

TIIRISMAA HIGH SCHOOL

COURSE DESCRIPTIONS 2014-2015

INDEX

| | |
|--|----|
| Finnish and literature (ÄI) | 3 |
| Finnish as a second language (S2) | 5 |
| LANGUAGES | 7 |
| Swedish | 7 |
| English (EA) | 10 |
| German | 11 |
| French | 13 |
| Russian | 15 |
| Spanish | 17 |
| Latin | 18 |
| SCIENCES | 20 |
| Physics | 20 |
| Chemistry | 22 |
| Biology | 23 |
| Mathematics | 25 |
| Standard mathematics | 25 |
| Advanced mathematics | 27 |
| HUMANITIES | 29 |
| Religion, Evangelic Lutheran (UE) | 29 |
| Religion, Orthodox (UO) | 31 |
| Ethics (ET) | 32 |
| Psychology (PS) | 33 |
| History (HI) | 34 |
| Social Studies (YH) | 36 |
| Philosophy (FI) | 37 |
| Health Education (TE) | 37 |
| SKILLS AND ART | 38 |
| Arts (KU) | 38 |
| Music (MU) | 40 |
| Physical Education (LI) | 46 |
| Textile Work (TS) | 47 |
| Speech and drama (IT) | 48 |
| Computer Science (AT) | 49 |
| OTHER APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL | |
| Classical Greek | 50 |
| International education | 50 |
| Student Counseling (OP) | 51 |

In this booklet there are short descriptions of all the courses in Tiirismaa High School curriculum. All the courses are not necessarily offered every year.

Applied courses offered by the school

The Lahti city high schools all have the same curriculum. Each high school offers its own applied courses which have been collected and numbered on an integrated course tray. A student may participate in any applied course offered by the city high schools if there is room. In this booklet there are only the courses that are offered by Tiirismaa High School. For this reason this booklet may lack some individual courses that are offered in other Lahti city high school.

FINNISH AND LITERATURE (ÄI)

Finnish and literature is a central high school subject of skills, information, culture and art which offers material for general knowledge in philology and culture. It contains linguistics, literature and media sciences and the research of culture. The knowledge of language, literature and communication, as well as the skills in reading, writing and speaking are learnt in various interactive communication situations.

Taking the courses

In Tiirismaa High School there are twelve (12) courses offered in Finnish and literature, out of which six (6) are compulsory nationwide. The compulsory courses (1-6) must be taken in the order of numbering and they must be done before the matriculation examination. A new course always contains in-depth material for the previous one and anticipatory material for the following one.

The recommended order of courses

1st year: compulsory courses 1, 2 and 3 and in-depth and applied courses 7, 10, 11, 12 and 13.

2nd year: compulsory courses 4 and 5 and in-depth and applied courses 7, 10, 11, 12 and 13.

3rd year: compulsory course 6 and in-depth and applied courses 8, 9 and 10.

Also, Speech and Drama (IT 1, 2 and 3) support the studies in Finnish well.

Assessment

All the compulsory courses and the in-depth courses are number graded on the scale of 4-10. For the other courses students get a credit mark (S). The course is not assessed only on the basis of tests or other written work but also the development of student in all the skills in the mother tongue. At the beginning of each course the group, together with the teacher decide the basis of assessment based on the contents and the working methods of that course. Other factors that affect the grade include the written and oral work, as well as active participation. In the courses there is also some self assessment.

COMPULSORY COURSES

Integration within the subject is carried out in all courses: reading, writing, oral communication, language, literature and media are all connected with the aims and contents of each course, so that the learning of knowledge and abilities interact. All courses give in-depth skills in the command of written language and develop reading, writing and oral communication abilities. Also, students are given plenty of reading assignments, both novels and other texts according to the aims of each course. **In all courses students will read novels – on average two books per course.**

ÄI 1. Language, texts and communication

The course strengthens basic skills. The student's concept of language, texts and their interpretation deepens and his reading skills develop. They learn how to organize their communication surroundings and recognize their own abilities as a speaker, listener, writer, reader and user of media so that their concept of themselves as a communicating person becomes more accurate.

ÄI 2. Structures and meanings of texts

The student gets practice in analyzing the language, structures and semantics of texts and learns to see their connection between the context and other texts. The students deepen their knowledge of different text types and they develop producing and analyzing various texts.

ÄI 3. Methods and interpretation of literature

The student's concept of literature, the artistic function of language and its cultural meaning becomes more in-depth. The students practice the analysis of short stories, poems and drama and the use of literary methods.

ÄI 4. Texts and influencing

The student learns to scrutinize texts and their language especially from the point of view of influencing others. He gets practice in argumentation and deepens the skills connected with that. They learn to analyze and produce argumentative texts and those that purposefully aim at influencing the readers.

ÄI 5. Text, style and context

The student learns to examine texts and their style so that they know how to take into consideration the meaning of context in the interpretation and production of the text. Students deal with texts and novels from different eras and of different styles. The student observes the elements of style in his own texts.

ÄI 6. Language, literature and identity

The student gets an overall picture of the meaning of the Finnish language, literature and culture for the individual and society. During the course the student learns the history of the Finnish literature and its main works and themes.

IN-DEPTH COURSES**ÄI 7. Enhanced oral skills**

The students deepen and diversify their knowledge and abilities of oral skills and learn to evaluate their meaning in human relations, studies and working life. During the course students get familiar with their own expressive talent and learn how to express themselves as individuals and in groups.

ÄI 8. Enhanced text skills

The students deepen and diversify their abilities to analyze and produce texts. Different text types and styles are revised. Students practice for the final test by participating in the preliminary test.

ÄI 9. Writing and contemporary culture

The students get acquainted with cultural and social debate, the daily aspects of the media and modern literature. Their critical and cultural ability to read deepens, their ability to think develops and literary expression matures to meet the requirements of the final test of the high school. The group gets ready both for the text skills and the essay tests.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

Äi 10. Language planning

During the course students revise the structures, grammar and the correct practices of writing the Finnish language, the command of which is required in all high school Mother tongue and Literature courses. The student will have sufficient abilities to control and analyze his own texts independently starting at the surface structure. Assessment: credit mark (S).

Äi 11. Literature diploma course

During the course students read 20 novels and they for example write an essay or discuss the works with the teacher. The course is done in 1.5 -2.5 years. The course can also be studied as e-learning online. Assessment: credit mark (S).

Äi 12. Literature course

Students get acquainted with Finnish and foreign literature more deeply than is possible in compulsory courses. Students can study both older and more recent modern literature and look for the common European denominators, and on the other hand the distinctive features of each culture. It is also possible to deal with the works of contemporary Finnish novelists. The student practices the analysis and interpretation of literature, as well as commenting on it. The group discusses literature, produce texts and dramatizations on the basis of novels. Students also make book presentations. Assessment: credit mark (S) on active class work.

Äi 13. Creative writing

During the course students learn the production fiction texts such as short stories, poems and Drama. Music and pictures can be used as the basis for the texts. Assessment: credit mark (S) for active class work.

FINNISH AS A SECOND LANGUAGE (S2)

Immigrant and return migrant students whose first language is not Finnish study *Finnish as a Second Language* (S2). The central aim of Finnish as a Second Language is for the student to achieve such level in Finnish that the student is fully able to study all high school subjects and that it is possible for them to continue their studies and manage in working life in the Finnish language. The aim is for the student to achieve sufficient language skills and versatile reading skill of the culture to succeed in Finnish society as an active member.

The language skills of the students who study Finnish as a second language are evaluated on a different basis from the students who study Finnish as their mother tongue: the basis for the evaluation is that Finnish is not their first language. In matriculation examination S2-students take the Finnish as a Second Language test. If the students so want, it is possible for them to also take the Finnish and literature test.

Compulsory courses are taken in number order according to the grade recommendations, the optional courses according to the grade recommendations. Those students who change their syllabus during their studies in high school and who take a final test in Finnish as a Second Language must take course 6. Optional courses 8 and 9 are offered every other year, if students choose them. Course 7 is integrated with Äi7. Exceptions are possible and should be discussed with teacher.

Courses are taught at Kannas High School.

Recommended order of courses:

1st year: compulsory courses 1, 2 and in-depth course 7

2nd year: compulsory courses 3, 4 and in-depth courses 7, 8, 9

3rd year: compulsory courses 5,6 and in-depth 8, 9

COMPULSORY COURSES

S2 1. Mastering the basics

During the course students learn the principles of studying Finnish as a second language and evaluate the students' language skills. Living in two cultures and languages. Central contents are the learning strategies of languages, the techniques of reading and writing and from the structure, phonetics and verbs.

S2 2. Taking the language in use

During the course students practice the use of language in different situations and broaden their language skills and knowledge of culture by using current newspaper texts and TV programs and reporting on them. An oral prepared presentation. Nouns, sentences and word formation.

S2 3. Influencing with language

Students learn how the Finnish language and culture can be used in influencing others and giving opinions. In structures attention is paid to syntax.

S2 4. Enhanced text skills

In the course there will be various media texts, with the help of which the students will broaden their language skills, vocabulary and the knowledge of culture. Central structural areas are comparisons and cases.

S2 5. Get to know the Finnish culture

Language skills and the knowledge of culture are broadened with the help of Finnish literature, films and theatre. The structures of the language are revised according to the needs of the students.

S2 6. Towards functional bilingualism

Students revise the contents of the syllabus of S2 courses according to the needs of the students and get ready for the matriculation examination.

IN-DEPTH COURSES

S27 Spoken Finnish

Oral communication in studies, work life, presentations and group work along with Finnish speaking students. The course will help in getting ready for the voluntary final test in oral skills.

S28 Writing different types of texts

Written Finnish, especially writing applications, letters of complaint, commentaries, analyses and various creative types of texts. Will help in getting ready for the final exam.

S29 In the world of texts

Reading skills, vocabulary. Literature, book reviews, both on Finnish literature and possibly the literature of the student's own culture. The course helps in getting ready for the final test.

LANGUAGES

SWEDISH (RUA) A-language

The order of courses: The courses are taken mostly in number order. RUA9 is taken during the first year.

Assessment: compulsory and in-depth courses are number graded, Tiirismaa applied courses are assessed with grade mark S (Pass).

COMPULSORY COURSES

RUA 1. Everyday life in the Nordic countries

During the course students practice oral communicative skills and strengthen their command of vocabulary and structures. Subjects and situations deal with everyday life and personal interaction. Discussion, giving one's opinion and central strategies of telephone conversations get special emphasis. Students also write short, personal messages. Students are given information about Swedish studies in high school and the use of the text book. The students are encouraged to speak and give their opinions.

RUA 2. People around us

During the course students practice oral communicative skills and strengthen their command of vocabulary and structures. Subjects cover relationships between people, being different and welfare. Also, comparisons are made between life of today and earlier days. Writing is practiced by communicative written tasks. Oral skills are strengthened and special attention is paid to achieve confidence in expressing one's opinions.

RUA 3. Finland – part of the Nordic countries and Europe

The subjects of this course are the different aspects of the culture of Finland and the Finnish-Swedish part of Finland, comparing our conditions to those of other Nordic countries and Europe, Finland as a multi-cultural country and bilingualism in our country. Students may prepare small oral presentations on the subjects mentioned above.

RUA 4. Our environment

The emphasis of this course is to improve the students' skills in understanding fairly demanding texts. Subjects cover nature, environment, technology and media.

RUA 5. Studies and work

The subjects of this course are work, living conditions, studies and service situations in our society. All these subjects are practiced both orally and with texts typical of these subjects. The students practice also understanding and using the language of formal situations with the help of eg interviews and work applications.

RUA 6. Culture and its creators

The aim is to get to know the Nordic culture extensively. The students prepare and present a fairly extensive piece work, for example an oral presentation or a book review on a subject they have chosen that deals with Nordic culture. The students are encouraged to find information from different sources. Different areas of language skills are strengthened during the course.

IN-DEPTH COURSES

RUA 7. Speak and understand better

The strategies of spoken communication. The topics for oral practice are current events and the topics of other Swedish courses, also everyday spoken situations. Number grading. Independent study not possible.

