ATHERTON INTERNATIONAL SCHOOL

# COMPUTER SCIENCE

*Course Overview*

ABOVE: STUDENTS LEARN TO USE HIGH LEVEL PROGRAMMING LANGUAGES

## Cambridge International

**IGCSE :** INTERNATIONAL GENERAL CERTIFICATE OF SECONDARY EDUCATION

Cambridge International prepares school students for life, helping them develop an informed curiosity and a lasting passion for learning. They are part of the University of Cambridge, and are the chosen board for examination by Atherton International School.

Cambridge qualifications set the global standard for international education. They are created by subject experts, rooted in academic rigour and reflect the latest educational research. They provide a strong platform for learners to progress from one stage to the next, and are taken by nearly a million Cambridge students from 10, 000 schools in 160 countries annually.

THIS COMPUTER SCIENCE SYLLABUS AIMS TO ENABLE STUDENT DEVELOPMENT OF:

- COMPUTATIONAL THINKING SKILLS
- AN UNDERSTANDING OF HOW TO SOLVE PROBLEMS USING COMPUTERS
- THE SKILLS NECESSARY TO USE A HIGH-LEVEL PROGRAMMING LANGUAGE
- AN UNDERSTANDING OF THE COMPUTER SYSTEMS AND HOW THEY INTERRELATE
- AN UNDERSTANDING OF THE INTERNET AND ITS ASSOCIATED RISKS
- AN UNDERSTANDING OF THE DEVELOPMENT AND USE OF AUTOMATED AND EMERGING TECHNOLOGIES

*Content Overview*

# COMPUTER SCIENCE

## Computer systems

Candidates study:

- **Data representation**
- **Data transmission**
- **Hardware**
- **Software**
- **The internet and its uses**
- **Automated and emerging technologies**

## Algorithms, programming and logic

Candidates study:

- **Algorithm design and problem-solving**
- **Programming**
- **Databases**
- **Boolean logic**

# COMPUTER SCIENCE

ASSESMENT OVERVIEW

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## Grading

All candidates take two components. Candidates will be eligible for grades 9 to 1, where 9 is the highest grade

## Paper 1

**1 hour 45 minutes**

**50% of Final Grade**

Externally assessed

**Computer Systems**
75 marks

Short-answer and structured questions based upon the Computer Systems portion of the course. All questions are compulsory.
No calculators are permitted.

## Paper 2

**1 hour 45 minutes**

**50% of Final Grade**

Externally assessed

**Algorithms, Programming and Logic**
75 marks

Short-answer and structured questions and scenario-based question Questions will be based on the Algorithms, Programming, and Logic portion of the course. All questions are compulsory.
No calculators are permitted.

## Assessment Objectives

(what students are expected to do)

- Display knowledge and understanding of the principles and concepts of computer science.
- Apply knowledge and understanding of the principles and concepts of computer science to a given context, including the analysis and design of computational or programming problems.
- Provide solutions to problems by evaluating computer systems. making reasoned judgements and presenting conclusions.