

DK
Z-16
(1,79)

Lehrprogramm Richtlinien
für das Gymnasium

(Sekundarstufe II)
[10. - 12. Klasse]

Kopenhagen: Das Dänische Ministerium
für Unterricht

1979

Georg-Eckert-Institut BS78



1 236 468 1

CURRICULUM REGULATIONS

FOR THE

GYMNASIUM

(Upper Secondary School)

Georg-Eckert-Institut
für internationale
Schulbuchforschung
Braunschweig
Schulbuchbibliothek

86/2277

(86/2277)-3

RESEARCH IN PROGRESS
1950-1951
1952-1953
1954-1955

RESEARCH IN PROGRESS

FOR THE

RESEARCH

RESEARCH IN PROGRESS

RESEARCH IN PROGRESS
1950-1951
1952-1953
1954-1955
1956-1957

DK
Z-16(1,79)

Regulations Concerning the Single Subjects

I. Religion

Objectives:

Instruction should give the students knowledge about and an understanding of Christianity and some non-Christian religions.

Syllabus:

Instruction should cover:

1. Texts which are normative for Christianity and other religions which are based on sacred scriptures.
2. Texts describing religious phenomena with their distinctive historical and ethnographical characteristics.
3. Philosophical, ideological, and religious texts.

Examination:

No examination is held.

II. Danish

Objectives:

The students should gain awareness of language as a prerequisite and tool in each person's individual and social activities. They should learn to analyse and evaluate different forms of usage, from everyday utterance to the artistic use of language. The experience thus obtained should be used in the training of their oral and written command of the language.

Through text reading exercises the students should learn to read with understanding, sympathetic insight, and a sense of criticism. They should be made aware of the fact that the material may be looked at from various points of view. They should acquire skills in characterizing and evaluating each individual text both as an independent entity and in a social and historical context.

Syllabus:

Reading must comprise both fiction and nonfiction. In addition to Danish texts, foreign texts, including Swedish and Norwegian texts, must be represented. Other media of communication, such as film and TV, may be included. It is essential that instruction in the subject be presented as an integrated whole. The parts of the subject listed below must therefore be closely connected, both as far as subject matter as well as form of presentation are concerned.

I. Required reading:

In the reading of texts, linguistic, historical and social aspects as well as aspects of content should be considered.

A. Fiction.

A number of long texts, such as novels and plays as well as shorter texts should be read, including Swedish, Norwegian, and other foreign literature, the latter mainly in translation. With regard to the selection of texts, the following requirements must be fulfilled:

1.a.

A number of texts dating from the period after 1920, sufficient to give a thorough and comprehensive understanding of recent times and of the immediate past. A number of texts dating from the period between 1800 and 1920 should be included to illustrate the literature precursory to this period.

1.b.

Within a limited period before 1920, a number of texts should be studied which illustrate the place of literature in the historical and social context.

1.c.

Finally, a certain number of texts dating from the period before 1800 should be studied. The texts in this group should not be selected with a view to covering any given literary period, but should rather be chosen, preferably with the inclusion of newer texts, in order to illustrate a definite subject, e.g. a literary genre or a topic.

2.

A number of texts should be chosen separately with a view to their intrinsic value or grouped together under certain main concepts or points of view. These selections should include literary criticism and mass-produced popular literature (e.g. thrillers, popular magazine fiction). Both of these categories require elucidation of their characteristics and functions.

B. Nonfiction.

A number of short, preferably contemporary texts should be studied. The following types of texts are particularly important and should therefore be included:

Informative texts (e.g. scientific texts, popular science texts, communication of news and the background information attached to it).

Texts of comment, evaluation and propaganda (e.g. leading articles in newspapers, political statements, letters to the Editor, and advertisements).
Newspaper Reports and interviews.
Extracts from readers.

II. Oral and written command of the language.

Oral and written command of the language should not be an object in itself, but should result naturally from instruction as a whole. Among other things, the teaching of oral command of the language should comprise exercises in summarizing, debating, and the analysing of argumentation. The teaching of written command of the language should begin with short written exercises based on text observation, and proceed to more complicated tasks demanding increasing abstraction and evaluation.

The students should be trained in the following working methods:

- Analysis and critical evaluation of a nonfiction prose text,
- Literary interpretation,
- Composition of a written statement in a definite situation, (e.g. the student can be assigned the role of a citizen writing to a government official),
- Informative presentation of already familiar subject matter.

In addition, the students should be given an opportunity to write free compositions on the basis of independently selected material.

To the greatest extent possible, the student should be motivated to acquire linguistic skills through reading, writing, and oral use of the language. Instruction should be as varied as possible, whether teacher-centred or student-centred, to insure that no single method of teaching is dominant.

To begin with, an introduction to reading methods should be given, including

- an illustration of the elements of linguistic communication and
- model readings of a long literary work as well as of shorter texts.

The final part of the 3-year course should concentrate on rounding off, endeavouring to show correlations, and to demonstrate results of the work done throughout the three years.

As far as possible, instruction should be organized with a view to the possibilities of interdisciplinary cooperation with the other subjects in the gymnasium.

Thus, there may be collaboration with history and social studies in studying certain periods (see I.A.1.b.), with the foreign languages in reading world literature, with the other cultural and artistic subjects in studying certain periods, and finally, with these and other subjects, in written presentation of relevant topics.

Examination:

There are one written and one oral examination.

The written examination:

Six hours are allowed. Dictionaries approved by the Directorate may be used.

The examinees may choose to write one of at least three possible papers (as far as possible in connection with the same textual matter) e.g. Analysis and critical evaluation of a nonfiction prose text, Literary interpretation, Composition of a written statement (written role simulation).

A fairly free thematic treatment of the material presented.

The oral examination:

The student is examined in a text, which has not been studied earlier. He or she is given time for preparation. The texts are selected by the teacher, and should correspond to the areas studied during the three years of the gymnasium. Nonfiction must be represented. Some of the texts, fiction or nonfiction, should be short and easy Swedish or Norwegian texts in the original language. In addition, foreign texts in translation may be included. Two short texts may be presented for comparison. The examinee must demonstrate his or her ability to understand a text: to point out essential aspects of the message and form of the text and the attitude of the author, and, to a reasonable extent, to place the text in a larger context. The examinee is expected, on the basis of notes taken during the period of preparation, to give a short presentation of the material to be discussed.

III. English

I. Languages line

Objectives:

The students should further develop their ability to understand and to use the English language in both speech and writing. At the same time they should be given

insight into characteristic cultural aspects of the countries where English is the means of communication, particularly in England and the USA.

A. Languages line, the 1st form of the gymnasium

Syllabus:

About 100 pages are studied intensively and about 150 pages extensively.

American as well as British texts should be read. In addition, texts from other English-speaking countries may be included.

The intensively studied texts may be reduced to 75 pages or extended to 125 pages provided that the extensively studied material is increased or reduced accordingly. In the examination syllabus, 2 pages of intensively studied material correspond to 5 pages of extensively studied material.

For each full lesson used for audio-visual instruction, the amount to be studied may be reduced by 2 pages of the intensively studied material or 5 pages of the extensively studied material. The intensively studied material must not, however, be reduced by more than 20 pages below the required minimum.

Text books on the history of literature as well as reference books on history or social studies may not be included in the syllabus.

B. Languages line: modern languages branch,

2nd and 3rd forms of the gymnasium.

Syllabus:

275 pages on a fairly advanced level of language must be studied intensively comprising:

1. a reasonably varied selection of fiction, e.g. short story, drama, and novel.
2. nonfiction texts, about 50 pages illustrating general cultural conditions in English-speaking countries.
3. a selection of about 35 pages of poetry.
4. either a play by Shakespeare, of which about 40 pages should be studied intensively, or about 40 pages of a rational or philosophical type of prose describing cultural phenomena, chiefly from the 20th century.

