.

SKILLS

In the study of this unit, students would be expected to understand and use, where appropriate, the geographical skills of

- map interpretation
- figure interpretation
- photograph analysis
- statistical analysis
- figure drawing
- information technology applications.

OUTCOMES

On completing this unit, the student will be able to

- explain and illustrate the development of soils
- describe the combination of processes affecting soil characteristics
- assess the inter-relationship between soils and climates resulting in biomes or global regions where plants and animals have adapted to specific environmental conditions
- examine and evaluate the impact of human activities on biomes
- use the skills listed above to examine the inter-relationships, at a global scale, between soils, climates, plants and animals.

SETTINGS

At all times, teachers should endeavour to explain geographical phenomena by using local examples, where available, to illustrate the topics. National and international examples are also provided throughout the syllabus. These settings are provided as examples and are not prescriptive. Teachers are also given the freedom to choose their own settings and case studies to illustrate the topics for study. The topics for study and the chosen settings should, where possible, be linked to the regions studied in Core unit 2.

OPTIONAL UNIT 7: GEOECOLOGY

	Content description	National settings	International settings
7.1	<p>Statement: Soils develop from the weathering of rocks in situ and from redeposited weathered material.</p> <p>Students should study</p> <ul style="list-style-type: none"> the general composition of all soil types with reference to mineral matter, organic matter, water and air soil characteristics: e.g. texture, colour, structure, water content, organic content, water retention properties etc. 		<p>Appropriate examples.</p>
7.2	<p>Statement: Soil characteristics are affected by their immediate environment and by a combination of processes operating in that environment, including human interference.</p> <p>Students should make a general study of</p> <ul style="list-style-type: none"> the global pattern of soils soil processes including weathering, soil erosion, leaching, humidification, podzolisation, laterisation, calcification human interference with soil characteristics including: <ul style="list-style-type: none"> over-cropping and over-grazing desertification and conservation. 	<p>A soil profile of one Irish soil type</p> <p>Irish examples e.g. the Burren.</p>	<p>A study of one soil type from a continental or sub continental region.</p> <p>Appropriate global examples, e.g. the Sahel, Iceland.</p>
7.3	<p>Statement: The pattern of world climates has given rise to distinctive biomes. These biomes are world regions characterised by groups of plants and animals adapted to specific conditions of climate, soils and biotic inter-relationships.</p> <p>Students should study</p> <ul style="list-style-type: none"> one major biome, in detail, by examining climatic and soil characteristics and related patterns of animal and vegetation distribution. 		<p>Appropriate European and global examples.</p>

OPTIONAL UNIT 7: GEOECOLOGY (continued)

	Content description	National settings	International settings
7.4	<p>Statement: Biomes have been altered by human activities.</p> <p>Students should study the impact of</p> <ul style="list-style-type: none"> • early settlement and clearing of forests • the felling of tropical rain forests • intensive agricultural practices • industrial development. 		<p>Appropriate European and global examples.</p>

OPTIONAL UNIT 8

(Higher Level Only)

CULTURE AND IDENTITY

AIMS

This unit will examine the classification of population by physical and cultural indicators, and relationships between culture and identity.

SKILLS

In the study of this unit, students would be expected to understand and use, where appropriate, the geographical skills of

- map interpretation
- figure interpretation
- statistical analysis
- figure drawing
- information technology applications.

OUTCOMES

On completing this unit, the student should be able to

- recognise ethnic groupings as a classification of population
- examine language as a cultural indicator
- examine religion as a cultural indicator
- discuss nation states as political entities on the physical and cultural landscape
- assess the complexity of relationships between political structures and cultural groups
- use the skills listed above to examine issues related to culture and identity.

SETTINGS

At all times, teachers should endeavour to explain geographical phenomena by using local examples, where available, to illustrate the topics. National and international examples are also provided throughout the syllabus. These settings are provided as examples and are not prescriptive. Teachers are also given the freedom to choose their own settings and case studies to illustrate the topics for study. The topics for study and the chosen settings should, where possible, be linked to the regions studied in Core Unit 2.

OPTIONAL UNIT 8: CULTURE AND IDENTITY

	Content description	National settings	International settings
<p>8.1</p>	<p>Statement: Populations can be examined according to physical and cultural indicators. Culture and identity are tied to ideas of ethnicity, which include race, language, religion, and nationality.</p> <p>Students should study</p> <ul style="list-style-type: none"> • racial groupings within the global population to include <ul style="list-style-type: none"> – characteristics and locational patterns – multi-racial societies – racial mixing – racial conflict • an understanding of the impact of colonialism and migration on racial patterns • language as a cultural indicator and include <ul style="list-style-type: none"> – major language groups – European languages - influence of the mass-media – minority languages - policies for survival • religion as a cultural indicator and include <ul style="list-style-type: none"> – the distribution of major world religions – the relationship between church and state – religious conflict • everyday expressions of culture and identity, e.g. sports, traditions, costume, food, music, art and festivals. 	<p>Asylum seekers and refugees.</p> <p>Irish language Gaeltacht areas.</p> <p>Irish constitution. Northern Ireland.</p> <p>Irish examples.</p>	<p>Appropriate European and global examples.</p> <p>Appropriate examples, e.g. Welsh.</p> <p>Appropriate European examples.</p>
<p>8.2</p>	<p>Statement: Nationality and the nation state are political entities placed on the physical and cultural landscape.</p> <p>Students should study the complex issues relating to</p> <ul style="list-style-type: none"> • physical and political boundaries • examples of cultural groups within nation states • examples of cultural groups without nationality • conflicts between political structures and cultural groups. 	<p>The island of Ireland and partition.</p> <p>Northern Ireland.</p>	<p>Appropriate examples.</p>

