

## Group 4

### COMPUTER SCIENCE

Computer Science as a discipline sits at the border between science and technology. It is concerned with broadly defined information processing.

In modern times, computer science and new technologies have very broad applications in almost all industries. There is still high demand for specialists in network administration, algorithms, processor architecture, cybersecurity, computer graphics, software engineering, simulations, webmastering, etc.

Over the course of your studies of Computer Science at standard level (4h/week) or higher level (6h/week) the students gain knowledge from a variety of disciplines in this area of science. The programme contains Core and Additional higher level content, one elective Option, and Practical work, which includes: an individual research project (Internal Assessment) and an interdisciplinary project (Collaborative Sciences Project).

Syllabus of the Computer Science at the standard level includes design of information systems, computer architecture, operating systems, logic gates, numeral systems, computer networks, databases, and writing computer applications in Java. Additionally, at higher level, you can expand your knowledge of computer science with abstract data structures and learn how to characterise and manage control systems.

Over the course of the programming lessons we carry out many interesting projects - computer games and simple management systems for warehouses, online shopping, or a library.

Included in the syllabus of both levels (SL/HL) is one of the options: databases, modelling and simulation, web science, or object-oriented programming (OOP). Additionally at the higher level, students sit Paper 3, which is centred around a Case Study. This involves work with an scientific text focused on an advanced computer science topic.