RUA 8. Science, economy and technology

Special emphasis is paid on comprehension of demanding language material with the help of texts that deal with different sciences, the achievements of technology and business life. Students deepen their command of structures, write texts and practice listening comprehension skills on more demanding themes. Revision of grammar is continued.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

RUA 9. Strong basis

The introductory course is meant for students who had difficulties with Swedish in comprehensive school or who think they need to refresh their memory. During the course students revise and strengthen the skills learned in comprehensive school, basic vocabulary and key points of structures. The aim of the course is to achieve a level from which it is easy to continue with the compulsory courses. The course can also be studied later if there is a need to revise the basic skills.

Assessment: credit mark (S).

RUA 10. Towards matriculation examination

The revision course is meant for final year students who are taking the Swedish test in the matriculation examination. During the course students revise the central structures and vocabulary of the Swedish language and familiarize themselves with the different test types of the final examination (writing, listening, structural tests, summary, reading comprehension).

Assessment: credit mark (S).

RUA 12 Grammar revision

The course is mainly for final year students. Small grammar tests taken during the course. Independent study not possible.

SWEDISH (RUB) B1-language

Courses are taken mainly in number order:

1st year: 1, 2 and 8

2nd year: 3, 4 and 5

3rd year: 6, 7, 9 and 12

Assessment: compulsory and in-depth courses are number graded, Tiirismaa applied courses are assessed with grade mark S (Pass).

COMPULSORY COURSES

RUB 1. School and free time

The course links comprehensive school and high school Swedish, strengthens the command of vocabulary and basic structures. The subjects are studies and hobbies of young people. Emphasis is put on discussion, sharing one's opinion and central oral strategies, but writing is also practiced. The student gets basic information of Swedish studies in high school and the use of the text book.

RUB 2. Everyday life in the Nordic countries

The strengthening of vocabulary and structures is continued on this course. Emphasis is put on speaking skills and on short communicative written tasks. The subjects cover the life of young people: studies, work, hobbies, services and free time.

RUB 3. Finland, the Nordic countries and Europe

The subjects cover our home country, the aspects of being a Finnish-Swedish person, comparison to other Nordic countries and Finland as a Nordic country in Europe. Written skills are practiced by writing texts for different purposes.

RUB 4. Life together and apart

The themes are values, human relations, the encounters of sexes and age groups at work and studies, and current social phenomena. Emphasis is put on learning vocabulary.

RUB 5. Environment

The subjects are nature, the changing environment and work communities and media. The students practice of reading comprehension and polish written expression by writing texts that are suitable for different purposes.

IN-DEPTH COURSES**RUB 6. Speak and understand better**

The strategies of spoken communication. The topics for oral practice are current events and the topics of other Swedish courses, also everyday spoken situations. Number grading. Independent study not possible.

RUB 7. Our shared world and internationalization

The themes are global phenomena and internationalization. Students deal with social issues, participating in decision making and responsibility. Comprehension of Swedish is emphasized by studying more demanding texts.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL**RUB 8. Strong basis**

The introductory course is meant for students who had difficulties with Swedish in comprehensive school or who think they need to refresh their memory. During the course students revise and strengthen the skills learned in comprehensive school, basic vocabulary and key points of structures. The aim of the course is to achieve a level from which it is easy to continue with the compulsory courses. The course can be studied also later if there is a need to revise the basic skills.

RUB 9. Towards matriculation examination

The revision course is meant for final year students who are taking the Swedish test in the matriculation examination. During the course students revise the central structures and vocabulary of the Swedish language and familiarize themselves with the different test types of the final examination (writing, listening, structural tests, summary, reading comprehension).

RUB12 Grammar revision

The course is mainly for final year students. Small grammar tests are taken during the course. Independent study is not possible.

ENGLISH (ENA) A-language

The order of courses:

Compulsory courses are taken mainly in number order. ENA9 is taken during the first year. ENA8 is taken after course 5 either in the second or third year. It's not recommended to study courses independently.

Assessment: compulsory and in-depth courses have number grading, applied courses have a credit mark (S).

COMPULSORY COURSES

ENA 1. The young and their world

The themes and situations are connected with everyday life, the themes being for example friendship, communication, family and nutrition. The language material consists mainly of different types of spoken English (dialogues and interviews) and everyday written language (blogs and e-mails).

ENA 2. Communication and free time

In the course students learn the language of traveling and vacationing, free time, hobbies and the services connected with them. The language material consists mainly of spoken language (dialogues and radio discussions) and everyday written language (net and newspaper articles and a TV- program page).

ENA 3. Studies and work life

In the course students learn about studies and work life and they practice the understanding and using of language in formal situations. The language material is mostly spoken English (dialogues and radio programs) and everyday written language (questionnaires, newspaper articles and job advertisements).

ENA 4. Society and the world around us

The theme of the course is active citizenship and entrepreneurship, also participation in politics, economic life and culture. The students practice, for example, giving their well grounded opinions and discussing them, writing about them and at the same time respecting other people's opinions.

ENA 5. Culture

The subjects of the course are cultural identity, the knowledge of cultures, communication and the media. Students study different aspects of culture and analyze critically the relationship between the world described by the media and reality.

ENA 6. Science, economy and technology

Subjects: everyday phenomena and state-of-the-art technology, man in the world of inventions, media, advertisements and modern entrepreneurship

Oral skills: presenting an invention, pair discussion on commercials

Written skills: writing an article, instructions and a letter of complaint

SPECIALIZATION COURSES

ENA 7. Nature and sustainable development

Subjects: sustainable development, active citizenship, welfare and safety, technology and society

Written skills: Revision of argumentative essay and narrative

ENA 8. Speak and understand better

In this course students practice the strategies of oral skills and speaking. The subjects of the oral practices are current events and the subject matters of the previous courses. The course strengthens the use of everyday spoken English. Oral skills are practiced with the help of texts and other material that help the students understand spoken English better.

Students get a number grade which is based on the grade in the test compiled by the Ministry of Education and on other class work. The course can be taken after course 5. The course cannot be studied independently.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL**ENA 9. Strong basis**

This course is mainly meant for the first year students who have had difficulties in courses 1 and 2. The students use a text book and there are small tests during the course. The course should be taken after the first or second course in English.

ENA 10. Towards the matriculation exam

The course is offered to the final year students. The aim of the course is to prepare the students for the final test and help them to master the structures and grammar needed in the matriculation examination. Small tests are given during the course. The course cannot be studied independently.

ENA 13. Our world and internationalization

Subjects: the world of choices, different outlooks on life, the challenges of the sustainable way of life, human rights.

Written skills: revision of the main points of writing a speech, a letter and an essay

GERMAN (SA)

The order of courses: courses SAB2 1-5 and SAB3 1-6 are taken in number order, for other courses the order is free.

Assessment: number grading.

The student gets one number grade for the elective foreign language, if they do a minimum of three courses. If the students require, they are entitled for a credit mark (S) if they have taken just one or two courses.

GERMAN (SAB2) B2-language**SAB2 1. Free time and hobbies**

The themes of the course are the everyday life of young people, free time and hobbies. Students revise the vocabulary and structures learned in comprehensive school. Oral skills are emphasized.

SAB2 2. Home and abroad

Students familiarize themselves with the people of Finland and the German speaking countries, their geography, history and sights. Understanding spoken German and oral skills is emphasized. Students write small messages (postcard / letter). Students learn new structures and revise the old ones.

SAB2 3. Now and before

Individuals and the society now and before are the themes of this course. Oral skills, both understanding spoken German and speaking are emphasized. Writing is practiced by writing small messages (telephone messages and notes).

SAB2 4. Studies and future plans

The themes are studies, future plans and work life. Oral, written and listening comprehension skills are strengthened. In assessment all areas are taken into account.

SAB2 5. Culture

Students get to know the culture of German speaking countries, for example art, literature, music, films, theatre and sports. Students may prepare an oral or written project work on the themes. In assessment all areas are taken into account.

SAB2 6. Our shared world

The subjects of the course are the society of Finland and German speaking countries and the world around us. The importance of understanding non-fiction texts is emphasized. Oral and written skills are practiced by making descriptions and simple narratives.

SAB2 7. Science and technology

The different forms of media and sciences are the themes of the course. Reading comprehension is strengthened and students practice, for example, writing summaries and essays and also listening comprehension on more demanding subjects.

SAB2 8. Nature and sustainable development

The subjects cover nature and its phenomena and also the attitudes towards nature in Finland and in German speaking countries. The aim is to strengthen the understanding of more demanding texts and writing, using these texts. The skills in essay writing and listening comprehension are emphasized.

GERMAN (SAB3) B3-language**SAB3 1. Hello, nice to meet you**

The subjects cover family and closest relationships. Pronunciation is practiced and students learn to tell basic facts about themselves and to make questions about the same subjects. Students learn to manage in simple everyday communicative situations. Oral skills are emphasized.

SAB3 2. This is how you manage

The themes are family, friends and other relationships and everyday routines. During the course students learn to manage in different everyday situations and learn to write about themselves and their closest surroundings. Oral skills are emphasized.

SAB3 3. Free time and hobbies

The subjects are the everyday life of young people, their free time and hobbies. Students revise the vocabulary and structures learned in basic courses. Oral skills are emphasized.

SAB3 4. Home and abroad

Students familiarize themselves with the people of Finland and the German speaking countries, their geography, history and sights. Understanding spoken German and oral skills are emphasized. Students write small messages (postcard / letter). Students learn new structures and revise the old ones.

SAB3 5. Now and before

Individuals and the society now and before are the themes of this course. Oral skills, both understanding spoken German and speaking are emphasized. Writing is practiced by writing small messages (telephone messages and notes).

SAB3 6. Studies and future plans

The themes are studies, future plans and work life. Oral, written and listening comprehension skills are strengthened. In assessment all areas are taken into account.

SAB3 7. Culture

Students get to know the culture of German speaking countries, for example art, literature, music, films, theatre and sports. Students may prepare an oral or written project work on the themes. In assessment all areas are taken into account.

SAB3 8. Our shared world

The subjects of the course are the society of Finland and German speaking countries and the world around us. The importance of understanding non-fiction texts is emphasized. Oral and written skills are practiced by making descriptions and simple narratives.

FRENCH (RAB2) B2-language

The order of courses: courses RAB2 1-5 and RAB3 1-6 are taken in number order, for other courses the order is free.

Assessment: number grading. If the student takes RAB2 5 or RAB3 7 as a study excursion, it can be assessed with a grade mark S.

The student gets one number grade for the elective foreign language, if they do a minimum of three courses. If the student requires, they are entitled for a credit mark (S) if they have taken just one or two courses.

FRENCH (RAB2) B2 LANGUAGE

RAB2 1. Free time and hobbies

Themes and communicative situations deal with the everyday life of young people. Emphasis is put on oral skills, previously learned structures are revised.

RAB 2 2. Home and abroad

Students learn to speak about their own country in French and learn about French speaking countries. Learning to understand spoken French and to speak French get more emphasis, old structures are revised and new basic structures are learned. Writing messages.

RAB2 3. Now and before

Life now and before are compared, the subjects being for example health and wellbeing. Understanding spoken French and getting more courage to speak French is emphasized. The command of basic structures is strengthened.

RAB2 4. Studies and future plans

Spoken and written communication on school, studies and work life. Revision of old structures and learning new ones.

RAB2 5. Culture

Students learn about the different areas of culture in the French speaking countries, for example music, arts and films – and students can concentrate on one area by preparing a project work. Both oral and written skills are practiced, by learning to comprehend and produce language.

RAB2 6. Our shared globe

During the course students study easy-to-understand texts on Finnish and French speaking societies and the state of the world. Students describe the subjects both orally and in writing.

RAB2 7. Science and technology

Reading comprehension skills are still strengthened by reading more demanding texts. Essay writing and listening comprehension on demanding themes.

RAB2 8. Nature and sustainable development

Information on the theme is acquired by reading texts and students learn to share information, especially in writing. Also, students compare the different attitudes towards nature in Finland and in the French speaking countries. Listening comprehension is practiced.

FRENCH (RAB3) B3-language

RAB3 1. Hello, nice to meet you

Students learn to manage in the most important communication situations according to French customs. Correct pronunciation and oral skills are emphasized.

RAB3 2. This is how you manage

Students learn to manage in everyday situations in a culturally correct way. They also learn to share information about their families and friends. The emphasis is still on understanding spoken language and speaking.

RAB3 3. Free time and hobbies

Students learn to share their opinion about the themes of the course by listening and speaking. Students write short messages that deal with the course themes.