At least 500 pages should be studied extensively, chiefly recent literature representing different genres. Material from newspapers and periodicals must be included.

Both American and British texts must be represented. In addition, a certain number of texts from other English-speaking countries may be included.

The intensively studied texts may be reduced to 250 pages or extended to 300 pages, provided that the extensively studied material is extended or reduced accordingly. When the syllabus is offered, 2 pages of intensively studied material corresponds to 5 pages of extensively studied material.

For each full lesson used for audiovisual instruction, the syllabus to be studied may be reduced by 2 pages of intensively studied material, or by 5 pages of extensively studied material. The intensively studied material must not, however, be reduced by more than 20 pages below the required minimum.

Part of the material may be made the subject of a detailed, group or independent study with the use of a reference library, in which case the syllabus may be reduced, proportionate to the type and extent of the work carried out.

Textbooks on the history of literature and reference books on history or social studies may not be included in the syllabus.

Examination:

There are 2 written and 1 oral examinations.

The written examinations consist of a translation from Danish into English and a free composition in English.

As regards the free composition, each student will choose between:

1. answering and commenting on questions relating to a text which has not been studied earlier, and
2. A 500 - 700 word summary of a text of about 3000 words.

Two and a half hours will be allowed for the translation and five hours for writing the free composition.

For the written examinations the student is allowed to use dictionaries approved by the Directorate.

For the oral examination the student must offer 150 pages representative of the intensively studied material as a whole.

The examinee should be examined in a text which has not been studied previously of about $\frac{3}{4}$ of a page of medium difficulty and about $\frac{1}{2}$ page of a text from the syllabus. The time allowed for preparation corresponds to the examination time.

The text which has not been studied previously is not to be read aloud. The student's comprehension of the text should be tested either through translation into Danish or through a thorough questioning in English in order to verify that he or she has understood not only the contents but also various linguistic details.

The text selected from the 150 pages of examination syllabus is read aloud and forms the basis of a conversation in English to test the examinee's proficiency and understanding of the text. In connection with this, the examiner should make certain through spot check questions that the student has understood different linguistic details.

C. Languages line, music-languages and social studies-languages branches, 2nd and 3rd forms of the gymnasium.

Syllabus:

About 225 pages of prose of varying degrees of difficulty is studied intensively. They comprise:

1. a reasonably varied selection of fiction (short story, drama, and novel),
2. 40 to 60 pages of nonfiction texts, illustrating general cultural conditions in English-speaking countries. This may include reading matter relating to music or social studies respectively.

A few poems may be included.

At least 350 pages are studied extensively, preferably representing genres of literature from a recent period. Subject matter from newspapers and periodicals must be included.

Both American and British texts should be studied. In addition, a certain number of texts from other English-speaking countries may be included.

The intensively studied material may be reduced to 200 pages or increased to 250 pages, provided that the extensively studied material is extended or reduced correspondingly. In the syllabus offered for examination, 2 pages of intensively studied material corresponds to 5 pages of extensively studied material.

For each full lesson used for audiovisual instruction, the syllabus may be reduced by 2 pages of intensively studied material or 5 pages of extensively studied material. The intensively studied material must not, however, be reduced by more than 20 pages below the required minimum.

Part of the material may be made the subject of a detailed, independent study with the use of a reference library, in which case the syllabus may be reduced, proportionate to the type and extent of the work carried out.

Text books on the history of literature as well as reference books on history or social studies may not be included in the syllabus.

Examination:

There are a written and an oral examination.

The written examination is a combined translation and literary analysis. The first part consists of answering, in English, questions connected with an English text.

The second part is a translation from Danish into English of a short text which, as regards content and language, has common features with the first part.

Five hours are allowed for the above combined examination.

At the written examination the examinee is allowed to use dictionaries approved by the Directorate.

For the oral examination the student must offer 120 pages representative of the intensively studied material as a whole.

The student is examined in about 1/2 of a page of a text not studied previously and in about 1/2 of a page text from the examination syllabus.

Time allowed for preparation corresponds to the examination time.

The text which has not been studied previously is not to be read aloud. The student's understanding of the text is tested either through translation into Danish or through thorough questioning in English in order to verify that he or she has understood not only content but also various linguistic details.

The passage from the examination syllabus is read aloud and forms the basis of a conversation in English to test the examinee's proficiency and understanding of the text.

In connection with this part of the examination, the examiner should make certain through spot check questions that the student has understood different linguistic details.

II. Mathematics line

Objectives:

The students should further develop their ability to understand and use the spoken language and develop their skills in reading.

They should be given some training in expressing themselves in writing, in connection with the oral instruction.

Syllabus:

Some of the texts should be studied intensively and some extensively, with various methods of study being used. Various literary genres should be represented, mainly fiction (short story, drama, and novel), but also nonfiction texts (easy essayistic or journalistic material) should be represented.

The size of the syllabus should be decided with due regard to the reading and working methods employed.

Both American and British texts should be represented. In addition, a certain number of texts from other English-speaking countries may be included.

Textbooks on the history of literature and reference books on history and social studies may not be included in the syllabus.

Examination:

The examination is oral.

100 pages representative of both the extensively and the intensively studied material are offered for examination.

The examination comprises a prose text which has not been studied previously of about 1/2 page and texts from the examination syllabus.

Time allowed for preparation corresponds to the examination time.

The text which has not been studied previously is read aloud, and the student's comprehension of the text should be tested either through translation into Danish or through a thorough questioning in English to verify not only comprehension of the contents but also of linguistic details.

On the basis of a text selected from the syllabus offered, the proficiency of the student in speaking the language and in understanding the text should be tested through conversation in English. The understanding of specific linguistic details in the text presented should not be tested.

IV German

I. Languages line

A. Languages line: 1st form of the gymnasium

Objectives:

The students should consolidate and improve their skills in the language, in order to be able to read and understand German literature. They should also be given an elementary (geographical, historical, and cultural) knowledge of the German-speaking countries.

Syllabus:

With the help of various working methods, the students should develop their oral and written proficiency through practice based chiefly on the reading material.

Fiction as well as nonfiction texts are studied. Different literary genres must be represented.

The amount of the grammar which the students must master in theory and practice, should be limited to that which is necessary for oral and written command of the language, as defined in the objectives.

B. Languages line, modern languages, music-languages and social studies-languages branches. 2nd and 3rd forms of the gymnasium

Objectives:

The students should develop their skills in reading and understanding German literature and nonfiction prose, thus gaining insight into characteristic aspects of the cultural conditions in the German-speaking countries. They should also practise understanding spoken German and expressing themselves orally and in writing in the foreign language.

Syllabus:

With the help of various working methods the students should develop their oral and written proficiency through practice based chiefly on the reading material.

The syllabus should be arranged in such a way that a broadly founded insight into an authorship or topic within at least two areas is made possible. Both older and recent periods must be represented, as well as both fiction and nonfiction texts. Different literary genres must also be represented.

Whenever possible, the texts should be treated in interdisciplinary cooperation with other subjects as elements in a larger historical and conceptual context.

The amount of grammar which the students must master, in theory and practice should be limited to that which is necessary for oral and written proficiency, as defined in the objectives.

Examination:

There are one written and one oral examination. For the written examination, students may choose between a) an exercise in précis writing combined with a short translation and b) a composition based on a German text.

- a) The content of the two passages of the combined paper must be related. The first passage (about 10 lines) is in Danish for translation into German. The remainder of the text, which is in German, will be read aloud twice, and then written by the students as a précis.
- b) If the composition is chosen, the students answer various questions on the German text(s) presented to them. At the beginning of the examination, the German text and the questions to be answered should be read aloud once for the students who so wish.

