

Subject descriptions

Mathematics

4-period optional subjects

- Ancient greek
- Economics
- Latin
- Language 4 (L4)

2-period optional subjects

- Art
- ICT
- Music

MATHEMATICS

4 periods/week (MA4)

6 periods/week (MA6)

MATHS 4 (BASE LEVEL)

This course is intended for pupils who don't consider continuing with studies where Mathematics plays an important role. Its purpose is to help pupils to understand the scientific and technological world surrounding them without putting too much emphasis on theoretical aspects of Mathematics.

MATHS 6 (STANDARD LEVEL)

This course is intended for pupils who need Mathematics for their higher level studies, and because of this, can benefit from a solid foundation and a good general knowledge of Mathematics.

WHAT SHOULD BE CONSIDERED WHEN CHOOSING BETWEEN MATHS 4 AND MATHS 6 PERIODS?

Pupil's motivation

Regular work is required in both Maths 4 and Maths 6 but Maths 6 course is much more demanding than Maths 4. The workload of 6 weekly periods is high, and motivated students will find it easier to overcome the difficulties they may find.

Pupil's skills

Pupils choosing Maths 6 course are supposed to be skilled in Mathematics and with a good knowledge of topics covered in the previous cycle. They should have achieved a good level of autonomy as well as methods to carry out their work in an organized way. The final result in S3, as well as the teacher's advice should play an important role in the choice.

Academic choices after secondary education

If strong mathematical skills are required in higher education studies, pupils should choose the Maths 6 course, but only if they are capable to do it.

Work load

The choice of Mathematics course may influence the choice of other subjects. Choosing Maths 6 may have as a consequence that pupils can't apply for other courses they may be interested in, as they can't have more than 35 weekly periods. Furthermore, only pupils with high capacities should have a week-workload of 35 periods. Experience has shown the dangers of overburdening pupils in the final cycle.

For further information on Mathematics provision in years 4 to 7, please consult the syllabus available at the website of the Office of the Secretary-General of the European Schools:

<https://www.eursc.eu/en/European-Schools/studies/syllabuses>

An example of the topics covered in each of the two levels of Mathematics is shown below for year 4.

TABLE OF CONTENTS FOR THE TWO CHOICES OF MATHS IN YEAR 4

TOPIC	MATHS 4	MATHS 6
Basic calculations in N, Z and Q.	X	X
Towards a new set of numbers: R	X	X
Squared roots and powers.	X	X
Proportionality	X	X
Linear models	X	X
Simultaneous linear equations.	X	X
Polynomials	X	X
Right-angled triangles	X	X
Properties of the circle and connections with rightangled triangles		X
Enlargement	X	X
Congruent and similar triangles	X	X
Numbers and points on a plane: coordinate and vectors		X
Vectors and transformations		X
Data collection		
Organise data	X	X
Data set characteristics		
Graphical representations		
Probability	X	X

ANCIENT GREEK

4 periods/week

Objectives

- To raise awareness of Ancient Greek as a cultural language, as the founding culture of Europe and of its influence on philosophical, political and cultural thought today.
- To bring the student into close contact with the first masterpieces of Western literature.
- To develop a knowledge of the principles of an inflected language. Unlike most modern languages, the endings of Greek words change depending on their function in the sentence.
- To develop analytical skills to interpret long and complicated sentences.

Content

- Translation of texts from writers such as Homer, Herodotos, Plato, Thoukydides, Xenophon, Euripides and more.
- Study of grammar and vocabulary to be able to translate an ancient Greek text of medium difficulty and to develop a better knowledge of modern language by etymology.
- Study the masterpieces of ancient Greek literature and ancient art (architecture, sculpture and painting) as well as the later creations they have inspired up to our time (mythology inspires many contemporary artists).
- A 5-day study excursion to an ancient heritage cultural site is provided.



μηνιν ἄειδε θεὰ Πηληϊάδεω Ἀχιλῆος
οὐλομένην, ἣ μυρὶ Ἀχαιοῖς ἄλγε' ἔθηκε,
πολλὰς δ' ἰφθίμους ψυχὰς Ἄϊδι προΐαψεν
ἠρώων, αὐτοὺς δὲ ἑλώρια τεῦχε κύνεσσιν
οἰωνοῖσι τε πᾶσι, Διὸς δ' ἔτελείετο βουλή,
ἔξ οὗ δὴ τὰ πρῶτα διαστήτην ἐρίσαντε
Ἄτρεΐδης τε ἄναξ ἀνδρῶν καὶ δῖος Ἀχιλλεύς.

Assessment

- Short and long tests per semester
- Exams in S5

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ECONOMICS

4 periods/week

Objectives

- Willingness to discuss current economic problems. Reading of geopolitical phenomena through the economic angle.
- Discovery of entrepreneurship.
- Development of a basic understanding of economic relations at national and international level.
- Ability to critically analyse working tools such as texts, statistics, graphs and images.
- Ability to express oneself using subject-specific terminology.