OPTIONAL UNIT 8: CULTURE AND IDENTITY (continued)

	Content description	National settings	International settings
8.3	<p>Statement: Identity as a concept entails a variety of cultural factors including nationality, language, race, and religion.</p> <p>Students should study</p> <ul style="list-style-type: none"> • a case study of a European region to draw together the issues of race, nationality, and identity already discussed. This should include an examination of <ul style="list-style-type: none"> – historical developments: physical and political boundaries – ethnicity and race – religion – music, art, festivals etc – the role of migration – new boundaries. 		<p>An appropriate case study e.g. Celtic regions, The Balkans or Switzerland.</p>

OPTIONAL UNIT 9 (Higher Level Only)

THE ATMOSPHERE - OCEAN ENVIRONMENT

AIMS

This unit aims to examine the dynamic relationship between the oceans and atmosphere in influencing global climatic patterns.

SKILLS

In the study of this unit, students would be expected to understand and use, where appropriate, the geographical skills of

- map interpretation
- figure interpretation
- photograph analysis
- statistical analysis
- figure drawing
- analysis of readings from weather instruments
- information technology applications.

OUTCOMES

On completing this unit, the student will be able to

- observe and be aware of the measurement of the characteristics of the atmosphere - ocean systems
- show an understanding of the uneven distribution of solar energy and the circulation patterns of the atmosphere and oceans
- examine the variations in the exchange of water between the oceans and the atmosphere, and the resultant climate and weather patterns
- trace the circulation pattern of the oceans and the atmosphere and the impact on weather and climate

- describe a climatic environment on the earth
- assess the influence of climatic characteristics on economic development
- use the skills listed above to examine the dynamic relationship between the ocean and the atmosphere in influencing global climatic patterns.

SETTINGS

At all times, teachers should endeavour to explain geographical phenomena by using local examples, where available, to illustrate the topics. National and international examples are also provided throughout the syllabus. These settings are provided as examples and are not prescriptive. Teachers are also given the freedom to choose their own settings and case studies to illustrate the topics for study. The topics for study and the chosen settings should, where possible, be linked to the regions studied in Core Unit 2.

OPTIONAL UNIT 9: THE ATMOSPHERE - OCEAN ENVIRONMENT

	Content description	National settings	International settings
9.1	<p>Statement: The atmosphere gases and ocean waters are linked systems with physical and chemical characteristics, which can be observed, recorded and analysed.</p> <p>Students should study</p> <ul style="list-style-type: none"> • the composition and structure of the atmosphere and oceans and observe and be aware of the measurements of atmosphere - ocean phenomena including <ul style="list-style-type: none"> – pressure – temperature – wind – humidity. 		Global patterns.
9.2	<p>Statement: Solar energy is distributed unevenly over the surface of the earth and is both transformed and redistributed through circulation patterns in the atmosphere and oceans.</p> <p>Students should study</p> <ul style="list-style-type: none"> • the energy flows in the atmospheric/ocean environment • the heat budget of the earth and the geographical distribution of temperature. 		Global patterns.
9.3	<p>Statement: Exchanges of water between oceans and atmosphere vary greatly over the surface of the earth and give rise to distinctive weather and climate regimes.</p> <p>Students should study</p> <ul style="list-style-type: none"> • the hydrological cycle • humidity, evaporation and condensation • cloud formation and classification • precipitation and its distribution patterns. 		Global patterns and variations.

OPTIONAL UNIT 9: THE ATMOSPHERE - OCEAN ENVIRONMENT (continued)

	Content description	National settings	International settings
<p>9.4</p>	<p>Statement: Circulation in both the atmosphere and the oceans affects weather and climate patterns on a variety of scales.</p> <p>Students should study</p> <ul style="list-style-type: none"> • the forces governing the movement of air and water • general circulation of atmosphere and ocean • mid-latitude depressions and anticyclones • land and sea breezes • mountain and valley winds and thunderstorms. 		<p>e.g. Coriolis force. Global patterns, e.g. North Atlantic.</p>
<p>9.5</p>	<p>Statement: The surface of the earth can be divided into distinctive climatic environments. The characteristics of climate can change over time and space.</p> <p>Students should study</p> <ul style="list-style-type: none"> • one distinctive global climate e.g. equatorial, monsoon, mid-latitude west coast, mediterranean or continental climates • examples of climate change. 		<p>for example the Ice ages, 20th Century global warming, El Nino.</p>
<p>9.6</p>	<p>Statement: Climate characteristics have an influence on economic development.</p> <p>Students should study</p> <ul style="list-style-type: none"> • the influence of rainfall levels on agricultural activities and domestic water supplies • the impact of drought and desertification • the impact of climate on tourism. 	<p>Irish agriculture.</p>	<p>Global examples.</p>



Procedures for drawing up National Syllabuses

The NCCA's Course Committees for the Leaving Certificate (Established) have the following membership:

- *Association of Secondary Teachers, Ireland*
- *Teachers' Union of Ireland*
- *Joint Managerial Body*
- *Association of Community and Comprehensive Schools*
- *Subject Association*
- *Irish Vocational Education Association*
- *National Council for Educational Awards*
- *Conference of Heads of Irish Universities*
- *Department of Education and Science (Inspectorate)*
- *State Examinations Commission.*

On the basis of a brief provided by Council, the NCCA's Course Committees prepare the syllabuses.

Recommendations of Course Committees are submitted to the Council of the NCCA for approval. The NCCA, having considered such recommendations, advises the Minister for Education and Science accordingly.

Further information may be obtained by contacting the NCCA at 24 Merrion Square, Dublin 2.



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