In both cases 5 hours are allowed for the examination.

At the written examination the students are allowed the use of dictionaries approved by the Directorate.

Depending on the degree of difficulty, a minimum of 100 pages and a maximum of 150 pages are offered for the oral examination, corresponding to about $\frac{1}{3}$ of the syllabus studied.

The examination syllabus should be representative of the syllabus studied.

The student is examined in about $\frac{3}{4}$ of a page of a prose text of an appropriate degree of difficulty which has not been studied previously, and a passage of about $\frac{1}{2}$ page of previously studied texts.

The student decides which of the passages he or she wants to read aloud.

The student's comprehension and proficiency is tested on the basis of both texts.

The student should be given the opportunity to start with a brief presentation of his or her views, but otherwise the examination should be in the form of a conversation, mainly in German. The difficult passages in the texts should be translated.

Preparation time for the oral examination corresponds to the examination time.

When evaluating the student's proficiency greater weight should be attached to the student's fluency and ease of expression than to whether all details are correct.

II. Mathematics line

Objectives:

The students should develop the skills necessary for reading and understanding German literature and non-fiction prose as well as understanding spoken German. They should also consolidate and improve their oral and - to a limited extent - their written command of the language.

Syllabus:

With the help of various working methods, the students should develop their written and oral proficiency through practice based chiefly on the reading material.

Fiction as well as nonfiction texts must be read and various genres of literature represented in this reading material.

The amount of grammar which the students must master in theory and practice, should be limited to that which is necessary for oral and written command of the language as defined in the objectives.

Examination:

The examination is oral.

A minimum of 50 and a maximum of 75 pages are offered, corresponding to about 1/3 of the syllabus studied.

The examination syllabus should be representative of the whole syllabus studied.

The examination should comprise a prose passage which has not been studied previously of about a 1/2 page, and a 1/2 page previously studied texts.

The student's comprehension of the text and his or her proficiency should be tested chiefly through conversation in German.

The student decides which of the texts he or she wants to read aloud.

The difficult passages in the texts should be translated.

Preparation time corresponds to the examination time allowed.

When evaluating the student's proficiency greater weight should be attached to the student's fluency and ease of expression than to whether all details are correct.

V. French

Objectives:

The students should learn to read and to understand modern French texts which do not contain any major difficulties, and to train them in pronunciation, in elementary oral proficiency, and in understanding spoken French in connection with the practical use of ordinary grammar.

Syllabus:

At least 325 pages must be studied.

Examination:

The examination is oral.

There is a choice between two types of examination:

- a. The students are examined in 1 page of a text which has not been studied previously. 20 minutes will be allowed for preparation with the use of dictionaries, notes, etc. The text should be translated into Danish and the student should be tested in reading aloud. A simple conversation should be carried out on the basis of the text.
- b. The students must offer a minimum of 90 pages selected from texts studied in the 2nd and 3rd forms of the gymnasium and comprising at least 4 works or topical groups. The student should be examined in 3/4 page of a text which has not been studied previously and 1/2 page selected from the examination syllabus. 20 minutes are allowed for preparation, but without the use of a dictionary (or list of words). The text which has not been studied previously is to be translated. A suitable part of the text selected from the examination syllabus is to be read aloud, and the text should be used as the basis for a detailed conversation in French on the subject.

The entire class must choose the same examination method.

VI. RussianObjectives:

The students should learn to read and to understand modern Russian texts which do not contain any major difficulties, to understand spoken Russian, and to express themselves orally in simple sentences. Importance should be attached to grammatical comprehension and good pronunciation.

Syllabus:

In addition to elementary material, at least 125 pages of text should be studied.

Examination:

The examination is oral.

The student is examined in 1 page of accentuated text which has not been studied previously. The examinee is allowed 45 minutes for preparation with access to dictionaries, notes, etc. The text is to be translated, and the student should be tested in reading aloud. A simple conversation should be carried out on the basis of the text.

VII. LatinA. Languages line: 1st form of the gymnasium, the modern languages branch, and the music-languages branchObjectives:

The students should:

1. Acquire sufficient knowledge of Latin to be able, independently and with the use of dictionaries, grammars, and parallel translations into a modern language, to read a Latin text which does not contain major difficulties,
2. become aware of the connection between the Latin language and modern languages, and
3. through the reading of some characteristic samples of Latin literature acquire an insight into essential spheres of the Roman-Latin tradition.

Syllabus:

About 80 pages should be studied in the 1st and 2nd forms of the gymnasium. Comparatively easy passages of poetry should be included in the syllabus. In the beginning of the gymnasium, texts specially adapted to the proficiency of the students at this stage and comprising up to 10 pages, may be used.

Examination:

The examination is oral.

40 pages of texts by various authors, selected fairly evenly from the syllabus studied, should be offered. The 10 pages of the specially adapted elementary texts cannot be included in the examination syllabus.

The student is examined either in a) a passage from a text included in the examination syllabus or in b) a passage from an extemporaneous text.

Before the examination question is made known, the individual student must decide which of the following two examination forms is to be applied.

- a. The student is examined in one passage of the examination syllabus. 20 minutes are allowed for preparation, during which time there should be free access to all texts included in the examination syllabus and to dictionaries and grammars of the student's own choice. Paper should be available for taking notes, which may be used during the examination.

The text is to be translated, expounded, and read aloud.

- b. The student is examined in at most one half page of a text which has not been studied previously. These texts are selected by the examiner with due regard to the syllabus studied, but not necessarily from among the same authors.

20 minutes are allowed for preparation, during which time the examinee should have free access to all the texts offered and to dictionaries and grammars of his or her own choice. Paper should be available for taking notes which may be used during the examination.

The text is to be translated, expounded, and read aloud.

B. Languages line: classical languages branch

Objectives:

The students should:

1. acquire sufficient skill in reading Latin to be able independently and with the use of dictionaries and grammars to translate a Latin text which does not contain major difficulties, and
2. through the reading of a number of the major works of Roman literature (and possibly through special studies), acquire an insight into essential aspects of Roman culture.

Syllabus:

A total of 170 pages, including at least 30 and at most 50 pages (of 25 verses each) of poetry, should be studied in the 3 gymnasium forms. Classical authors and poets should be well represented.

The students should be trained in translating from Latin into Danish.

One or two special topics, selected from texts with or without relationship to the syllabus, may be studied. Under the guidance of the teacher the students should, individually or in groups, work out reports on topics selected by themselves within these special studies, the results of which should be presented for the whole class. The syllabus can be reduced to 155 pages by studying one special topic and to 140 pages by studying 2 special topics.

At least 25 pages and at most 50 pages of the reduced syllabus must be poetry.

Examination:

There are one oral and two written examinations.

For each of the written examinations one translation from Latin into Danish comprising about one page is required. The students may use dictionaries and grammars of their own choice. 4 hours will be allowed for each of the translations.

The syllabus to be offered for the oral examination should be 80 pages representative of the syllabus studied. In the examination syllabus no part of the 10 pages of specially adapted elementary texts may be included. At least 20 and at most 35 pages must be poetry.

The student is examined in either a) a passage of a text from the examination syllabus or b) a text which has not been studied previously.

Before the examination question is made known, the individual examinee must choose one of the following two forms:

- a. The student is examined in one passage of the syllabus offered. 30 minutes' preparation time is allowed, during which time all the texts offered as well as dictionaries and grammars of the student's own choice should be available. Paper should be available for taking notes, which may be used during the examination.