Content

- 4th Year* Introduction to the fundamentals of economic life: nature of the economy, household consumption, budget, markets, production, organisation of work, markets and price determination, distribution of goods.
- 5th Year* Introduction to money and credit. This course is intended to provide students with an understanding of the nature of the economy, household consumption, budget, markets, production, organisation of work, markets and price determination, distribution of goods, and the national economy (circuit, national aggregates), economic growth, international trade, and international organisations.
- 6th Year* Theoretical and practical studies on supply and demand (basics of microeconomics). The economic circuit and an introduction to macroeconomic models. The role of the state and economic policies.
- 7th Year* European Union and the economy. The possibilities of economic and financial intervention by national authorities, the influence of central banks and European institutions on the labour market, on monetary value. Employment and unemployment Sources of economic growth. Analyses of foreign trade and theories of international trade.

Assessment

- In S4 and S5 two one-period tests each semester constitute the B grade. In addition, written and oral assignments are organised each semester to determine the A grade.
- In S6 there are harmonised compositions between all language sections at the end of the semester.
- In S7 the test is part of the European Baccalaureate tests (pre-bac in December and final test in June). This includes continuous assessment grades throughout the year (A and B grades).

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LATIN

4 periods/week

Objectives

- Expanding knowledge of the Latin language in order to understand more complex sentence constructions.
- Developing linguistic strategies to translate these constructions into one's own language.
- Discovering Latin as a language of culture in Europe, the language of science, philosophy and the Church.
- Bringing pupils into contact with early European literary masterpieces.

Content

- Translation of texts from historians such as Caesar and Livy, from poets such as Ovid and Catullus and from prose writers such as Cicero and Pliny.
- Study of grammar and vocabulary to be able to translate a Latin text of medium difficulty and to develop a better knowledge of Romance languages by etymology.
- Study the masterpieces of Latin literature and ancient art (architecture, sculpture and painting) as well as the later creations they have inspired up to our time.
- Recognise the impact of ancient writings, buildings and works of art on European culture.
- In addition to the rich cultural content, a 5-day trip is provided. The students can witness with their own eyes the Roman heritage in Rome and beyond (e.g. the Provence, England or another "Roman" destination).



O tempora, o mores! senatus haec intellegit, consul videt;
hic tamen vivit. vivit? Immo vero etiam in senatum venit,
fit publici consilii particeps, notat et designat oculis ad
caedem unum quemque nostrum. nos autem fortes viri
satis facere rei publicae videmur, si istius furorem ac tela vitamus.
ad mortem te, Catilina, ducti iussu consulis iam pridem oportebat,
in te conferri pestem quam tu in nos omnis iam diu machinaris.

Assessment

- In S4, a few short tests and four long tests and possibly presentations. In S5, in addition to the 2 long tests (and possibly short tests as well as presentations), a harmonised long test as part of the written semester exams before Christmas.
- End of year 5: *Latinum Europaeum*, which consists of a written exam (considered the 4th long test) with an unseen text for all the European Schools at the same time and an oral exam with texts studied during year 5.

- The successful candidate receives a certificate of 4 years Latin. The Latinum exam provides a first experience of an oral exam which is also part of the Bacculaureate exams.
- The certificate can be important to enter in some universities (e.g. in the Netherlands and Germany).

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L4 (Language 4)

4 periods/week

Objectives

By the end of year 5, the student should be able to:

- understand familiar words and everyday phrases relating to oneself, one's family and one's environment, when spoken slowly and clearly
- read and understand short, simple everyday texts
- communicate at a basic level and ask and answer simple questions related to everyday situations and very familiar topics, such as going shopping, telling the time, presenting themselves, talking about hobbies, the weather and holidays
- use simple phrases and sentences to describe people and things in his/her familiar environment
- write short, simple texts on familiar topics relevant to the learners' environment and fill in forms
- demonstrate a basic understanding of cultural features in the target language countries.
- relate elements of acquired cultural awareness to elements of the culture of the target language countries.
- become aware of and use basic language learning strategies
- use basic learning methods and tools to learn the target language

Studying a 4th Language also contributes to:

- Emphasize the pupil's cultural identity as European citizens who are open to other cultures.
- Reinforce the spirit of tolerance, cooperation and dialogue between all the members of the school community.

Pupils will discover the language not only from a textbook but also by listening to songs, watching a movie, working on the Internet, reading short stories, etc. If they continue the language in years 6 and 7, they will discover more about the countries where the L4 language is spoken through press articles and contemporary literature.

Content

- Basic knowledge of pronunciation, sentence intonation and spelling
- Knowledge of basic vocabulary and simple idioms
- Knowledge of simple morphological and grammatical structures
- Knowledge of how to use the dictionary and other tools including ICT
- Awareness of the culture of the target language
- Knowledge of language acquisition strategies, including awareness of own learning progress

Assessment

Formative assessment which aims to enable students to become aware of their level and progress in language skills, and a summative assessment to evaluate the ability to listen, read, take part in a conversation, express themselves orally and in writing.

2 long tests per semester for the B mark. Small tests, listening exercises, written work and short oral presentations are possible assessment examples for the A mark.