RAB3 4. Home and abroad

In the course students learn to tell about Finland in French and get information about the French speaking countries. Understanding spoken French and speaking French is emphasized, old structures are revised and new basic ones are learned. Students learn to write messages.

RAB3 5. Now and before

Life now and before are compared, the subjects being for example health and wellbeing. Understanding spoken French and getting more courage to speak French are emphasized. Basic structures are revised.

RAB3 6. Studies and future plans

Spoken and written communication on school, studies and work life. Revision of old structures and learning new ones.

RAB3 7. Culture

Students learn about the different areas of culture in the French speaking countries, for example music, arts and films – and students can concentrate on one area by preparing a project work. Both oral and written skills are practiced, by learning to comprehend and produce language.

RAB3 8. Our shared globe

During the course students study easy-to-understand texts on Finnish and French speaking societies and the state of the world. Students describe the subjects both orally and in writing.

RUSSIAN (VEA) A-language

The order of courses: mainly in number order. Independent study possible if agreed by the teacher.

Assessment: compulsory and in-depth courses have number grading. Applied course has grade mark S.

COMPULSORY COURSES**VEA 1. The young and their world**

The course links the language learning of comprehensive school and high school and strengthens the command of vocabulary and basic structures of Russian. The subjects and situations are from everyday life and personal interaction and human relations. Speaking and understanding is emphasized. The vocabulary connected with the themes of this course is revised and broadened. The students get basic information on studying the texts and the use of the text book.

VEA 2. Communication and free time

Students practice versatile communication skills and strengthen and broaden their command of structures. Attention is paid to free time and hobbies and the services connected with these. Revision and broadening of relevant vocabulary.

VEA 3. Studies and work life

The texts and situations concentrate on studies and work life, and students practice oral and written communication typical of those subjects. Students also practice the language of formal situations. Special attention is paid on written production and reading comprehension.

VEA 4. Society and the world around us

Students practice speaking and reading comprehension on a fairly demanding level. The topics are Finland in the world and the cultural relations of Finland, especially with the neighboring countries. Written skills are practiced especially by writing texts that are suitable for different purposes.

VEA 5. Culture

On the course students get familiar with Russian culture. Students prepare a fairly extensive production on a topic they have chosen and which is somehow connected with Russian culture and present it in class. The group decides what these productions could be.

VEA 6. Science, economy and technology

Demanding language is emphasized during this course. The subjects include different sciences, the achievements of science, different forms of media and economy. Attention is paid on reading comprehension. Writing skills are revised by writing texts for different purposes.

IN-DEPTH COURSES

In-depth courses concentrate on comprehensive development of language skills, in view of the matriculation examination.

VEA 7. Nature and sustainable development

The course gives the students capacities to understand and use the language connected with nature, natural science and sustainable development. Information about matriculation examination.

VEA 8. Speak and understand better

During the course students improve the everyday spoken Russian and pronunciation. The students may give presentations with the purpose of serving as a basis for class discussion or there may be a text dealing with everyday topics. There may be Russian speaking guests visiting the class. Also, matriculation examination is emphasized.

Applied course

VEA 9. Our shared world and globalization

The topics are global evolution, current events and themes dealing with different views of the world.

RUSSIAN (VEB3) B3-language

Order of courses: courses are taken in number order.

Assessment: number grading.

VEB3 1. Hello, nice to see you

The themes are for example greetings, getting to know people, introducing one's family, language skills and education. Basic knowledge of pronouns, question words and verbs. Oral skills are emphasized.

VEB3 2. This is how you manage

The themes cover human relationships and everyday language situations, such as shopping, getting around in a city and service situations. Understanding spoken Russian and speaking Russian is emphasized. Basic knowledge of verbs and nouns are studied.

VEB3 3. Free time and hobbies

The subjects are the everyday life of young people, hobbies and interests. We learn verbs that are connected with these interests, also expressions of time and the gender endings of adjectives.

VEB3 4. Home and abroad

The themes are people, sights and different service situations. Understanding spoken Russian and speaking it are emphasized. Writing is practiced by writing simple exercises.

VEB3 5. Now and before

The theme is people's life now and before. Vocabulary that deals with health and wellbeing is studied, as well as the inflection of adjectives in different grammatical cases and verbs. Oral skills are emphasized and the command of basic structures is strengthened.

VEB3 6. Studies and future plans

The themes are school, work life and future plans. The inflection of adjectives and verbs that are connected with studies are learnt.

VEB3 7. Culture

Culture is dealt with from different angles, including music, arts and literature. We learn about different types of texts and all the areas of language learning are deepened. Listening comprehension is practiced.

VEB3 8. Our shared world

The texts deal with how the Russian and Finnish societies work, also ecology. Focal points are reading comprehension and making different simple descriptions both orally and in writing. Listening comprehension is practiced.

SPANISH (ESB3) B3-language

The order of courses: courses are taken in number order.

Assessment: number grading

EAB3 1 Hello, how to meet you

Greetings, saying goodbye and introductions. Students learn to share basic information about themselves and to ask their friends similar questions. Topics cover also family and relatives and students learn to manage in everyday communication situations. Oral skills are emphasized.

EAB3 2. This is how you manage

The topics are family, friends and other relationships and the routines of life. Everyday situations like shopping, going to the bank, post office, doctor's, using public transport, staying at hotels and eating at restaurants. Understanding spoken language and speaking are emphasized.

EAB3 3. Free time and hobbies

Everyday life and interests of young people, free time and hobbies and services that are connected with them. Understanding spoken language and speaking are emphasized, e.g. giving one's opinion. The command of basic structures is strengthened.

EAB3 4. Home and abroad

The topics include the people, geography, history, sights and vacation possibilities both in Finland and Spanish speaking countries. Understanding spoken language and speaking are emphasized. The command of basic structures is strengthened. Simple written communication tasks.

EAB3 5. Now and before

Life of now and before for the individual and the society. Health and wellbeing. Spoken skills and the command of basic structures is strengthened. Written communication tasks.

EAB3 6. Studies and future plans

School, further studies and work life and future plans of the young. Oral and written tasks on the above mentioned topics.

EAB3 7. Culture

The art, literature, music, theatre or sports of Spanish speaking countries. All areas of the language are practiced.

EAB3 8. Our shared world

Texts that deal with the functions of society and the present state of the globe and its future. Authentic media texts are also used. Emphasis is placed on text understanding and giving simple oral and written reports and descriptions.

LATIN (LAB3) B3-language

Latin is not only the language of the ancient Romans but a language which has helped transmit the antique Greek-Roman cultural heritage to us. Latin is also a language that has been the common language especially in Western Europe and later as a common language of the educated class for more than 2000 years since the times of the Roman Empire all the way to the 19th century. This is how Latin has in many ways influenced all the languages in Europe and generally everything that makes us Europeans. That is why Latin can with good reason be considered the common mother tongue of all Europeans. The language which was declared dead still unites many people who speak languages that differ considerably from each other. Still, Latin is not only learning a foreign language but it can be regarded as one of the humanities subjects. Understanding the language that blossomed over 2000 years ago requires also understanding of the 2000-year-old culture. Studying Latin will make you understand the culture of the ancient great city of Rome – the accomplishment of science and art, ideals and ideas that we admire even today. At the same time you get to know the habits and ways that belonged to the life of antique Romans. Latin never only makes demands of the student, it also gives a lot: Latin offers you time travel to the world where stories are true, heroes are great and all ideals are admirable. Don't hesitate any more. According to poet Horatio: *carpe diem* and start learning Latin!

The order of courses: courses are taken in number order.

Assessment: number grading

LAB3 1. Windows open to the antique

In the course students learn about the Italy and Rome of today and of the antique. We go through the Roman era of the kings and the founding myths. Each student makes either an oral or written presentation on these subjects of his choice. In grammar we go through the inflection of nouns of the first and second

declination and for verbs the present and past tenses of all four conjugations and the present and past tenses of the be-verb in the active. Also, the basics of sentence structure are learned.

LAB3 2. Life of the antique

In the course students go through Roman society from the point of view of both ordinary citizens and the ones who hold the power. We study especially the Rome of the republican era. We start from the civil servants and the meaning of titles and end up in Roman feasts. The students make either an oral or written presentation on a subject of their choice that deals with the era of the Roman republic. In grammar we learn the inflection of the 4th and 5th declinations of nouns. From the verbs we go through the past perfect and the pluperfect, both the active and the passive. We also start to learn the use of the agent and the different pronouns.

LAB3 3. Knowledge, skills and old tales

In the course we go through the Roman society in the era of the emperors. We also learn what gods and religions meant to the Romans. We visit the Olympic games of the antique and get to know ancient sports and their masters. Students prepare a written work on the subjects of the course. In grammar we learn the third declination and go through the uses of different cases. In verbs we learn the past and the pluperfect tenses of the subjunctive. We also learn the comparing of adjectives.

LAB3 4. The phases of Roman history

In the course students get information of the ancient school life; what the school day was like, who went to school, what school equipment was available etc. We go through the ancient stories and myths more thoroughly. Each student makes a written presentation on a myth of his choice. In grammar we learn more about the passive tense and the subjunctive. We learn some common types of subordinate clauses and the most common types of shortened sentences. The new verb tenses are the I and II future.

LAB3 5. The great men of Rome

In the course we learn more of the Augustan Age and the effects of Pax Romana on Roman society. We learn about literature, art, architecture and other accomplishments of the era of peace. Each student chooses a great man of the era of peace and makes an oral or written presentation on him. Grammar is revised. Students learn more of the subjunctive and learn the gerund and the gerundive. We learn to translate simple Latin poems and learn the meters of the verses.

LAB3 6. Our cultural heritage

During the course we learn about the cultural heritage of the antique and some literary works that have had a deep impact on the later times. Students make an oral or a written presentation on a topic of their choice, which deals for example with Aeneia, Ilias, Odyssey or eg the Metamorphoses by Ovidius. In grammar we concentrate on revision and go through Latin connected with current themes, for example the Latin News broadcasts and songs in Latin.

STUDY EXCURSION TO THE SOIL OF THE ANTIQUE

The students of Latin, together with history students, are offered a week-long excursion to Rome. The aim of the excursion is to familiarize the students with the city where the antique is visible everywhere even today. The places of interest are mostly in Rome but some might be outside the city.

The students chosen for the excursion get a project topic before the trip and they prepare a presentation that they will give in Rome on the spot in question. The aim is to have a trip that is not only hard work but also an enriching experience for the students interested in the antique.

The excursion is organized so that every Latin student has a chance to participate once in his high school years.

SCIENCES

PHYSICS (FY)

The general aim of Physics is to lead the students to a way of thinking that is particular to natural sciences, to the student's own data collection and the active application of knowledge. It is characteristic for the lessons to proceed toward experimental laws of nature by making observations and measurements. The task of Physics is to support the development of students' thinking in natural scientific manner and on the basis of that, to build a worldview that becomes part of the student's personality.

In high school Physics there is one compulsory course (FY1). Courses FY 2-Fy 9 are in-depth courses. Physics laboratory course is an applied course. The questions of the matriculation examination and the entrance exam questions to universities are made on the basis of courses FY1 – FY8. In course FY 9 students revise and deepen the contents of the courses mentioned above. Further studies require intensive studies of all the Physics courses.

The order of courses:

1st year: 1,2 and 3

2nd year: 4,5,6,10

3rd year: 7,8,9

Courses are taken mainly in number order. FY1 has to be taken first. FY2 and FY3 can be taken in free order. FY4 has to be taken before FY 5 and FY6 before FY7. Courses can be taken in the following order: 6,4,5,7. All courses must be studied before FY8. FY9 is taken in the senior year.

Assessment: Students get number grading for the one compulsory course and the in-depth courses, for the applied courses students get a credit mark (S).