The text should be translated, expounded, and read aloud. To test the student's knowledge of the background of the text, its contents and form, questions drawn from any part of the syllabus, but based on the passage in question, may be put.

- b. The student is examined in at most $3/4$ of a page of a text which has not been studied previously. This text should be selected by the examiner with due regard to the syllabus studied, but not necessarily from among the same authors. 30 minutes preparation time is allowed, during which time all the texts offered as well as dictionaries and grammars of the student's own choice should be available. Paper should be available for taking notes, which may be used during the examination.

The text should be translated, expounded, and read aloud. In addition, a couple of questions on essential aspects of Roman culture should be put.

VIII. Greek

Languages line: classical languages branch

Objectives:

The students should:

1. Acquire sufficient understanding of Greek, to enable them independently and with the use of dictionaries, grammars, and parallel translations into a modern language, to read a fairly easy Greek text, and
2. through the study of a number of the major works of Greek literature in the original and in translation as well as through the study of works of Greek architectural and visual art to acquire insight into essential aspects of Greek classical culture.

Syllabus:

The students should read about 140 pages in Greek, including at least 30 and at most 50 pages (of 25 verses each) of poetry. Homer and Attic prose should be amply represented.

Sufficient material should be studied in translation in addition to the Greek syllabus in order to give the students insight into the Homeric world and Greek (particularly Attic) culture in the period from the Persian wars to the death of Plato.

Works of art should be studied in a selection sufficient to illustrate the main periods in the development of Greek art and give the students an idea of its character as a whole.

One special topic may be selected for study, whether it has any connection with the syllabus or not. Under the guidance of the teacher the students should work out reports, individually or in groups, on topics within the special studies selected by themselves,

the results of which should be presented to the entire class.

The syllabus can be reduced to 130 pages by studying a special topic.

Examination:

The examination is oral.

The student is examined in either a) a passage from the examination syllabus or b) a passage from a text which has not been studied previously. Before the examination question is made known, each individual student must choose between the two following examination forms:

80 pages of texts, representative of the syllabus studied, must be offered, including at least 20 and at most 35 pages of poetry.

- a. The student is examined in one passage of the syllabus offered. 30 minutes are allowed for preparation, during which time all the texts offered, as well as dictionaries and grammars of the student's own choice should be available. Paper should be available for taking notes, which may be used during the examination.

The text should be translated, expounded, and read aloud. To test the student's knowledge of the background of the text, its contents and form, questions drawn from any part of the syllabus, but based on the passage in question, may be put. If a question in the history of art is put, it should be on the basis of material presented with the question. Material that has not been treated in class may also be presented.

- b. The student is examined in at most a 1/2 page of text which has not been studied previously. The text should be selected by the examiner with due regard to the syllabus studied, but not necessarily from among the same authors. 30 minutes are allowed for preparation, during which time all the texts offered, as well as dictionaries and grammars of the student's own choice should be available. Paper should be available for taking notes, which may be used during the examination.

The text should be translated, expounded, and read aloud. In addition, a couple of questions on essential aspects of classical Greek culture should be put. If a question in the history of art is included, it should be on the basis of material presented with the question. Material that has not been treated in class may also be presented.

IX. Classical Civilization

Languages line, 1st form of the gymnasium, modern languages, music-languages, and social studies-languages branches, and the Mathematics line

Objectives:

The students should become acquainted with essential aspects of the culture of antiquity through the study of major works (or parts of works) of Greek (Roman) authors in translation, and through the study of a number of Greek (Roman) works of architecture and visual art.

Syllabus:

Of ancient authors in translation, at least 2000 verses of poetry, 2 dramas, and 125 pages of prose should be studied. Homer, the Attic drama, and Plato must be represented.

A selection of works of art, sufficient to illustrate the main periods in the development of Greek art and to give an idea of its character as a whole, should be studied.

Examination:

The examination is oral.

About 1200 verses of poetry, 1 drama, and about 100 pages of prose should be offered. In addition, a selection of works typical of Greek (Roman) architectural and visual art should be offered.

The student is examined in a passage within the literary syllabus offered. On the basis of this passage an account of the content and essential details of the text should be given and placed in the relevant context. Examination in the history of art should be based on material presented with the question. Material that has not been treated in class may also be presented at the examination.

X. History and civicsObjectives:

The students should:

1. acquire insight into social conditions and the role of man in society in the past and present, and in their own as well as in foreign cultures, politically, socially, culturally and economically.
2. develop skills in the critical analysis of social problems and the values attached to them in the past and in the present, and thus acquire the prerequisites for making a personal assessment of social problems.
3. acquire the necessary background for, and training in analysing, and using source material and interpretations in history and social studies.

Syllabus:

50 per cent of the time allocated to history and civics should be used on history before c. 1930, 30 per cent on history after c. 1930, and 20 per cent on civics.

A. History

1. The period before c. 1930.

3 to 5 periods or topics should be studied. These should differ in terms of epoch, geography, and theme.

At least one period or one topic should cover the period before 1500. The history of Denmark and of the other Nordic Countries should be included in at least one and at most two of the above periods or topics.

Non-European material must be covered in at least one period or topic.

2. The period after c. 1930.

The developments after about 1930 should be treated comprehensively and globally; obviously, however, not all aspects of the material can be equally thoroughly treated. Selected topics may be studied during part of the time available. The main emphasis should be placed on the study of the period from 1945 to the present time.

3. If the topics selected comprise material from both before and after c. 1930, and if the material studied up to about 1930 corresponds in volume to a period or a topic before c. 1930, then one of the periods or topics in the older material may be left out. On the other hand, at least 3 periods or topics from before 1930 should be studied.

4. Topics for special study.

A naturally delimited topic may be selected for special study. A maximum of two such special studies may be done, one before c. 1930 and one after 1930. If two such special studies are done, their topics must differ in character.

B. Civics

5 to 7 of the topics mentioned below must be studied. They should be selected in such a way that all of the 3 main sections are represented. 2 of the topics selected should be treated in depth.

1. The economic and social structure and functions of society.
 - a) Small groups (family, place of employment etc.)
 - b) Social education, social deviations, and social sanctions.
 - c) Structure of population, economic, and social stratification.
 - d) Economic description of society (structures in trade and industry, industrial relations, basic economic concepts, and the economic cycle).
 - e) Economic policy and the economic systems of society.
2. Organization and functions of the political system.
 - f) Communication and the forming of political opinion.
 - g) Political attitudes and systems of political thought.
 - h) Political groupings.
 - i) Political institutions, their organization and functions.
3. International relations.
 - j) The making of foreign policy, including Danish foreign policy.
 - k) International economic and political integration
 - l) International conflicts.

The students should be acquainted with the basic concepts of those topics not treated.

If there are social studies branches at the school, the lessons in civics should be given in the 3rd gymnasium form.

Examination:

The examination is oral.

The students may choose between two types of examination:

- a) One question based on material studied. The examination lasts about 20 minutes. The student is allowed at least 40 minutes for preparation during which all aids, including the student's own notes, may be used.
- b) Two questions based on the material studied. The examination lasts about 20 minutes. The student is allowed at least 20 minutes for preparation, during which the source material offered for examination, as well as an atlas and chronological table, may be used.

The whole class must choose the same type of examination.

Students in the social studies branches of the gymnasium are examined in history only.

The examination syllabus must include:

1. History.

a. The period before c. 1930.

One extensive or two smaller periods or topics with relevant source material. At least 60 pages of relevant first-hand documents of which up to 50 per cent may be replaced by other types of source material.

b. The period after c. 1930.

One third of the material. At least 60 pages of first-hand documents of which up to one third may be replaced by other types of source material. Danish history must be represented. At least half of the material offered should treat the period after 1945.

