

# IB Computer Science



## Introduction:

The Diploma Programme Computer Science course is a highly challenging course that builds on the fundamental concepts learned at GCSE.

The key components of the course focus on developing the practical programming elements of computing while embedding the theoretical foundations of every computer system.

The global impact of the computing world is present in every topic. Whether it be developing AI advancements or the impacts of the digital divide, current news and issues are a massively important part of our rapidly growing industry.

## Course structure:

### Paper 1:

- Topic 1 – System Fundamentals
- Topic 2 – Computer Organisation
- Topic 3 – Networks
- Topic 4 – Computational thinking, Problem solving and Programming.
- Topic 5 – Abstract data structures
- Topic 6 -Resource Management
- Topic 7 – Control

### Paper 2 –

Students study one of the following options:

- Option A: Databases
- Option B: Modelling and simulation
- Option C: Web science
- Option D: Object-oriented programming (OOP)

### Paper 3 –

The annually issued case study, Examples of previous case studies are. ‘Rescue Robots’ and ‘The perfect Chat Bot’

## Entry requirements:

To be admitted onto this course you will need to meet the following requirements:

- Grade 6+ in GCSE Computer Science

## Careers:

A good grade in IB Computer Science can help unlock a wide range of careers including:

- Business Analyst
- Games Developer
- Games Tester
- Cyber Intelligence
- Forensic analyst
- Software Engineer/Developer
- Network Manager
- Project Manager
- Database Engineer
- Machine Learning/AI engineer
- Blockchain Developer

## Assessment:

### Internal assessment (20%):

- Students choice of programming topic, moving through the development lifecycle. Initial feasibility, designing, building the application, testing and evaluating

### External assessment (80%):

- **Paper 1** - 2 hrs 15 mins (40%)  
Contains 7 topic areas including short answers and complex algorithm problems
- **Paper 2** - 1 hr 15 mins (20%)  
A choice of 4 topics including databases and web development
- **Paper 3** - 1hr (20%)  
Case study, based on an up to date real world topic