COMPULSORY COURSE

FY 1. Physics as a natural science

Central contents

The meaning of physics in the different periods of history and nowadays; the structures of matter and the universe and their basic interaction; bonding and releasing of energy (especially radiation) in natural processes and in those created by man; experimenting and modeling as a basis in building physical knowledge, measuring, presentation of results and the assessment of their reliability; force as a cause for the change of movement; basic concepts of describing movement and graphic presentation of movement

IN-DEPTH COURSES

FY 2. Thermodynamics

Central contents

The volume changes of gases and thermodynamic expansion; pressure, hydrostatic pressure; objects' heating, cooling, phase changes and thermal energy; mechanical energy, work, power and efficiency coefficient; the main rules of thermodynamics, internal energy; energy reserves

FY 3. Waves

Central contents

Harmonic force and vibration; wave motion; interference of wave motion, diffraction and polarization; reflection and refraction and total reflection; light, mirrors and lenses; sound, the health effects of noise and protection against loud noise

FY 4. The rules of motion (Mechanics I)

Central contents

Models of motion and Newton's laws; distant and contact forces, especially the forces that resist motion, buoyancy; preserving of the amount of movement and the principal of impulse; motion and potential energy and the principal of work; the energy of vibration

FY 5. Rotation and gravitation

Central contents

Movement and balance in relation to rotation; rotation models, constant and constantly accelerating rotation; motion equation of rotation; preserving the amount of rotation; energy of rotation; circular motion and acceleration of circular motion; gravitation and motion under gravitation; trajectory and the motion of planets; satellites and their use.

FY 6. Electricity

Central contents

Electric pair, electric current in metal conductor; measuring voltage and electric current: Ohm's law; Joule's law, resistors and connections and Kirchoff's laws; Coulomb's law, homogenous electric field and matter in electric field; capacitor, connections and energy; electric current in semiconductor, as an example diode

FY 7. Electromagnetism

Central contents

Magnetic force, magnetic field and material in magnetic field; charged particle in homogenous electric and magnetic field; law of induction and Lenz's law; induction phenomena – eddy currents, generator and self-induction; transmission of energy with the help of electric current; measurement of bodily voltage and electric current and determining impedance frequency dependence; vibration circle and antenna, electromagnetic communication, electric safety, energy industry

FY 8. Matter and radiation

Central contents

Electromagnetic radiation; x-rays; radiation of a black object, photovoltaic phenomenon; particle nature of radiation and the wave nature of particles; atom models; quantum mechanics, line spectrum; energy levels of atoms; energy level chart; structure of atom nucleus, radioactivity and radiation safety, equivalence of mass and material; nuclear reactions and nuclear energy; the smallest particles of material and their classification

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL**FY 9. Towards matriculation examination**

Central contents

Fields; motion; balance; light; thermodynamics; electricity; modern physics; energy production

FY 10. Physics laboratory work

Central contents

Experiments connected with central areas of Physics, such as thermal physics and optics

CHEMISTRY (KE)

The aim of teaching Chemistry is to give students a concept of the meaning of chemical knowledge in different areas of life. High school Chemistry has one compulsory course (KE 1) and in addition you can choose 4 in-depth courses (KE 2 – KE 5) and two applied courses (KE 6 and KE 7). The matriculation examination questions are made on the basis of the one compulsory course and the 4 in-depth courses. These five courses together form the minimum number of courses for which you may get starting points in entrance exams to universities and faculties of technology and also on which basis the entrance exam questions are made. The above mentioned applies also to the faculties of mathematics and natural sciences and medical science.

The order of courses: number order. Laboratory course (KE7) can be taken at any point of the studies.

1st year: 1,2

2nd year: 3,4,5

3rd year: 6

Assessment: courses KE1 – KE5 have number grading. Courses KE 6 and 7 have either number grading or students receive a credit mark (S). Students decide about this with the teacher at the beginning of the courses.

COMPULSORY COURSE

KE 1. Man and the chemistry of the environment

In this course the command of the basis acquired in comprehensive school is strengthened and deepened. Also students get an idea of chemistry, of its possibilities and meaning. (Mixtures; structures, qualities and reactions of organic compounds and their meaning to people and environment)

SPECIALIZATION COURSES

KE 2. The micro- world of Chemistry

In the course students learn about the connections between the structure and qualities of substance. (Atoms and mixtures)

KE 3. Reactions and energy

This course deals with the factors contributing to chemical reactions and their meaning in environment. (Stoichiometric calculations, gas laws, energy changes)

KE 4. Metals and materials

Students study different materials (metals, non-metals, bio and synthetic polymers, composites) and electrochemistry

KE 5. Reactions and balance

Students learn about kinetics of chemical reactions and balance.

APPLIED COURSES OFFERED BY TIISIMAA HIGH SCHOOL

KE 6. Towards matriculation examination

The aim of the course is to strengthen, deepen and complement the chemistry learned in the previous courses and to learn how to combine the contents of different areas of Chemistry into larger units. This course is recommended to be taken before the matriculation examination if the student is planning to participate in the chemistry matriculation test or if they are planning to enter universities with the help of a grade in Chemistry.

KE 7. Chemistry laboratory work

In the course students deepen their skills of experimental methods of acquiring information (observation, measuring methods, interpretation and explanations). The course consists mainly of different laboratory works.

BIOLOGY (BI)

Biology is a natural science, which studies the structure of organic nature, its functions and interactions from the level of molecules and cells to biosphere. Biosciences are branches of science that develop fast, and applications are used widely in society. Biology brings forward new knowledge of the diversity of organic nature and helps the progress of sustainable development. The aims of high school biology are for example to help the students to get acquainted with the methods of biological research, to know the applications of biosciences, to become aware of the necessity of sustainable development and to understand their responsibility regarding the future of ecosystems.

Order of courses: BI 1 is studied before the other courses, BI 2 must be studied before BI 5 and it is recommended to study BI 2 also before course BI 4.

Assessment: Students get number grades for both compulsory and in-depth courses.

COMPULSORY COURSES

BI 1. The Organic world

In the course students learn about the characteristics of life and the research methods of the phenomena of life. Students study the structure of current living organisms and biodiversity as a result of evolution, according to the evolution theory. Students learn the meaning of variation, adaptation and relations between species on the evolution of life and central principles of how ecosystems function.

BI 2. Cell and heredity

In the course students learn about the chemical structure and functions of cells and the processes of cell's energy economy and their meaning. Students learn to understand through DNA's structure and functions how genes steer the functions of cells. Also, the basic mechanisms of reproduction of cells and heredity are learned.

IN-DEPTH COURSES

BI 3. Environmental ecology

In the course the knowledge of the concepts of ecology are strengthened and students study ecological research methods by making a small ecological study. Students learn more about environmental problems, the reasons behind them and different solution possibilities, especially keeping in mind the special features of Finnish ecosystems. Also the meaning of biodiversity, its endangered state and the possibilities of protecting it, and the possibilities to implement sustainable development are central subjects of the course.

BI 4. Biology of man

In the course students study the structure and functions of cells, organs and organisms, also the regulation of vital functions, the physiological changes connected with reproduction of people and their life-cycle. Students also study the evolution of man as a species, on the basis of evolutionary theory and the combined effect of genotype and environment on man's health.

BI 5. Biotechnology

During the course students deepen their knowledge of the structure of cells and their function, especially the function of gene and their regulation are learned in more detail. Students learn about microbes and their meaning, both in nature and in the economy of man. Students get to know about the methods of biotechnology and gene technology and their various application possibilities especially in medicine, breeding of plants and animals etc. Students also discuss the threats brought along with the new technology and ethical problems.

APPLIED COURSE OFFERED BY TIIRISMAA HIGH SCHOOL**BI 6. Towards matriculation examination**

During the course students go through the contents of high school biology courses so that the earlier possibly scattered knowledge is brought better together as an entity. The course makes it possible to study more extensive unities. It prepares the students especially for the subject based general studies matriculation examination, in which the student must master more extensive entities than the other courses separately make possible.

GEOGRAPHY (GE)

In Geography students learn about the structures and functions of inanimate and living nature, also those of the systems created by people. Studying Geography leads the student to become aware of the reciprocal effects of nature and the actions of people, also to examine the world as a changing and culturally varied living environment. In these courses the subjects of both natural sciences and social science are combined. The aim is to help the student to understand global, regional and local phenomena and problems and to find solutions that support sustainable development.

The order of courses: First GE 1, then GE 2 and after these either GE 3 or GE 4.

Assessment: Both compulsory and in-depth courses have number grading.

COMPULSORY COURSES**GE 1. The blue planet**

The course leads to geographical thinking and to the knowledge of basic concepts of physical geography. The themes cover e.g. the planetary nature of the Earth, the movements of atmosphere and hydrosphere, weather and climate, vegetation zones of the globe, and changing shapes of the earth's crust. Students also practice interpretation of natural landscapes with the help of maps and pictures.

GE 2. The common world

Students learn to interpret the phenomena connected with human activity using the concepts and theories of human geography. Objects of interest are among other things the increase of population and the regional distribution of population, cultures and the changing of cultures, the classification and sufficiency of natural resources, primary production, industry, energy and traffic, also regional planning, differences in development, international cooperation and globalization. Interpretation of cultural environment with maps and pictures.

IN-DEPTH COURSES**GE 3. The world of hazards**

In the course students learn about the functions of nature and human activities, natural and man-made hazards. The concepts of compulsory courses are studied from the angle of hazards. Students follow current news of risks and discuss the possibilities to anticipate risks and prepare themselves for them, how to avoid the risks and alleviate their impacts. Risks are also analyzed regionally, what type of risks there are in different parts of the globe and compare the susceptibility to risks in different areas and their possibilities to prepare for them.

GE 4. Regional studies

In the course students practice the basic skills of cartography and get to know geographical source materials, for example the principles of geographic information systems and their applications. In the course students make a study on regional geography on a subject and region of their choice (independent, pair or group work), where they combine the themes of previous courses: The location of the area studied as part of a wider regional unit, the natural conditions, population and habitation, natural resources and use of land, livelihood, traffic and services, division of the area in sub-areas and the problems and development of the area.

APPLIED COURSE OFFERED BY TIIRISMAA HIGH SCHOOL**GE 5. Towards matriculation examination**

In the course the theme units of Geography are studied so that phenomena are studied at the same time from the perspective of physical geography (GE 1), cultural geography (GE 2) and risk aspects (GE 3). The course trains the students especially for the subject based general studies matriculation examination, where students must master larger entities than the other courses separately in Geography make possible.

MATHEMATICS (MA)**STANDARD MATHEMATICS (MAB)**

The aim of Standard Mathematics is to give the students tools to acquire, handle and understand mathematical knowledge and use mathematics in their lives and in further studies.

The order of the courses:

In Tiirismaa there are ten (10) courses in standard mathematics. Six of them (MAB1-MAB6) are compulsory. Compulsory courses must be taken before matriculation examination.

Recommended order of courses:

1st year: 1,2,3

2nd year: 4,5,6 and in-depth course 7

3rd year: in-depth and applied courses 7, 8 and 9

COMPULSORY COURSES

MAB 1. Relations and equations

Linear dependence and proportionality between values, percentages, power and polynomials, 1st and 2nd degree of equations, forming problems into equations, graphic and algebraic solutions, interpretation and assessment of solutions. Applications.

MAB 2. Geometry

Similarity of figures, scales, trigonometry of right angled triangle, Pythagorean theorem, determining area and volume of figures and bodies, and the use of geometrical methods in the coordinate system. Applications.

MAB 3. Mathematical models

Application of linear and exponential model and the graphs of models, solving power equations and solving exponential equations with the help of logarithm.

MAB 4. Mathematical analysis

Derivative of polynomial function, rate of change, studying the graph of polynomial function, and the definition of the smallest and biggest value, parabola. Graphic and numeric methods, applications.

MAB 5. Statistics and probability

Interpretation of statistical materials, definition of marker numbers of continuous and discrete statistical distribution, diagrams, normal distribution and standardization of distribution. The concept of probability, combinatorics, the use of rules of arithmetic in probability and the use of models that illustrate their use, the use of calculators and computers in statistical tasks.

MAB 6. Mathematical models II

Linear equations of two variables, linear pair of equations, graphical solution of inequality of two variables, linear optimization. Sequence of numbers, arithmetic and geometric sequence and sum. Applications.

IN-DEPTH COURSES

MAB 7= MAA15. Economic mathematics

The aim of the course is for the student to understand the concepts used in economy, to get mathematical acquirements for planning his own economics and to get a mathematical basis for studying entrepreneurship and economics. Contents: calculations of indexes, costs, monetary transactions, credits and taxation, also deepening the knowledge of the concept of percentages. Mathematical models with the help of the sequence of numbers and sums that are suitable for economic situations.

The course is taken at the end of standard mathematics. The course is suitable also for students of advanced mathematics (MAA15).

MAB 8. Mathematical models III

The aim of the course is for the student to widen their perspective on mathematics needed in the technological society. They get tools for mathematical processing of periodic phenomena.