If the source material accompanying one section is especially extensive, the amount of other material in this section may be reduced correspondingly.

- c. A special study within the period before c. 1930 offered for examination cancels the requirements listed in 1.a in the examination requirements. A special study after c. 1930 offered for examination reduces the requirements listed in 1.b. by 75 per cent and may cancel the requirement concerning source material.

2. Civics.

The two topics studied in greater depth or either of these in combination with two other topics. At least 20 pages of text and/or statistical material.

XI. Social Studies

Languages and Mathematics lines, social studies Branches

Objectives:

The students should acquire knowledge of essential aspects of the structures and functions of social systems and obtain skill in exact and systematic observation, in comparison of observations, and in critical analyses of social relations.

Syllabus:

The following main disciplines should be covered:

- a. sociology
- b. economics
- c. political science
- d. international politics.

In addition, one special study is to be done.

As far as it is expedient, instruction should be organized in such a way that the relevant topics chosen form a whole. This can be achieved by taking up some topics which integrate the main disciplines.

Instruction is primarily to be concerned with Danish conditions, but the student's comprehension should be consolidated through knowledge of conditions in other countries.

The individual main disciplines may be treated in the order given above. Normally, the specialized study should be done during the last year. About 40 lessons are used for this work.

The students should acquire the skills mentioned in the section "Objectives" through classroom teaching, exercises, and written papers related to the teaching of the four main disciplines.

The special study, which may be selected in connection with all the main disciplines, must be approved by the Directorate.

The basis of the teaching of the main disciplines should be a system of textbooks or other appropriate material. In addition, work with texts and statistical material of different kinds should constitute an

important part of the instruction, just as papers written by the students should form the groundwork.

Examination:

There are 1 oral and 2 written examinations.

The two written examinations consist of at least 1 set of questions of such a nature that the point of departure of the answers is presented material (texts, figures, etc) prepared for the purpose. 5 hours are allowed for answering each of the 2 written examinations.

The following must be offered for the oral examination:

1. About 350 pages of textbook material representing all 4 main disciplines.
2. 80 to 120 pages of text and statistical material in connection with this.
3. The special study.

The student is allowed preparation time for the oral examination.

The student is asked 1 question which consists of a series of minor questions to ensure sufficient scope as to skill and topic. The overall question is given with related material selected for the purpose.

The Directorate determines the principles concerning the extent to which the use of aids, both with regard to the written and the oral examinations, is allowed.

XII Geography

Objectives:

The students should be given an insight into different environments and the manner in which they are determined by conditions of nature, economics, technology, historical developments, and political systems to illustrate the interplay between man and the conditions prevailing in nature, and to create the basis for a critical evaluation of the world around them.

Syllabus:

A. Languages line, 1st form of the gymnasium.

Emphasis is placed on human geography, supplemented with geomorphology and natural geographical subject groups to the extent necessary for understanding human geography. Instruction should deal especially with descriptions of population and economic conditions in both industrial and developing countries.

Human geography: Thorough information should be given on the global distribution and shifting composition of populations in modern society. Economic description should concentrate on primary, secondary, and tertiary trades and industries at different economic levels.

Physical geography: An introduction should be given to the areas of geomorphology, climatology, and plant geography, to the extent necessary for understanding the natural conditions under which human beings live and work.

B. Languages line, social studies branch. 2nd and 3rd forms of the gymnasium.

Emphasis should be placed on the economic, historico-political, and technological development in industrial as well as in developing countries. Moreover, a thorough study of selected subjects in the areas of demography, descriptions of trades and industries, the utilization of land in urban and rural areas, the problems in developing countries.

Instruction should amplify the knowledge and understanding acquired in the 1st form of the gymnasium, particularly with regard to migration and urbanization, the infrastructure of society, and changes in the economic structures.

Moreover, the students should become acquainted with the main features of world trade to illustrate international economic relations.

At least 25 per cent of the instruction time should be devoted to the study of topics of the student's own choice in the area of human geography.

C. Mathematics line, mathematics-physics branch
2nd form of the gymnasium.

The studies should comprise an analysis of selected regions in both industrial and developing countries, with emphasis on human geography. Subjects from physical geography should be included to the extent that these are necessary for understanding human geography.

Human geography: Thorough information should be given on the global distribution and shifting composition of populations in modern society. Economic description should concentrate on the primary, secondary, and tertiary trades and industries at different economic levels.

In selected regions, populations and economic conditions, settlement geography, and infrastructure should be illustrated.

Physical geography: An introduction should be given to the areas of geomorphology, climatology, and plant geography to the extent necessary for understanding the natural conditions under which human beings live and work.

At least 25 per cent of the instruction time should be used in studying a topic of the student's own choice.

D. Mathematics line, social studies and natural
science branches, 2nd and 3rd forms of the gymnasium

Emphasis should be placed on the economic, historico-political, and technological development in both industrial and in developing countries, and instruction should comprise such current population problems as migration, urbanization, and changes in economic structures.

Moreover, the students should be introduced to the chief features of world trade to illustrate international economic relations.

Instruction should comprise a description and analysis of selected regions in both industrial and developing countries. Selected topics in the areas of demography, economic description, the utilization of land in urban and rural areas, the infrastructure of society and problems of developing countries should be included in the study of these regions.

An introduction should be given to geomorphology, climatology, and plant geography to the extent necessary for understanding the natural conditions under which human beings live and work.

At least 25 per cent of the instruction time should be used for studying topics of the student's own choice.

Examination:

The examination is oral, and one question is given within the topics studied. The student is given preparation time for studying material which the teacher plans to use as the point of departure for the examination, - atlas, map sheets, diagrams, tables, etc. Information from the exercise book of the student may be included in the discussion during the examination.

XIII Biology

- A. Languages line. Mathematics line: mathematics-physics branch and social studies-mathematics branch

Objectives:

The students should develop their ability to formulate and to solve biological problems and critically and analytically to pursue biological thinking and methods of work in such a way that biological methods and knowledge can be applied both to individual and to social problems.

Syllabus:

The subject is experimental, and integrated experiments should be carried out by the students to the extent this is practicable. A laboratory journal covering the experiments should be kept, and on the basis of this journal, a number of reports should be worked out and produced at the examination. The biological topics treated should be motivated and expounded in conversation and discussions.

Instruction comprises:

1. An introduction of about 3 lessons, during which the students are given information about the methods and contents of the subject and about the optional possibilities open to them in the course of the educational year, and discuss these topics with the teacher.
2. Manifestations of life at different levels of organization.

Absorption, transportation, transformation, and excretion of matter, transformation of energy, irritability, movement, reproduction, autoregulation, and genetics. A few of these topics should be selected and emphasized.

3. Ecology.

Examples of topics that may be treated: Habitat, ecosystems, circulation of matter, the biosphere, ecological energetics, diversity of species, production of matter, successions, food chains, biology of behaviour, and population dynamics.

4. Human reproduction.

Reproduction, contraception, embryology, birth, the first years in a child's life, venereal diseases.

5. (a) Study in depth of one or more ecological topics or

5. (b) Man.

One or more topics in human biology, e.g. the genetics of man, his nervous system and its functions, work physiology, the biology of selected diseases, nutrition, narcotics, processes of old age, the effects of pollution on man.

6. Current biological problems of major importance to society.

7. A special study of an experimental nature lasting 10 to 18 lessons which the students may choose for themselves to the extent this is practicable. The whole class may select the same topic, and it may be organized as group work.

Examination:

The examination is oral.

The syllabus studied is offered for examination.

B. Mathematics line: natural sciences branch

Objectives:

The students should develop their ability to formulate and to solve biological problems and to pursue biological thinking and methods of work critically and analytically, in such a way that biological methods and knowledge may be applied both to individual and to social problems.

