

# Computing Science Advanced Higher

## **Award Received**

Advanced Higher

## **Entry Level: What do I need to do it?**

Entry to this course is at the discretion of the school. You must have achieved a good pass at Higher Computing Science.

## **Course Content: What will I learn?**

- Object-oriented programming normally in Python or Java (though you can choose a different language). This will include concepts such as encapsulation, design methods using UML, and new standard algorithms (binary search, bubble sort, insertion sort).
- Further web page development. This includes using PHP to access a database from the web page.
- Creating databases using SQL and advanced queries. This includes types of relationship and use of logical operators.
- How computing systems work in context of programming, web sites and databases. This includes hexadecimal and aspects of code injection attacks.

Unlike previous levels, these topics are not taught separately, but are taught in the context of building an integrated project.

## **Teaching Methods: What will I do?**

A normal week will include 2 periods of theory. The rest of the time will be spent working independently on your project.

## **Assessment: How will I be assessed?**

This course is assessed by externally assessed coursework (50%) and exam (50%).

A large part of this course is working on your own project. You will get to choose the topic of your project within certain constraints set by the exam board. This project has to choose one of programming, web pages or databases as its focus and includes Advanced Higher level content. A secondary choice from programming, web pages or databases is made that

has to be integrated into the project, but does not have to be at Advanced Higher level.

The exam is 2 ½ hours long and covers programming (40%), web pages (25%), databases (25%) and computer systems (10%).

### **Homework.**

Students are expected to be self-motivated and work independently on their projects in their own time. This includes researching the technologies they are using in their projects.

### **Progression in the Senior Phase.**

N/A