Contents: definition of trigonometric functions with the help of unit circle, radian, solving trigonometric functions of type $f(x) = a$, and the graph of function of the type $f(x) = A \sin(bx)$ as models of periodic phenomena.

The concept of vectors, basic arithmetic operations of vectors, resolution of the vector into components and scalar product. Study of points and angles on a two and three dimensional coordinate system with the help of vectors. The course is taken towards the end of standard mathematics.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL**MAB 9. Towards matriculation examination**

Students revise the central contents of standard mathematics by deepening, completing, combining, training, applying and analyzing their skills. Getting ready for the matriculation examination and further studies. The course is taken at the end of high school mathematics studies.

ADVANCED MATHEMATICS (MAA)

The function of the Advanced Mathematics courses is to give the student mathematical capacities which are needed in vocational and university studies. The student has a possibility to acquire mathematical concepts and methods and also to learn to understand the nature of mathematical knowledge.

The compulsory courses in Advanced Mathematics cannot be compensated with mathematics courses of other educational establishments or with courses of Standard Mathematics. Independent studies of MAA courses requires special talents in mathematics.

Order of courses:

There are seventeen (17) courses of advanced mathematics in Tiirismaa of which 10 (MAA1-MAA10) are compulsory. Compulsory courses must be taken before the matriculation examination.

Recommended order of courses:

1st year; 1,2,3,4 and in-depth course 17

2nd year: 5,6,7,8 and in-depth courses 11, 12 and 16

3rd year: 9,10 and in-depth courses and applied courses 11,13,14 and 16

COMPULSORY COURSES

Compulsory courses are studied in most cases in number order.

Assessment

The compulsory and in-depth courses are assessed in numbers.

If a student wants to change from Advanced Mathematics to the standard course, the advanced course compensates the standard as follows: MAA1 (Functions and equations) → MAB1 (Relations and equations)
 MAA3 (Geometry) → MAB2 (Geometry)
 MAA6 (Probability and statistics) → MAB5 (Statistics and probability)
 MAA7 (Derivative) → MAB4 (Mathematical analysis) and
 MAA8 (Root and logarithmic functions) → MAB3 (Mathematical models I)

When changing from advanced to standard course, the grades from the advanced courses are transferred directly to the grades of the corresponding standard courses. If the student is not satisfied with the course grade of the standard course, they may participate once in the retake of the standard course test to show

their abilities in the course in question. The other Advanced Mathematics courses are marked as specialization courses of Standard Mathematics and the student gets a credit mark (S) for each.

MAA 1. Functions and equations

Power function and power equation, roots, power with a fractional exponent, exponential function, percents and proportionality. Applications.

MAA 2. Polynomial functions

Polynomial arithmetic operations, binomial theorems and division into factors, polynomial function, II and higher degree of a polynomial, solving of the number of roots in a second degree equation and polynomial inequality. Applications.

MAA 3. Geometry

Planimetry and space geometry. Similarities of graphs and bodies, scales, trigonometry of right and oblique triangle, sine and cosine theorem, the geometry of a circle and the calculation of lengths, angles, areas and volumes of figures and bodies.

MAA 4. Analytical Geometry

Equations of straight line, circle, parabola and other point sets, absolute value equation, absolute value inequality, simultaneous equations. Applications.

MAA 5. Vectors

The basic qualities of vectors and their basic arithmetic operations, base vectors, scalar product of vectors, angle between vectors, straight lines and planes in space. Applications. Two and three dimensional coordinate system.

MAA 6. Probability and statistics

Classical and statistical probability, combinatorics, calculation rules of probabilities, discrete, continuous probability and statistical distribution and index number of distribution.

MAA 7. Derivative

Rational function, fractional equation, fractional inequality, function limit, continuity and derivative, derivative of polynomial and rational function, derivation of product and quotient and studying the graphs of polynomial and rational functions and definition of extreme value. Applications.

MAA 8. Root and logarithmic functions

Root, exponential and logarithmic functions and equations, composite function and its derivative, inverse function and its derivative, and the derivative of root, exponential and logarithmic functions. Applications.

MAA 9. Trigonometric functions and sequence of numbers

Oriented angle and radian, trigonometric functions with their attributes, solving of trigonometric equations and the derivatives of trigonometric functions. Sequence of numbers, recursive sequence of numbers, arithmetic and geometric sequence and sum. Applications.

MAA 10. Integral calculus

Primitive function, definite integral and calculating area and volume. Applications.

SPECIALIZATION COURSES

MAA11. Number theory and logic

Formulating theorems, truth values of theorem, open theorem, quantors and straight line, inverse and contradictory proof. Divisibility of integers and division identity, Euclidean algorithm, prime numbers, fundamental theorem of arithmetic and congruence of integers.

Command of the contents of MAA1 and MAA2 is required.

MAA12. *Numeric and algebraic methods*

Absolute and relative error, Newton's method and iteration, division algorithm and division identity, rate of change and area. Applications.

Command of MAA7 is required.

MAA13. *Differential and integral calculus, extension course*

The study of continuum and differentiation of function, the general properties of continuous and derivative functions, the limits of functions and sequence of numbers in infinity and infinite integral. Applications.

Command of all compulsory courses is required.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

MAA 14. *Towards matriculation examination 1*

Students revise the central contents of advanced mathematics by deepening, completing, combining, training, applying and analyzing their skills. They also use the previously learned knowledge and skills in varied situations. Getting ready for the matriculation examination and further studies. The course is taken at the end of high school mathematics studies.

MAA 15. *Towards matriculation examination 2 (1/2 course)*

Students examine the central concepts of high school mathematics and combine them into larger entities. Students strengthen and deepen mathematical knowledge and skills. Current theoretical and practical applications are learned. Students also use the matriculation exam and preliminary exam questions from previous years. Students decide, with the teacher, the working methods used in this course. This course can be taken at the end of high school mathematics studies, spread out in the 1-3 periods, 2-3 periods or the 3rd period.

MAA 16. = MAB 7. *Economic mathematics*

The aim of the course is for the student to understand the concepts used in economy, to get mathematical acquirements for planning his own economics and to get a mathematical basis for studying entrepreneurship and economics. Contents: calculations of indexes, costs, monetary transactions, credits and taxation, also deepening the knowledge of the concept of percentages. Mathematical models with the help of the sequence of numbers and sums that are suitable for economic situations.

MAA 17. *Problem solving*

Verbal problems in various areas, the use of one's own examples, deepening of skills that deal with functions and equations. Applications. Complex numbers. The course can be taken at any stage in the studies (must have the command of courses MAA1 and MAA2). The course is suitable also for the students of standard mathematics. The working methods are decided at the beginning of the course.

HUMANITIES

RELIGION (U)

RELIGION, EVANGELIC LUTHERAN (UE)

RELIGION AS A SUBJECT

Creating and constructing one's own view of the world is a central developmental challenge for the young. Religious tuition gives material for this construction work on one hand by giving traditional models for solving the questions and on the other hand bringing forth current research results of the field. It is of utmost importance to give the student capacities to understand and respect different world views and their supporters.

Religion is integrated as an ideology subject with both Ethics and Philosophy, interacting actively with them. Music, literature, art and films are central material as interpreters of the experiencing side of religion. Discussions and excursions are natural work methods in studying religion. Religion has been studied since the first year of comprehensive school, in high school the aim is to strengthen and deepen the individual application of that knowledge with different working methods, but also to prepare the students for strong skills in writing essays.

The order of courses: First the compulsory UE1 course, after this the order is free. Also the students of the music line will study the compulsory UE1.

Assessment: compulsory and in-depth courses have number grading. Applied courses have grade mark S (pass).

COMPULSORY COURSES

UE 1. The nature and meaning of Religion

In the course students go through the central themes of religious research. The aim of the course is to give students views of the meaning of religion to an individual and society. Students get basic information on religious research and thus the challenges of religious research become more concrete. The Bible is dealt with also as a holy book and as a great cultural opinion leader.

UE 2. Church, culture and society

The course aims to give a general view of the formation of the Christian church and its impact. The aim is also to find a connection with historical incidents and the functions of the church today. The central themes are: the formation of the heritage of the eastern and western Christendom, the division of the church and reformation

UE 3. Human life and Ethics

The Ethics course gives students a possibility to contemplate on the themes of good and evil. The foundations of Christian ethics form one part of our values. The course also introduces other ways to reflect on ethical question. Forming and justifying one's own views are practical challenges that the student will deal with during the course.

IN-DEPTH COURSES

UE 4. The world of religions

The course is optional and deepens the contents of course UE1. In the course students learn about world religions from the viewpoint of practicing religion, scriptures and ethics. Also, early religiousness, Hinduism,

Buddhism, Judaism and Islam are dealt with. The special features of Chinese and Japanese religions are introduced.

UE 5. What does a Finn believe in?

The course is optional and deepens the contents of course UE2, emphasizing the history and the present day manifestation of Finnish religiousness. Central themes are Finnish ancient belief, the main lines of church history, the function of the church today and other religious communities in Finland.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

UE 6. Towards matriculation examination

In the course students learn about the different question types of Matriculation examination, revising the high school Religion courses at the same time. In the course students don't revise 'everything of everything' but concentrate on combining information across different school subjects and deepening of that knowledge

UE 8. The Bible yesterday and today

The aim is to familiarize with the versatile entity of the books in the Bible. The central theme is the origin of the scriptures of the Bible, their research and interpretation, man and God in The Old Testament, Jesus and his teachings, St Paul and his letters.

RELIGION, ORTHODOX (UO)

Studying compulsory courses

Compulsory courses are offered once a year and they are either spread out through the school year, starting in August and ending in February or if possible, at the same time with the Evangelic Lutheran (UE) classes. Passing the course requires active attendance, accomplishing required essay tasks and an oral or a written test.

Studying specialization course

Specialization courses are also offered once a year, if there are enough students. This course starts after the compulsory course. There are four lessons, where independent course material is given, the studied material is discussed, go through the independent written course work and write a few essays on the contents of the course. Passing the course requires accomplished written tasks and final essays.

Assessment: Compulsory and in-depth courses have number grading. The applied course is assessed with grade mark S (pass).

COMPULSORY COURSES

UO 1. The Orthodox world

The aim is that the student knows the birth and history of Orthodox Church and sees his religious heritage as a part of a historical chain. Central themes are ancient church, Byzantine time, separation of the western and eastern churches, the Russian Church and other local Orthodox churches, oriental churches and western churches.

UO 2. Dogmatics and Ethics

The aim is that the student knows the origin and the basis of the creed of the Orthodox Church and the doctrinal differences between other churches. He also learns the basis of the Orthodox idea of man and ethics, and understands different ethical interpretations of Orthodox churches in different countries. Central themes are the origin of Orthodox creed and the concept of holiness, the Holy Trinity, Mother of God, holy people and sanctifying of time and the Orthodox view of man, also ethical questions of both individual and society.

UO 3. Study of the Bible

The aim is that the student knows the origin and structure of the Bible and the cultural history that influenced in the background. They will also understand the use of the Bible in the Orthodox Church and its liturgical life and understand the meaning of different Bible scriptures for today's Christians. Central themes are God and man in Pentateuk, wisdom scriptures, prophets and waiting for the Messiah, the origins of gospels and their special features, Jesus as a person, the description of the early phases of the church by the Acts of Apostles and St Paul and his letters.

IN-DEPTH COURSES**UO 4. The world of religions**

The aim is that the student knows the special features of world religions and understands the inner versatility connected with religions and their impact on thinking, culture and society. In the course students deal with Hinduism, Buddhism, Chinese and Japanese religions, Judaism and Islam from the viewpoints mentioned above. In addition we study religions of Christian origin and new religions. The course is similar to UE4. It can be done according to UE4.

UO 5. Orthodox Finland

The aim of the course is that the student learns the history and the present day of the Finnish Orthodox Church, perceives how religion appears in art, knows the living multicultural Orthodox culture in Finland and knows how to analyze the current religious situation in Finland. Central themes are Finnish ancient religion, members of the Orthodox Church between east and west, from Catholicism to Lutheranism, the Orthodox church of the independent Finland, the Orthodox heritage of immigrants and the religious situation in today's Finland.