Syllabus:

The subject is experimental, and integrated experiments should be carried out by the students to the extent this is practicable. A laboratory journal covering the experiments should be kept, and on the basis of this journal a number of reports should be worked out and produced at the examination. The biological topics treated should be motivated and expounded in conversation and discussions.

Instruction comprises:

1. An introduction lasting approximately 3 lessons, during which the students are given an orientation about the methods and the contents of the subject and discuss these with the teacher.
2. Biophysics and biochemistry should be included in the treatment of biological topics in order to give the students a better understanding of basic biological principles.
3. The principles of the systematic divisions of the plant and animal kingdoms should be illustrated by selected examples. The vertebrates and examples from palaeontology should be included.
4. Instruction in microbiology should comprise the importance of the microorganisms as decomposers and elements in the cycles of matter and energy, as courses of diseases and as objects of research in modern biology.
5. Manifestation of life at different levels of organization.

Production, absorption, transportation, transformation, and excretion of matter. Transformation of energy, irritability, movement, reproduction, and autoregulation.

Examples should be taken from both the plant and the animal kingdoms, including man. The relationship of structure and function, and the maintenance of balance should be constantly emphasized in the instruction.

The study of this topic should also furnish examples for the illustration of other areas of biology, especially evolution and ecology.

6. Reproduction and embryology.

The different forms of reproduction. Individual development with chief emphasis on chordates. Embryological induction.

The following should be treated in connection with the reproduction of man:

Reproduction, contraception, embryology, birth, the first years in a child's life, and venereal diseases.

7. Ecology.

Examples of topics which should be treated:

Habitat, ecosystems, circulation of matter, the biosphere, ecological energetics, production, diversity of species, successions, food chains, and population dynamics.

8. Ethology.

Examples of animal behaviour should be treated.

9. Genetics should comprise geno- and phenotypes, genes and chromosomes, the chemistry and functions of genes, gene mutations, chromosome deviations, sex chromosomes, sex determination, sex-linked heredity, population genetics, characteristics of heredity in man, and human populations genetics.

10. The theory of evolution.

Examples of evolution should be drawn from biochemistry, cell biology, genetics, systematics, embryology, comparative anatomy, and palaeontology.

Older theories concerning the origin of the species should be mentioned.

11. Present biological problems of major importance to society.

12. Man.

One or more topics from human biology, e.g. work physiology, the biology of selected diseases, nutrition, narcotics, processes of old age, the effects of pollution on man.

13. Special study.

For a special study, there is a choice between a topic connected with several disciplines in biology, and a topic which studies in detail a single area within a discipline. Duration about 30 lessons.

The special study may be either of an experimental nature or in the form of an evaluation of relevant scientific literature. As far as practicable, the students may choose for themselves. A whole class may select the same special study, and work may be done in groups.

Some of the topics mentioned above may be studied cursorily.

The order of the topics does not indicate the order of study.

Examination:

These are two written and one oral examinations.

The Directorate determines the syllabus for the written examinations.

The written examinations comprise :

- (a) An examination for which 4 hours are allowed. From a number of possible examination papers the student chooses one.
- (b) An examination for which 3 hours are allowed. The student must answer a specified number of questions, selected from among a larger number of questions.

The part of the studied syllabus offered by the student for the oral examination corresponds in extent to the syllabus of the written examination.

XIV Chemistry

The mathematics line

Objectives:

The students should acquire knowledge of working methods in chemistry and chemical phenomena and laws, and gain an impression of the applications and social importance of chemistry.

Syllabus:

Instruction includes:

1. General chemistry.

Atoms, molecules, and ions. The periodic system, chemical bonding, including molecular structure. The properties of diluted solutions. Reaction kinetics and equilibrium. Acid-base processes. Redox processes.

2. Inorganic and organic chemistry.

The most important elements and some of their combinations. Carbon combinations should be included with special reference to bonding types, nomenclature, the most important functional groups (e.g. hydroxyl, carbonyl, carboxyl, amino) and the most important types of reaction.

3. Optional material.

The study of the topics mentioned under 1 and 2 should occupy about 75 per cent of the instruction time. The remaining time should be used for a detailed study of one or more of the above topics or for work in other fields of chemistry.

Instruction should include theoretical presentation of problems in chemistry, lecture demonstrations, and students' experiments. Experimental features should be given a prominent place in the instruction and should be based on quantitative and qualitative observations to enable the students to acquire knowledge of general chemical laws.

Examination:

The examination is oral.

The syllabus offered for the examination consists of half of the total course syllabus, including demonstrations, students' experiments, and optional material.

The syllabus offered for examination should be broadly representative of the instruction given.

The student is allowed about 20 minutes for preparation. During preparation the student may use the textbook, duplicated notes, journals, and personal notes.

The examiner should make a point of testing the student's ability to use his knowledge of chemistry.

The examination questions must not be narrowly confined to particular pages in the textbook.

Lecture demonstrations and students' experiments may be included in the examination, in which case the main emphasis should be on testing the student's understanding of the theoretical background of the experiment.

Each student should be examined in one question from the syllabus offered.

XV PhysicsThe mathematics lineObjectives:

The students should be given a solid understanding of central areas of classical and modern physics and become familiar with other areas of physics.

A. Mathematics-physics branchSyllabus:

Instruction should:

1. give the students a basis for further work within all areas where scientific working methods are used, and
2. give the students insight into scientific thinking and thus enable them to acquire a critical attitude towards problems in physics.

This should be done by working with:

- a. theoretical and experimental problems,
- b. the solution of simple numerical problems,
- c. optional topics.

Details concerning central areas will be more closely given in a compendium to be issued by the Directorate.

Examination:

There are one written and one oral examination.

The written examination:

4 hours are allowed for the examination. The above-mentioned compendium is worked out in such a way that it indicates the parts of the material on which questions may be put. The Directorate determines the extent to which various aids may be used during the examination.

The oral examination:

The examination syllabus contains $1/3$ of the material from the entire syllabus studied, and, in addition, 15 of the experiments performed. Reports on all the experiments performed are presented. The examination syllabus should be representative of the material studied. The experiments offered should be selected from the entire syllabus.

Each student is examined in two questions, one from the examination syllabus and one from the experiments offered.

The student is allowed about 30 minutes for preparation. During preparation, the student may use his own reports, experiment instructions, and the compendium.

B. Social studies-mathematics branch and natural sciences-mathematics branch

Syllabus:

Instruction should:

1. give the students a basis for further work in all areas where scientific working methods are used, and
2. give the students insight into scientific thinking, thus enabling them to acquire a critical attitude towards problems in physics.

Instruction should therefore include work with theoretical and experimental problems, and related mathematical examples.

Details concerning central areas will be more closely defined in a compendium issued by the Directorate.

Examination:

The examination is oral.

The examination syllabus contains about 1/3 of the entire syllabus studied and related to student experiments. Reports on all experiments are presented for examination. Each student is examined in one question, in which the solution of a mathematical problem or a discussion of a student's experiment may be included in connection with the theoretical presentation.

Preparation time is about 20 minutes. During preparation, the student may use textbooks, personal journals and notes, reports, and the compendium.

XVI MathematicsThe mathematics lineObjectives:

The students should

- become acquainted with a number of fundamental mathematical concepts, modes of thinking, and methods,
- be trained in the application of mathematical concepts, modes of thinking, and methods of formulating, analysing, and solving problems within different disciplines,
- develop clarity and logical coherence in demonstration and mode of expression,
- develop their imagination and resourcefulness
- be given an understanding of and the ability to critically analyse the way in which mathematics is used in different areas.