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ART

2 periods/week

Objectives

The subject Art in the European schools means *The Visual Arts*. Visual arts contain the complex process of *perception*, *reflection* and *interpretation* of the world around us and result in the *creation* of images. This *process* and the *resulting products* are the main working areas of the subject art.

In S4 and S5 it is assumed that the students have acquired these skills and can now be given more room to *experiment*, *explore* and *develop* their own solutions with less guidance from the teacher. They must learn how to *document* and *present* this development process as part of their solution. This approach requires more personal responsibility and autonomy of the students and enables them to achieve their full potential.



Content

In years 4 and 5 the acquired competences from S1 to S3 are developed and applied by more conceptual and personal projects.

The projects are organised by themes such as: Figurative and Abstraction, Observation and Imagination, Landscape, Communication, City, Objects and Still life, Movement, Patterns in Nature, Faces and Portraiture, Architecture, Colourful Sculpture, Identity, Creative Drawing, Inside/Outside, Art and Science, Self- Identity, Man and Nature.

Major movements of art history are presented within the context of the practical projects and the students apply the vocabulary of image description and analysis.

Assessment

In S4 and S5

A mark: coursework, workbook and the aspects above

B mark: one practical B test per semester of two consecutive periods (a portfolio mark with the average of the marks from the results of the practical work can be taken in account)

Contact

For further information please contact your Art teacher.



ICT

2 periods/week

Objectives

- I. Understanding, analyzing and solving problems based on logical and abstract thinking, algorithmic thinking and ways of representing information.
- II. Programming and solving problems using a computer and other digital devices: creating and programming algorithms, organizing, searching and sharing information, using computer applications.
- III. Using a computer, digital devices and computer networks, including: knowledge of the principles of operation of digital devices and computer networks as well as performing calculations and programs.
- IV. Developing social competences, such as: communication and cooperation in a group, including in virtual environments, participation in team projects and project management.
- V. Compliance with the law and safety rules. Respecting information privacy and data protection, intellectual property rights, etiquette in communication and standards of social coexistence, assessment of risks related to technology and their consideration for the safety of yourself and others.

Content

ICT courses are organized in a modular fashion. In years 4 and 5, the following modules shall be covered:

- Spreadsheets
- Word processing
- Introduction to PYTHON programming
- Databases
- Computer graphics
- ICT and Society
- Programming of LEGO and Arduino robots
- 3D modelling in photoshop application and then printing of designed objects on 3D printers

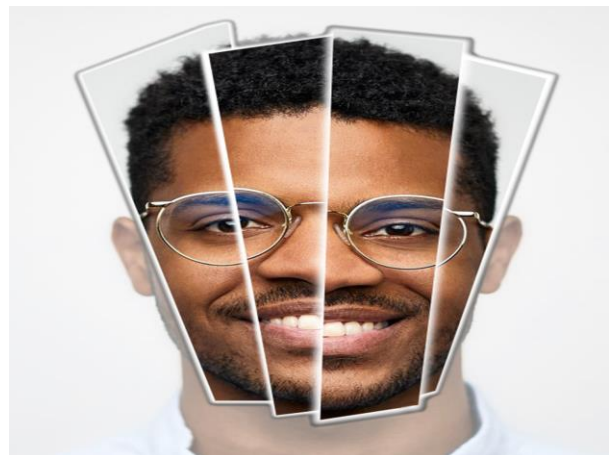
In years 4 and 5 students go deeper into the topics, which were taught in years 1-3, and will use more advanced features of applications. Also there are some new topics like databases, and computer graphics. They will understand more and more the connections between those applications and how they can learn things by themselves using ICT.

At this stage it is very important to make the students aware of things like data security and copyright, that they can take the right decisions when they use modern technologies in everyday life.

Examples of student projects made in ICT classes



(left) Sample student designs and (right) Digital photo taken with a digital brush both made with the Photoshop CS6 application



(left) Graphic design of a mug and (right) Poster both made with the Photoshop CS6 application

Assessment

During the semester, students carry out several projects related to the subject of education.

Contact

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MUSIC

2 periods/week

Objectives

The curriculum in years S4 and S5 is themed and builds on the skills and knowledge that pupils have acquired in previous years. It takes into account various aspects and learning objectives, in particular the fact that musical learning:composing and improvising:

- making music
- composing
- as well as listening to and analysing music

Content

Over the course of the two years, the students should deal with five of the topics listed below. At the end, there is a final project in the second half of year 5. The content, design and organisation of the project should be discussed individually with each student in order to take into account their different interests.

List of choice for study topics:

- Music for film
- Contemporary musical styles and cultures
- Music for dance
- Music for special occasions (functional music)
- Musical theatre (opera, musical)
- European 'folk' traditions
- Music and voice
- Programme music in the 19th Century
- Composing during the last 100 years

Theory, focused listening, and analysis of music from many different places, periods and styles round off this broad and ongoing exploration and provide a good platform for the Bac option in music, should this be chosen.

Assessment

- Portfolio which shows the student's personal work and musical output.
- Long test
- Final project at the end of S5

Contact

For further information, please contact your Music teacher.