APPLIED COURSE OFFERED BY TIIRISMAA HIGH SCHOOL**UO 6. Orthodox ecclesiastical art**

The aim is that the student comprehends the teaching of the church that is based on senses, knows the development of icons and their main types and central Gregorian chants, analyzes the use of poetry in service and gets to know church architecture. Central themes are the development of image in the Eastern church, the main types of icons, theology of church environment, learning to know the liturgical chants and the main types of liturgical poetry. There are four lessons in church: icons, music, poetry and architecture. An essay is written on one of each using the written material given. In addition an album is made of the icons of Lahti church. Passing the course requires participation in all lessons, writing the essays and compiling the album.

ETHICS (ET)

The order the courses are studied is free.

Assessment: Compulsory and in-depth courses have number grading. Students can get a credit mark for courses ET4 and ET5 even if they didn't study Ethics otherwise.

COMPULSORY COURSES

ET 1. Good life

Students study what is a good life, what ingredients identity and individual life have and what possibilities people have when pursuing a good life. In addition students deal with some fundamental questions of human life, such as free will, birth and death, also optimism, pessimism and realism. Students study how changes in society have affected the concepts of virtues and vices and how this change has affected the possibilities of individual life. Students also learn how a person who does not belong to religious denominations organizes practical matters and ceremonies.

ET 2. Worldview

In the course students discuss the forming of the worldview and the differences between worldviews. Students get acquainted with the ways the world is materialized and the meaning of knowledge and different communal institutions within. Central themes are for example the structure and core areas of the worldview, or concepts of man, society, culture and nature and the structure of reality; school, media and art as institutions that create and transmit worldviews, and the breaking and revolutionizing of the western worldview.

ET 3. Individual and society

In the course students examine the individual, sense of community, society and the interaction between people. Students learn how fairness, human rights and democracy are realized. The concept of power and theories about the structure and change of society are also dealt with. Students study fairness as a social, global and ecological concept.

IN-DEPTH COURSES

ET 4. Cultural heritage and identity

In the course students reflect on cultural heritage as a basis for a good life and as a measurement of a good life, and on the other hand as a continuously developing and changing phenomenon. In the course students learn about today's global and Finnish multiculturalism, they also discuss Finnishness as a phenomenon. Ethnocentrism, racism and tolerance are studied as historical and current phenomena.

ET 5. The explanation of the world in

In this course students discuss different ways to explain the world in mythical and religious ways. In the course we learn how different views were born, their history and research. Religions and religiousness are studied as phenomena, on the other hand we deal with religious criticism from the viewpoint of different sciences. We also study the history and current trends of atheism, agnosticism, secular humanism and free thinking.

PSYCHOLOGY (PS)

The compulsory course (PS 1.) is taken first, after that the order of the courses is free.

Assessment: PS1-PS5 and PS8 have number grading (PS8 will not lower the average of psychology course grades), PS6 is assessed with grade mark S (Pass).

COMPULSORY COURSE

PS 1. Psychological action, learning and interaction

The course is an introduction to the basis of psychology. Students learn about psychology as a science, its central concepts, questioning, subjects of research, methods of data collection and connections with other sciences. Psychological actions of people are looked into and also the ways psychology explains psychological action. Students also study the nature of learning and man as a social agent.

IN-DEPTH COURSES

PS 2. Man's psychological development

In the course students examine psychological development theories, through which man's life span is mirrored especially from the point of view of psychological development. The aim is that the student understands how psychological, physical and social factors are all connected with human development. The main objective of the course is to increase the student's understanding of their own development.

PS 3. Basis of human data processing

Students learn the basis of attention, memory and perception. Also the regulation of vitality is dealt with and students assess the basis and meaning of sleep and dreams.

In the course students also learn the principles of the neurological basis of psychological actions and get to know the practical applications of neuropsychology. Students familiarize themselves with the basic structure and functions of the nerve system, as well as the effects of brain damages and rehabilitation.

PS 4. Motivation, feelings and intelligent action

In the course students are taught different explanations and effects of feelings and motives and their relationship with a human being as biological and social creature. Students also look into cognition, problem solving and deduction as well as the basis for authority.

PS 5. Personality and mental health

Personality as a psychological concept and an object of research. Central theories of personality psychology, prerequisites of mental wellbeing, the onset, manifestation and treatment of psychological disorders.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

PS 6. Towards matriculation examination

Students get ready for the matriculation examination by revising the central contents of earlier courses, by getting familiar with different types of tasks and also by practicing essay writing.

PS 8. I and others

In the course students get acquainted with the basis of social psychology and look for applications for their own life. Themes include the forming and effects of attitudes and social perception, operation of groups and interactions between groups. Communication and influencing are also discussed.

HISTORY (HI)

High school History gives the students qualifications to understand and perceive the nature of different eras, the international world and the problems and changes of our time. Central concepts are time, change, sustainability and causal relations. The present world is a sum of historical incidents. Central themes are the relationship between man and environment, the versatility and comprehensiveness of human culture, different cultures and the development of our country.

The courses can be taken in free order.

Assessment: Compulsory and in-depth courses have number grading. Applied courses are assessed with credit mark S (pass).

COMPULSORY COURSES

HI 1. Man, environment and culture

The course deals with the interaction between man and nature and how this has affected cultural environment from prehistoric to modern times.

HI 2. Europeans

Central achievements of European culture and the change in Europeans' worldviews. How scientific and artistic changes have affected the development of ideologies and societies. The course covers the same era as HI 1. but the themes are looked at from a different angle.

HI 3. International relationships

Central changes in international politics from the late 19th century to today. Focus is on the 20th century and central subjects are imperialism, nationalism, totalitarianism, the World Wars, the Cold War, the collapse of Communism, and the new era of uncertainty after the Cold War.

HI 4. Epochs in Finnish history

The great changes in Finnish history and development from the 19th century to today. Focal point is the change in Finland's national and international position and the crises connected with it, also how Finnish society, culture and economic life became what they are today.

IN-DEPTH COURSES

HI 5. Finnish periods from pre historical era to the time of autonomy

Finland's history from pre-historical times to the end of the Swedish rule in 1809. Focus is on the Swedish era with its fascinating phenomena in society, economic life and culture.

HI 6. Cultures meet

In the course students choose one or several cultures and study their special features and interactions between cultures. The cultures in question can be chosen from outside Europe, for example Africa, Latin America, the Islamic world, China etc.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

HI 7. Toward matriculation examination

Students learn to widen and deepen the things learned in earlier courses. They also learn to deal with questions across the school subject borders. Central themes are revised. Students practice writing documentary based tasks and interpreting graphs and tables.

HI 9. The world of the Antique

The antique, or the Greek-Roman ancient times, is the basis for classical western civilization. In the course students familiarize themselves, through Greek city states and Roman Empire, with the culture, society and life of the antique.

HI 13. History of the United States

The course language is wholly or partly English. The United States history, its development and role in the world, cultural special features etc.

SOCIAL STUDIES (YH)

Social studies deepen the students' concept of the world around them. Central themes are the structure of society and as phenomena power, law, economic life and participating in decision making. These are discussed mostly from the Finnish point of view but also as European and global questions.

The courses can be taken in free order. It's recommended to start Social Studies in the second school year. YH6 can be taken during the 1st year.

Assessment: Compulsory and in-depth courses have number grading. Applied course has grade mark S (pass).

COMPULSORY COURSES**YH 1. Social science**

Getting to know Finland's national, political and social structures. Central themes are power, citizenship and participation.

YH 2. Economics

The course deals with the principles of economic life from the point of view of consumers, businesses, national economy and states.

IN-DEPTH COURSES**YH 3. Citizen's law studies**

The basics of Finland's legal system and courts of law. The course also gives students general capacities for juridical control over their own interests and also dealing with simple legal transactions.

YH 4. European people and the European Union

In the course students discuss what it means to be European, the uniting of Europe and the functions of the European Union. Focus is on the common structures of the Union, the position of member countries and the position of an individual citizen and the possibilities for participation.

APPLIED COURSES OFFERED BY TIISRISMAA HIGH SCHOOL**YH 6. Social participation**

The aim of the course is to find out how a citizen can participate in the functions and decision making of the society. Focus is on social politics, social planning, local political and other organizations, and the possibilities to express public opinion. The group will visit different places: the Parliament, the leading organizations of the city, political parties etc. Students do group work, have discussions and do practical exercises. The course can be taken at any time of the student's studies. Assessment: credit mark (S). To get it, the student will have to participate actively in all parts of the course.

YH 8. Towards matriculation examination

Central parts of the earlier courses are revised and deepened. Students also practice different types of final test tasks.

PHILOSOPHY (FI)

The compulsory course (FI 1) is taken first, after that the order of studies is free.
Assessment: Compulsory and in-depth courses have number grading.

COMPULSORY COURSE

FI 1. Introduction to philosophical thinking

Students learn to perceive philosophical problems and their possible different solutions and they learn the basic history of philosophy. Central themes are the questions of the nature of existence and knowledge, the relationship between individual and society, the meaning of moral and ethical values and their evaluation and the questions pertaining a good life.

IN-DEPTH COURSES

FI 2. Philosophical ethics

Students learn about the division of Philosophy into meta-ethics, normative ethics and applied ethics, also the central questions of these areas. Central aim is to be able to articulate one's moral decisions and arguments with the help of the tools from philosophical ethics and to learn critical thinking and tolerance towards oneself as well as towards others.

FI 3. Philosophy of knowledge and reality

In the course students learn some ideas of the nature of reality and truth. The aim is to define what knowledge and knowing mean in philosophy, as well as in science and everyday life. Special attention is placed on learning the central principles and problems of scientific research. Also, students practice their argumentation and reasoning skills.

FI4. Social Philosophy

Students study the central concepts and trends of social philosophy. Students learn about the philosophical principles of social justice, punishments, power and ownership. Students go through some central trends of political philosophy. Also, attention paid to some philosophical questions of current culture.

APPLIED COURSE

FI6. Towards matriculation examination

Students prepare for the final examination in philosophy.

HEALTH EDUCATION (TE)

The order of studies: The compulsory course must be studied first, after that the order of the specialization courses is free.

Assessment: number grading (4-10), applied course has grade mark S (pass).

COMPULSORY COURSE

TE 1. Basics of Health Education

Central contents:

- factors contributing to work and functioning abilities and safety, among other things nutrition, sleep, rest, stress and physical exercise
- sexual health
- public health problems in Finland

IN-DEPTH COURSES

TE 2. The young, health and everyday life

In this course the compulsory courses are deepened, especially the routines of the healthy life of the young and coping with everyday life.

Central contents:

- self esteem, maturity
- joy of life, maintaining mental health and coping with the demands of life
- weight control, healthy exercise, eating disorders
- deepening of first aid skills

This course cannot be studied independently.

TE 3. Health and research

In the course students learn about the different practices of health care and the supply of health services.

Central contents:

- different practices of health care and the supply of health services
- the methods of health examinations
- the basic examination made by a medical doctor
- the measurement of physical abilities to work and function
- the assessment of health practices
- the health of work and study environment, and its safety and ergonomics
- the images of health provided by research and media

This course cannot be studied independently.

APPLIED COURSE

TE 6. Towards matriculation examination

Central contents: revising the main topics of earlier courses and practicing definition tasks and essays.

SKILLS AND ART

ART (KU)

KU 1 is a compulsory course. Students will have to take also either KU2 or MU2.
 The order of courses: the order of courses is free. KU6 is taken in the final year.
 Assessment: All courses have number grading, applied courses have grade mark S (pass).

COMPULSORY COURSES

KU 1. I, image and culture

Students think of their relation towards art starting from their own world. The students' artistic expression is developed by giving them a possibility to express themselves by different mediums and materials. Students learn about the ways of constructing a picture, they also learn the concepts of art, interpretation and analysis of pictures, and study the ways pictures convey different views, values and hidden meanings.

KU 2. Environment, place and space

In this course students learn about the basis for design and architecture, ways of expression, different materials and design processes. They also study space as a concept and the experience of space as a psychological, physical and social place. Students deal with space on the basis of their own observations, experiences and feelings using different means of expression. Students think of the qualities of a good object and of objects as interpreters of their culture. Students learn about Finnish design and architecture.

IN-DEPTH COURSES

KU 3. Media and the messages of pictures

In this course students examine the image the media conveys of reality and they also study how media pictures, such as news pictures, advertisement pictures and propaganda pictures affect our concept of the world. Also the meaning of entertainment, popular culture, cartoons and internet site imagery are studied. Students study the visual imagery of printed material, their readability and typography, as well as the means of expression and impact of photographs and films.