A. 1st form of the gymnasium and the mathematics-physics branch

Syllabus:

Theoretical mathematical structures may be set up on the basis of well-defined problems. Instruction may include problems in the fields of economics, biology, physics, sociology, technical science, data processing, information theory, psychology, languages, chemistry, etc.

Normally, only topics common to the different branches of the line can be treated in the first form of the gymnasium. In the individual schools, teachers in the first form of the gymnasium should coordinate their work in such a manner that the students can be transferred to the different branches with the same basic knowledge.

Instruction must include:

1. General concepts from set theory and algebra. Set, subset, complement, union, intersection, set difference. Equivalence relation, ordering relation. Mapping of a set into and onto a set (the concept of a function), one-to-one mapping, inverse mapping (inverse function), composition of mappings (composite function). Precepts for composition; the concepts of group, subgroup, isomorphism.

2. Integers, rational, and real number.
 The natural numbers. The axiom of induction.
 Prime numbers, greatest common divisor.
 Residue classes. Rational and real numbers (rules of arithmetic); the ordering of real numbers.
 Upper and lower limits.
 Absolute value.
3. Combinatorial analysis, probability theory, and statistics.
 Subpopulations and ordered samples, the binomial formula.
 Finite probability spaces. Addition and multiplication theorems. Binomial distribution.
 Random variables. Expectation and standard deviation.
4. Equations and inequalities.
 Equations and inequalities of the first and second degree with one unknown. Equations and inequalities of the first degree with two unknowns.
 Simple examples of other equations.
5. Plane geometry.
 The rectangular coordinate system. Transformation of coordinates. Vectors and vector coordinates. Calculus of vectors including the scalar product of two vectors.
 The analytic descriptions of a straight line. Distances and angles.
 The analytic description of a circle.
 The area of a triangle and the area of a parallelogram.
 The definition of a parabola of an ellipse and of a hyperbola.
 Mappings of the plane onto itself. Translation, rotation, the reflection in a line, dilation and composition of the mappings mentioned. Orthogonal affinity.
6. Elementary functions.
 The linear function of one variable.
 The linear function of two variables. Elementary linear programming.
 Polynomials in one variable, including their factorization.
 Maximal number of roots, determination of rational roots in polynomials with integer coefficients.
 Rational functions of one variable.
 The logarithmic functions, the logarithmic scale.
 The exponential functions, the power functions.
 The trigonometric functions, the addition formulas, the logarithmic formulas.
 The use of the trigonometric functions in a right triangle.

7. Infinitesimal calculus.
 The concept of limit.
 Continuity and differentiability of a real function of one real variable.
 Continuity and differentiability of a vector function of one real variable (tangent vector).
 Elementary properties of differentiation.
 Differentials.
 The definite integral as a limit of sums.
 The indefinite integral.
 Elementary properties of definite and indefinite integrals, including partial integration and integration by substitution.
8. Applications of infinitesimal calculus.
 Determination of the range of a function and of the monotony of a function.
 Simple examples of the determination of the asymptotic properties of functions.
 Drawing of plane curves determined by explicitly given functions or by simple parametrical descriptions.
 Determination of areas and volumes by integration.
 Simple differential equations.
9. An optional theme.

Examination:

There are two written and one oral examinations.

One set of problems is given for each of the written examinations. Each set of problems consists of a number (generally 4 to 7) of relatively simple, compulsory problems, and of two problems from which the individual student must select one for answering. 4 hours are allowed for answering each set of problems.

The Directorate determines the extent to which aids may be used.

The problems may be drawn from all parts of the syllabus with the exception of the optional topic.

The amount of text offered for the oral examination corresponds to about half of the syllabus studied. Among other things, the subjects offered must contain central parts of the optional theme.

The examination questions are taken from all parts of the syllabus offered.

Two questions are given to each student who is allowed preparation time and the use of all aids for both questions.

The second question may be a synoptic question for which no independent presentation is required.

B. 1st form of the gymnasium and the social studies and natural sciences branches

Syllabus:

Theoretical mathematical structures may be built up on the basis of well-formulated problems. The instruction may include problems in the fields of economics, biology, physics, sociology, technical science, data processing, information theory, psychology, languages, chemistry, etc.

Normally, only common topics from the different branches of the line can be treated in the first form of the gymnasium. In the individual schools, teachers in the first form of the gymnasium should coordinate the work in such a manner that the students can be transferred to the different branches with the same basic knowledge.

Instruction must include:

1. General concepts from set theory.
Set, subset, complement, union, intersection, set difference.
Mapping of a set into and onto a set (the concept of a function), one-to-one mapping, inverse mapping (inverse function), composition of mappings (composite function).
2. Integers, rational and real numbers (rules of arithmetic).
The ordering of the real numbers.
Absolute numerical value.
3. Combinatorial analysis, probability theory, and statistics.
Subpopulations and ordered samples, the binomial formula.
Finite probability spaces. Addition and multiplication theorems.
Binomial distributions. Random variable.
Expectation and standard deviation.
Normal distribution.
Examples from other fields.
4. Equations and inequalities.
Equations and inequalities of the first and second degree with one unknown. Equations and inequalities of the first degree with two unknowns.
Simple examples of other equations.
5. Plane geometry.
The rectangular coordinate system.
Vectors and their coordinates.
Calculus of vectors, including the scalar product of two vectors.
The analytic descriptions of a straight line. Distances.
The analytic descriptions of a circle.
The area of a triangle and the area of a parallelogram.

6. Elementary functions.
 The linear function of one variable.
 Polynomials in one variable, including their factorization.
 Rational functions of one variable.
 The logarithmic functions, the logarithmic scale.
 The exponential functions, the power functions.
 The trigonometric functions, addition formulas, logarithmic formulas.
 The use of trigonometric functions in a right triangle.
7. Infinitesimal calculus.
 Description of the concept of limit and continuity of a real function of one real variable.
 Differentiability of a real function of one real variable.
 Elementary rules of differentiation.
 The approximating polynomial of the first degree, differentials.
 The definite integral as a limit of sums.
 The indefinite integral.
 Elementary properties of definite and indefinite integrals, including partial integration and integration by substitution.
8. Applications of infinitesimal calculus.
 Determination of the range of a function, and of the monotony of a function.
 Simple examples of the determination of the asymptotic properties of functions.
 Drawing of plane curves determined by explicitly given functions.
 Determination of areas and volumes by integration.
9. The use of arithmetical technical aids.

Examination:

There are one written and one oral examination.

The written examination includes one set of problems consisting of a number (4 to 7) of compulsory problems with a simple presentation, and of two problems, from which the student selects one to be answered.

4 hours are allowed for answering the set of problems.

The Directorate determines the extent to which aids may be used.

The examination problems may be drawn from any part of the syllabus.

The amount of text offered for the oral examination corresponds to about one half of the syllabus studied.

The examination questions are taken from all parts of the syllabus offered.

Two questions are presented to each student, who is allowed preparation time and the use of all aids for both questions. The second question may be a synoptic question for which no independent presentation is required.

II. Languages line:

Objectives:

Instruction should train the students to think in terms of mathematical reasoning, and teach them methods and skills in formulating, analysing, and solving problems in different disciplines.

Moreover, instruction should give the students an elementary understanding and the ability to make a critical analysis of the use of mathematics in different subjects.

Syllabus:

Instruction must include:

1. General concepts from set theory.
Set, subset, complement, union, intersection, set difference.
Mapping of a set into and onto a set (the concept of a function), one-to-one mapping, inverse mapping (inverse function), composition of mappings (composite function). Different ways of describing real functions.
2. Elementary functions.
The linear function of one variable.
Polynomials in one variable.
The logarithmic functions, the logarithmic scale.
The exponential functions.
The trigonometric functions, intermediate formulas.
The use of the trigonometric functions in a right triangle.
3. Infinitesimal calculus.
Derivatives. The approximating polynomial of the first degree.
Elementary properties of differentiation.
Examination of the range of a function.
The definite integral as a limit of sums.
The indefinite integral.
Elementary properties of definite and indefinite integrals.
Examples of the determination of quantities by integration.

4. Combinational analysis and probability theory.
 Subpopulations and ordered samples.
 Finite probability spaces. Examples of the
 calculation of probabilities based on combinational
 analysis.

Examination:

The examination is oral.

The syllabus offered for the examination corresponds to about one half of the syllabus studied. The central parts of the studied text should constitute a reasonable part of the text offered.

The examination questions are taken from all parts of the syllabus offered.

Each examinee answers one question. Preparation time is allowed.

XVII. Physical Education

Objectives:

Students should develop good physical condition, strengthen their muscles, and their neuro-muscular co-ordination.

Instruction should motivate the students to maintain good physical condition, promote their pleasure in physical exercise, and stimulate them to continue their physical activities. It should also develop their sense of cooperation and fair play.

Syllabus:

Instruction should include:

1. Basic training:

- a. Warming-up programmes consisting of simple exercises characterized by a total effect on the principal joints and muscle groups of the body.
- b. Fitness training, training of muscle strength and endurance, and developing and maintaining the natural mobility of the joints.

2. Work technique.

The basic principles of correct working postures, sitting and standing, as well as lifting, carrying, pulling, and pushing techniques.

3. Sports and games.

Emphasis should be placed on both various individual and team sports activities which the students may pursue after leaving school. Some examples of sports and games: General athletics, badminton, basketball, soccer, handball, volleyball, apparatus gymnastics, rhythmic gymnastics, orienteering, swimming, and winter sports.

Examination:

There is no examination.

XVIII Music.

A. All lines and branches with the exception of the music-languages branch

Objectives:

Instruction should make the students conscious of music as a means of human expression and communication.

Syllabus:

These objectives should be achieved through work with:

1. Creative instrumental and vocal work.
2. Musical appreciation.
3. Music as a social and cultural phenomenon.

Under 1, the students should work with unison and part singing, music making in groups, moving to music, possibly also choral drama and improvisation.

Under 2, the students should study both old and new music, including music of the present day, so that they will acquire an all-round knowledge of the elements and structure of music.

Among other things under 3, the students should study conditions connected with the production, distribution, and reception of music.

Instruction should illustrate the connection between the 3 mentioned areas. To the extent required, instruction should include elementary theory of music and ear training.

Examination:

No examination is held, but the students give a concert during the spring term.

B. Languages line, music-languages branch

Objectives:

Instruction should deal in greater detail with what has been taught in the 1st form of the gymnasium through a more extensive acquisition of practical and analytical skills and theoretical knowledge to a degree which enables the student to work independently with musical material.

Syllabus:

When working with performance of music, the teacher should include the same subject areas as in the other lines and branches. Particular weight should be attached to developing the student's scope for vocal expression and ability to participate in music making.

30 complete works or single movements should be studied; they should be chosen in such a way that altogether they represent a wide range of genres and styles, from the Middle Ages to the present day. Some of the works may be concentrated around particular subjects; up to 3 works may be replaced by a long text passage or groups of texts with a view to illustrating musico-sociological ways of presenting problems. A delimited topic may be selected for special study which can replace 2 works.

In order to support this work, further and more thorough instruction should be given in ear training and in the theory of music.

Instruction in the theory of music should comprise harmony, and at least one of the following 3 disciplines:

- a. Counterpoint in Palestrina style
- b. Instrumental arrangement of a baroque melody.
- c. Instrumental and/or vocal arrangement of a folk tune.

Examination:

There are two written and one oral examinations.

The written examination consists of:

- a. A 4-hour examination in harmony.
- b. A 4-hour examination in one of the other theoretical disciplines.

The oral examination comprises:

- a. A test in a composition not studied earlier or in part of such a composition chosen by the examiner.
- b. A presentation without accompaniment of 1 of 30 offered songs, chosen by the external examiner, and a presentation with or without accompaniment of a song chosen by the student.
- c. One or two sightreading texts.
- d. A test in rhythmic reproduction.

For the examinations under parts a and d, a total of 45 minutes will be allowed for preparation, during which the student is given access to recorded material, printed music or other written material.

IXX. Creative art and Art appreciation

Objectives:

Instruction should stimulate and develop the interest and understanding of the students for architecture, sculpture, painting, and other types of visual art.

Syllabus:

The basis for an introduction to visual art is normally the active involvement of students with creative art; in this way they become acquainted with the most important materials and techniques and get the opportunity to work with simple and common problems of form.

Examination:

No examination is held in the subject, but an exhibition is organized during the spring term.

XX. History of Ideas

In view both of the general educational aim of the gymnasium and of the fact that the purpose of its instruction is to prepare students for further studies, within the area of higher education, it is important that they are given an opportunity to see the connection between the different subjects and the historical perspective of both past and present issues. To support them in this respect, the students should have a textbook which gives an account of the ideas that have played a significant role in our culture. It is assumed that the students will have read this book during their 3 years at the gymnasium, and it is recommended that, to the greatest possible extent, teachers of the various subjects illustrate those aspects of the history of ideas which are related to their own subjects.

No special examination is held in this subject.

XXI Educational and Vocational Information and Guidance

The objective is to help the students choose their future education and occupation by acquainting them with the options open to them and to help them assess their own possibilities and the practical problems connected with making such a decision and carrying it out.

Students should also be given some knowledge of trade and industry in order to counteract prejudices and habitual ideas about conditions in these sectors.

Educational and vocational information and guidance in the gymnasium should be organized in such a way that it builds on the vocational information given to pupils in the folkeskole (the primary school and lower secondary school).

Through the instruction received in the folkeskole as well as the instruction received in the gymnasium in civics, the students should acquire a general knowledge of society so that educational and vocational information and guidance in the gymnasium can be concentrated on the problems which are of direct interest for the student's choice of education and vocation.

In order to make it possible to organize systematic instruction, it is necessary to reserve a certain number of lessons for this purpose. A decision regarding the lessons to be reserved should be made at the beginning of the school year. At least 14 lessons should be devoted to educational and vocational information and guidance during the 3 years of the gymnasium.

In addition, there should be at least 6 lessons with instruction in study technique during the 1st form of the gymnasium, chiefly at the beginning of the year.

Instruction in study technique may be given by the teacher of educational and vocational information and guidance or by another teacher.

It will be left to the individual school to decide which lessons should be used for this information. They should, however, be fairly evenly distributed among the different subjects.

XXII Assemblies (Føllestimer)

Lessons used for assembly cut across the divisions between lines, branches, and classes, and are held under freer conditions than the syllabus-bound instruction. They give the students access to artistic experiences (recitations, concerts, and the like), an introduction to special groups of topics, and to problems of current interest, as well as information about new perspectives in the fields of art, science, and politics.

Assemblies should be used, partly for joint arrangements for all students, and partly for group arrangements. Student participation in joint arrangements, of which at least 8 should be held in the course of the school year, is compulsory, whereas participation in group arrangements is voluntary. On the other hand, if students have enrolled in a group, they must participate in its activities.

Joint arrangements may be organized within the normal time-table of the school, whereas group arrangements must be organized outside compulsory school hours. As far as possible, assemblies should be planned with consideration to cooperation with other educational activities at the school.

Translation from Danish
Ministry of Education
International Relations Division
J.nr. 91-38-1/79