KU 4. From the pictures of art to one's own pictures

In this course students learn the main features of the history of art; the mission and position of an artist in society, the contents of and the ways to express art in different eras and cultures, both thematically and chronologically. The students use the themes taught in the course in their portfolios, study their working methods and learn to assess their own work.

KU 5. Modern art workshop

Students study the effect of modern and post-modern thinking has on today's art. Some of the trends studied are dadaism, pop art, conceptual art, performance art, space and environmental art, and others from the past decades. Students prepare a project where they use the trends of modern art and also get familiar with modern art on exhibition.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

KU 7. Finnish art

In the course students learn Finnish painting and sculpture from the mid 18th century to 1960s. Using the illustrated catalogue of Finnish art students prepare an individual or group work where students use the knowledge of art. If possible, there will be an excursion to Art Museum Ateneum.

KU8. Photography workshop

In the course students learn the use of still camera and the basis of dark room work. In the course students also learn the elements of a good photograph such as composition, definition depth and tone. Students make their own photography project using either a digital or still camera. Group discussions in analyzing and evaluation of work are part of the course.

KU9. Ceramics and sculpture workshop

In this course students learn the basics of handling clay, creating form with ceramic materials. Students learn the traditional methods of ceramics: hand techniques such as slab and coiling technique, pinching, throwing on the potter's wheel and the combination of these techniques. Students also learn ceramic decoration: relief technique, polishing, scraffito technique, engobeering, glazing, wax technique and firing techniques: raw firing, glaze firing, smoke firing and raku firing.

KU10. Experimental textile art workshop

In the course students learn the central methods and materials of fabric design. Students practice printing on fabric using primitive technique, template technique, serigraphy (silk printing technique), and also painting freely with fabric print paint. Students dye fabric using the resist method, in a washing machine, on a flat surface and in a kettle. Students also learn silk painting: the gutta and salt techniques. The students may deepen their learning by combining the basic techniques they have learned in creating their own visual ideas.

KU11. Drawing and painting workshop

In the course students learn about different drawing instruments and painting techniques and the possibilities they give for expression. In the course we proceed from an exploratory model drawing to free the expression. We make practices in freeing the hand and filling a surface by drawing and painting and combining the two creatively.

KU 12. Graphic expression

MUSIC (MU) general line

MU 1 is a compulsory course for the students of the general line. In addition the student will have to take either MU2 or KU2.

Order of courses: compulsory courses are taken before the other courses, otherwise the order is free.

Assessment: Music courses 1-5 have number grading (4-10), others have a credit mark (S).

COMPULSORY COURSES

MU1. Music and me

The aim of the course is to help the student to find his own way of functioning in the area of music. They think about the meaning of music for individuals and for human relationships. They try to find their possibilities as a maker and interpreter of music, also as a listener and user of cultural services. In the course students get to know the students' and the local musical activities. The students develop their vocal and instrumental skills.

MU 2. Finnish music

The aim of the course is to give students knowledge of Finnish music and to strengthen their cultural identity. Students study different musical cultures in Finland and their sub cultures. Students learn to understand their backgrounds, development and essential features. In the course students learn how European art music has affected the Finnish music life. Many different working methods are used in the course, especially playing music and listening to it.

IN-DEPTH COURSES

MU 3. Doors open to music

The students learn about different types of music and musical cultures that are unfamiliar to them, they will also learn to understand how music is connected to cultures. Students will pay attention to the similarities or differences of the practices of diverse musical cultures and learn how each culture defines its concept of music.

During the course students familiarize themselves deeply with some types of music or musical cultures.

MU 4. Music communicates and impresses

The aim of the course is that the students learn how music is used in different forms of art and media and how it affects them. Students also learn what part music plays in movies, stage, mass media and the internet, they also study the connection between music, texts, images and movements.

MU 5. Music project

The students learn to plan and realize a musical entity either individually or in groups. The project could be for example a small concert, performance for the school celebrations, a recording or a cross-artistic project.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

MU 6. Independent study

In this course students write a paper. In preparatory lessons students are given advice on choosing the subjects and finding material. The study can be written on the basis of earlier courses or on a special area of the student's own music. The written work may include samples of music or pictures. The study is between 15 and 20 pages long. Number assessment.

MU 7. Music High School Diploma

In the course students prepare a national Music High School Diploma according to the regulations set by the Ministry of Education.

MU 8. - 10 Choirs

Singing in a choir

- develops your singing voice
- acquaints you with a versatile choir music program
- gives you experience in performing
- creates good group spirit (performances, concerts, excursions, contests, festivals, ensembles, recordings and filming)

The students of general line will have to audit for the choirs. Students may be selected for the girl choir Tiirikka, boy choir Vastakaiku or Chamber Choir. Students get one credit mark (S) each term for active participation.

MU 12-13. Free accompaniment

Accompaniment with the piano, transposing, chords and improvisation. These courses can also be taken in the Conservatorium.

MU 14 -15. Tonic solfa and the theory of music

The course teaches the students practical skills in tonic solfa and theory of music. The students sing, write and listen to melody, chords and musical forms, they also write, read and listen to rhythms and learn theory of music.

MU 16 -18. High school orchestra

In orchestras students learn about the orchestral music of different eras, perform in school functions and concerts and also with the choirs.

MU 19 -20. Sound and light technique

The students learn how to use the sound and light systems. The students are responsible for the sound and light systems in school functions, concerts and productions.

MU 21 -22. Midi, notation and arrangement

The students learn how to use sequencer and notation programs and make arrangements and midi backgrounds with them, for example for a background of a recording.

MU 23 -24. Recording and mixing

During this course students start with a simple live stereo couple recording and finish with a multi-track recording.

MUSIC FOR THE MUSIC LINE (MUMU)

For the music line students MUMU1-MUMU4 are compulsory courses. In addition, students must study the minimum of 12 courses from the music line.

Order of courses: compulsory courses in number order if possible, others in free order.

Assessment: MUMU1-4 have number grading. For the other courses see course descriptions.

COMPULSORY COURSES**MUMU1. Music and me**

The aim of the course is to help the student to find their own way of functioning in the area of music. They think about the meaning of music for individuals and for human relationships. They try to find their possibilities as a maker and interpreter of music, also as a listener and the user of cultural services. In the course students get to know the students' and the local musical activities. The students develop their vocal and instrumental skills.

MUMU 2. Finnish music

The aim of the course is to give students knowledge of Finnish music and to strengthen their cultural identity. To clarify some eras of Finnish music students may practice composing e.g. Karelian poem singing or 12-tone system. Many different working methods are used in the course, especially playing music and listening to it. When students are making music special emphasis is put on their individual expression and developing listening and communication skills. The contents must represent different genres: popular, art and traditional music.

MUMU 3. Doors open to music

The students learn about different types of music and musical cultures that are unfamiliar to them, they will also learn to understand how music is connected to cultures. Students will pay attention to the similarities or differences of the practices of diverse musical cultures and learn how each culture defines its concept of music.

During the course students familiarize themselves deeply with some types of music or musical cultures, including the music of ethnic and religious minorities. If possible, students study the instruments of different cultures or have a workshop with a musician from a different culture.

MUMU 4. Music communicates and impresses

The aim of the course is that the students learn how music is used in different forms of art and media and how it affects them. Students also learn what part music plays in movies, stage, mass media and the Internet, they also study the connection between music, texts, images and movements.

IN-DEPTH COURSES

MUMU 5. Music project

The students learn to plan and realize a musical entity either individually or in groups. The project could be for example a small concert, performance for the school celebrations, a recording or a cross-artistic project. The topic for the course can be one of the following:

1. Stage performance
2. Music marketing
3. Music journalism
4. Music study
5. Music and image
6. Music and technology
7. Composing

MUMU 6. Independent study

In this course students write a paper. In preparatory lessons students are given advice on choosing the subjects and finding material. The study can be written on the basis of earlier courses or on a special area of the student's own music. The written work may include samples of music or pictures. The study is between 15 and 20 pages long. Number assessment.

MUMU 7. Music High School Diploma

In the course students prepare a national Music High School Diploma according to the regulations set by the Ministry of Education (www.oph.fi).

The student can either

- A. make a portfolio of 3-5 high school work on the following
 - Performance, singing and playing
 - Composing, arranging and improvising
 - Listening, analyzing and critique
 - Essay
- B. make a portfolio of a project work

The portfolio can be a work that shows the command of the subject, both the skills and the knowledge of it. The work must be composed of the four topics mentioned above or of one of them. The portfolio

can include videos, tapes, scores, speeches, essays etc. Students must include the reasoning behind each piece of work, process description and evaluation of process and development in music. Students must themselves take care of the recording or filming of performances.

MUSÄT Tonic solfa and the theory of music

MUSÄT 1 Tonic solfa and the theory of music 1

The course teaches the students practical skills in tonic solfa and theory of music. The students sing, write and listen to melody, chords and musical forms, they also write, read and listen to rhythms and learn the theory of music.

MUSÄT 2 Tonic solfa and the theory of music 2

See MUSÄT1

MUSÄT 3 Tonic solfa and the theory of music 3

MUSÄT 4 Tonic solfa and the theory of music 4

MUSÄT 5 Tonic solfa and the theory of music 5

Choirs (MUKUO)

Singing in a choir

- develops your singing voice
- acquaints you with a versatile choir music program
- gives you experience in performing
- creates good group spirit (performances, concerts, excursions, contests, festivals, ensembles, recordings and filming)

Assessment: credit mark S

MUKUO 1

MUKUO 2

MUKUO 3

MUKUO 4

MUKUO 5

MUKUO 6

MUKUO 7

MUKUO 8

SINGING (MULAU)

The aim of solo singing is to learn breathing techniques, voice formation and free articulation and at the same time learn the students' own singing instrument and to create a natural and healthy sound.

Central contents: songs of different styles and eras. The repertoire includes vaccai-vocalis 1a, 1b, 2a, 2b, 3, 5, 6, 7 and 8.

Assessment: number grading.

MULAU1

MULAU2

MULAU3

VOCAL GROUPS (MUYL)

Central contents:

- learn to sing your stemma accapella

- learn to listen to a group as an entity
- find a varied program for your own group
- practice for public appearances
- arranging vocal group music
- advertising and marketing

Assessment : number grading

MUYL 1. Vocal group 1

MUYL 2. Vocal group 2

MUYL 3. Vocal group 3

MUYL 4. Vocal group 4

Bands (MUYS)

Central contents:

- students learn the instruments of a particular genre, its demands of the stage, repertoires and possibilities of making music together
- practice for public appearances and create a repertoire
- learn to compose music in the musical style of the students' band, also to write lyrics and make arrangements
- advertising and marketing

Assessment: number grading

MUYS 1.

MUYS 2.

MUYS 3.

MUYS 4.

Musical Instruments (MUINST)

Tiirismaa High school has instrumental tuition and in also addition accepts studies in other music schools and in some cases, private music lessons.

Assessment: number grading.

MUINST 1.

MUINST 2.

MUINST 3.

Orchestras (MUORK)

The basic task of orchestras in our school is to enrich the music life and celebrations in Tiirismaa High School. They also give an opportunity for vocal soloists to perform with a big ensemble and they cooperate with choirs. In stage performances the position of orchestras is central.

Assessment: grade mark S.

MUORK 1.

MUORK 2.

MUORK 3.

MUORK 4.

MUORK 5.

Free accompaniment (MUVAP)

Accompaniment with the piano, transposing, chords and improvisation. These courses can also be taken in the Conservatorium.

Assessment: number grading

MUVAP 1.
MUVAP 2.
MUVAP 3.

Sound and light technique (MUÄÄNI)

Students learn to use audio and light equipment. Students have the responsibility of the audio and light techniques of school dos, concerts and productions.

Assessment: number grading

MUÄÄNI 1.
MUÄÄNI 2.
MUÄÄNI3.

Midi, notation and arrangement (MUMIDI)

Students learn to use sequencer and notation programs and with the help of them making arrangements and midi backgrounds for recordings.

Assessment: number grading

MUMIDI 1.
MUMIDI 2.

Recording and mixing (MUMIKS)

During this course students progress from simple live stereo-pair recording to multi-track recording.

Assessment: number grading.

MUMIKS 1.
MUMIKS 2.

PHYSICAL EDUCATION (LI)

The job of Physical Education is to promote a healthy and active way of life and to help the student to understand the meaning of health to his physical, mental and social wellbeing.

Assessment:

- Courses 1,2,3,4 and 5 have number grading (4-10), for courses 6, 7,10 and 11 students get a credit mark (S)
- Should a senior want, he may choose a credit mark (S) for his final grade

The order of courses:

- On the 1st grade courses 1, 3, 4, 6 and 7 (in principal)
- On the 2nd grade courses 2, 3, 4, 6, 7, 10 and 11 (in principal, course 10 ONLY for 2nd graders)
- On the 3rd grade course 5 and 11.
- Please note! Two compulsory courses cannot be taken the same school year.

COMPULSORY COURSES

In the compulsory courses students deepen their skills and knowledge learned in comprehensive school. Students are also given a possibility to get acquainted with new sports. If needed instruction is individualized for students.

LI 1. Skills and condition

Central contents: exercising physical fitness, measuring and assessing your own condition, ball games both in the gym and outside, gymnastics and dance in its different forms, winter sports (weather permitting), swimming, track and field, orienteering and exercising in nature.

LI 1. Exercising together and separately

Deepening the sports of LI 1.

SPECIALIZATION COURSES

LI 3 Getting energy from exercise /1

The aim of the course is to support the students in getting more strength and motivation for studies through their experiences in physical exercise. The teacher with the group will decide what the contents of the course is.

LI 4. Exercising together

The aim is to promote students' common exercise interests by trying new sports. The course includes, if possible, acrobatics, circus gymnastics, capoeira, parkour, circuit training etc.

LI 5. Fitness sports

The aim is to boost the students' regular exercise habits, to raise and follow their condition, and to make the students understand the importance of doing sports regularly. The students make individual exercise programs which they follow both individually and in groups. The course is mainly taken in gym.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

LI 6. Individual exercising and gaining energy

Combined class for girls and boys. Introduction of different sports, getting to know different sports events. Main emphasis on ball games.

LI 7. Gaining energy from exercise /2

The students make individual exercise programs which they follow both individually and in groups. The course includes a hike in the terrains of Salpausselkä and a bike tour to Pajulahti Sports Center.

LI 10. Ballroom dances for juniors

This course includes ballroom dances for the formal sophomore dance. The dances will be performed to the other students in school and to an audience in the Sport Hall.

LI 11. Diverse exercising

This course includes many styles of dance and their basic techniques. The course may include jazz, modern dance, hip hop, show dance, ballet, folk dances, Latino dances and workshop.

TEXTILE WORK (TS)

Textiles as a high school subject gives students a possibility to develop their handicraft skills and their command of terminology, both in technical and textile work. They learn to use their skills in problem solving, and in their artistic and creative work.

By making in practice all the phases of a handicraft process, the student develops their personality in a balanced way. Especially important are creating ideas, developing these ideas, designing the visual and the

technical aspects of the product. In this work students need to use their skills in finding information, research, experimenting, problemsolving and practicing the handicraft skills. Students will find the experimental and situative studies meaningful, thus giving them more understanding and creating a basis for ecological thinking. These skills may then be utilized in various situations.

Textile work can be realized in high school in themes and projects, in cooperation with other school subjects and also with specialists outside school.

Assessment: Number grading (4-10). Assessment is made by the teacher and other students of the group. Finished products, the skills when making them, attitude and interest all affect the assessment. Students may show their development in skills partly with the help of a work journal or a portfolio.

IN-DEPTH COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

TS 1. Finnish textile work

- creates the basis for knowing the historical, conceptual and critical contents of textile work
- the tools of handicrafts design and expression
- textiles materials, their availability and their use and ecological features

TS 2. Textile culture

- a wide view of handicrafts culture from other countries, how it appears there and reasons for different development
- the use of international contacts in widening our knowledge of handicrafts, with the use of technology and electronic media
- techniques, materials and tools that especially interest the students

TS 3. Weekdays and galas

- from undergarments to stylish party looks
- through the history of clothing students learn to apply ideas and details in the clothes of today
- learning to make patterns for a fitting garment, to make it and to utilize it
- the materials of gala dresses, their fasteners and other details

TS 4. Clothing

- students learn about the practical and symbolic meaning of clothing
- students practice the basic techniques of clothing design, pattern making, sewing and assembling a piece of clothing

TS 5. Interior decoration

- students design and make a piece for interior design from textiles
- Finnish textile traditions, textile art and brands from Finland and abroad

TS 6. Sustainable development

- get acquainted with recyclable and reusable textile materials
- make a product according to the principles of sustainable development

TS 7. High School Diploma

- the students are guided to create personal ideas, to problem solving, integration with other high school subjects and independent source research
- the diploma is completed according to national guidelines and annually changing topics

- students make one piece of craft work which is equivalent to one high school course and a portfolio on it
- this course can be taken after TS1 and TS2

TS 8. School leaving fantasy

- students design and make fantasy outfits for the school leaving carnival.

SPEECH AND DRAMA (IT)

Speech and Drama is a subject that utilizes students' experiences and feelings. The general aim of the subject is to develop the student's personality and increase their self-confidence, to find the joy of self-expression and to get to know the multifaceted world of drama. Students of Tiirismaa high school may choose three courses of Drama. In addition students have the possibility of doing a national Drama High School Diploma.

Assessment: credit mark (S). The basis for assessment is formed on the student's self assessment and from the teacher's assessment. The central element is the student's attitude towards work and working with the group.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

IT 1. Basics- mastering the medium

The basic capacities of Drama are strengthened and developed. Students get to know the nature of the subject and its methods, they also get to know the group and themselves as a group member. Students practice finding the courage to express oneself by making relaxation, breathing, touch, sense, movement and voice practices.

IT 2. Follow-up course – get to know theater

Students get to know theater, its history and ways of expression. They also increase their courage and skills in performing. Students go through the history and development of theater, its different fields and role work. The group goes to see a theater performance, follows the critiques it receives analyzes the play. The group prepares a small thematic performance or a play.

IT 3. Production course- let's make theater

The third drama course is integrated with other arts courses of our school: music, arts and textile work. The course aims to give an experience of preparing a drama performance and to guide the students in working intensively and persistently in a group.

Students learn how to prepare a script into a play following the guidelines of dramaturgy. Students use all the knowledge and skills of drama and theater knowledge they have acquired in the previous courses.

COMPUTER SCIENCE (AT)

Assessment: credit mark (S)

SPECIALIZATION COURSES

AT 1. Basic course

Students learn the basics of Computer Science. Word processing, spread sheets, data bases, basic use of the internet (finding information and e-mail), image and sound processing, also the use of computer peripherals. The course is for those students who don't have previous skills in information technology.

AT 2. Image creation and processing

Students learn to create digital images and process and manipulate them by using some of the basic tools for image processing. Students study different image types and some graphic drawing program.

AT 3. Internet and www

Students learn the basics of making home pages (processing material, wysiwyg-editors, html, copyright) and the programs needed for updating them. The aim is to create www-sites by utilizing basic structures for the use of others. Students must have basic skills in information technology to take this course.

AT 4. Basics of programming

Students learn the use of algorithms in practice as well as in the basis for computer programs. They learn a programming language and create small scale programs. Students test programs and analyze possible errors.

AT 5. Computer networks and configuration

In the course the students learn the configuration of computers and installing add-ons. Students also learn about the possibilities of networks and they build basic nets. Part of the course is servicing the school appliances. Students must have basic skills of Information Technology to take this course.

AT 17. Computer graphics and animation

Computer graphics and animation deepens the student's skills for using graphic programs. The possibilities of computers are used in creating images and making animations. Students learn to make three-dimensional models. To take this course students must have taken AT 1 or to have the basic skills in information technology.

OTHER APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL

Assessment: credit mark (S).

KKR Classical Greek

The aim of the course is to let the students familiarize themselves with the classical Greek. In the course students learn the Greek alphabet and numbers, and the basic forms of nouns and verbs. Students also study some texts, sayings and translation exercises. Students also learn about the pioneers of art and sciences and some features of the Greek culture. Students don't buy a textbook, all material is provided by the teacher.

The basis for assessment is class activity and a final test.

Art productions

In Tiirismaa High School there are art productions that integrate different school subjects. The aim is to have one production during each student's three-year high school so that everybody can participate in one production. For some tasks in the production there are auditions.

Traffic education

Traffic education net course can be found in Päijät-Häme High School portal with the name eLLu (ellu.phkk.fi). The course is meant to be taken on top of driver's license. There are various net tasks. To pass the course one must study all the material and do all the tasks. One must get at least 80% of the questions right.

APPLIED COURSES OFFERED BY TIIRISMAA HIGH SCHOOL**INTERNATIONAL EDUCATION (KV)**

Our school has participated in a wide international student exchange program already for some years. The purpose of international education is to offer the students a possibility to get to know other cultures closer and at the same time strengthen their own cultural identity and cooperate with some European school class. The friendship school is in alternative years a school from the Nordic countries and from Central Europe. Tiirismaa High School has a wealth of contacts with different countries.

The international education class is spread through three years of high school so that there is one course each year. When the student participates in the program they make a three-year commitment for participation, for sharing the costs and hosting a foreign guest. Depending on the destination and the activity of the students, the cost will be between 100 and 250 euros.

If there are more applicants for the course than can be selected, the criteria for election are the student's language skills, activity and commitment for a long project. Students fill in an application, including a free application letter and recommendation from one teacher.

Assessment: credit mark. Basis for assessment is commitment, active participation in all parts of the project and productive work.

Separate diploma for those students who have successfully completed all three courses.

International courses cannot be done as independent work.

KV1. International course 1

Social skills: unification of the group, meeting a foreign culture

Strengthening of Finnish identity, language skills and presentation skills.

KV2. International course 2

Social skills: cooperation in the student groups and with foreign students.

Students study the destination country and its culture, strengthen their language and presentation skills.

Student exchange: 7-10 days in destination country and hosting a foreign student for 7-10 days.

Cooperation with foreign students on a common theme.

KV3. International course 3

An applied course on a theme 'The rest of the world'. The group decides the theme and how it is carried out during the course.

STUDENT COUNSELING (OP)

Student counseling helps the student to plan their study program, supports them in their studies throughout high school and develops their capacities to make plans and choices regarding their education and career in life.

The compulsory course is spread throughout the three years of high school. The specialization course is taken at the end of high school (second or preferably third year).

Assessment: The compulsory course and specialization course have a credit mark (S).

COMPULSORY COURSE

OP 1. Education, work and future

In the course students deal with starting and studying their high school courses, also applying to further studies. The central themes are the same for all students: studying in high school, matriculation examination, further studies, professions and career planning, also other current themes for high school studies. Students become acquainted with working life and further studies by hearing presentations and through different materials.

The compulsory course consists of lessons, presentations and visits, also of small group lessons given by study counselor. Students have a possibility to get individual and small group guidance.

IN-DEPTH COURSE

OP 2. Studies, work life and career choices

In the course students improve their study capacities and they are guided to learn the central factors dealing with further studies and work life. During the course it is possible to visit schools and universities of their possible further studies. Central contents are professional and career planning, finalizing the plans for further studies, self-knowledge, and deepening the knowledge of work life information.

OP 3 – OP 4. Tutor education and tutoring

In this course students study the school as a learning environment and also student tutors' skills. Those who have taken course OP3 help and guide new high school students in all high school study matters.

Assessment: one credit mark (S) for OP3 and one for OP4.

OP 5 – OP 6. Student board courses

Student board works for the benefit of the students in everyday life of the school, it improves the study environment and decides how the funds of the student body are used. Students elected to the student board may get one high school course for active participation for each term of the board.

Assessment: credit mark (S)

OP 7. Homeroom

Students participate in homerooms and follow the information given by homeroom teachers. There is also at least one interview by the homeroom teacher. To pass this course students must also participate in school functions and help with organizing them.

OP 8 Efficient studies

The aim of the course is to support the student in finding their own style to learn. Also, the course will help students to find more motivation and to learn more about themselves.

In the course students deal with dyslexia, reading skills and techniques, difficulties in foreign languages, deal with writing skills, writing good texts and individual learning strategies. There is group and individual instruction.

OP 12. High school Work Experience Placement (TET)

This course will acquaint students to work life and different professions both in companies and in schools. TET takes two days, one of which is in a school and the other in a company.

There is also a preliminary meeting and TET material in the net. Students make several different net tasks. There is a separate certificate for the course.