Computing Science
Higher

Why take this course?
Computers are a fundamental part of our world. We all use Apps and Websites every day but we need people to design and build them.
This course is designed for students who have a general interest in Computing and Information Science as well as those considering a career in Computing disciplines. You will be required to undertake a substantial amount of planning and reading.

To succeed in this course, you need…
- To be interested in learning more about computers and technology. This course includes theoretical content and practical activities;
- To be able to work autonomously during the tasks in order to develop your Computational thinking skills;
- To have developed good coding or mathematical skills in National 5.

You would normally be expected to have obtained a good grade at National 5 Computing Science but it may suit hard worker pupils who have already sat Highers in other subjects and already possess programming skills.

Course structure and Content (Subject to change by SQA)
Software Design and Development
- You will continue to develop your programming and computational thinking skills at a professional level.
- You will use Python to solve complex problems including reading and writing in files, storing complex information and finding a specific value in an array.

Computer Systems
- You will learn more about computer architecture and binary.
- You will learn about new security risks and precautions such as DOS attacks and encryption.
- You will also study how intelligent systems are used to reduce our environmental impact.

Database Design and Development **(not covered in 2020-21)**
You will learn how to design and implement complex databases including many entities. You will also develop your knowledge of SQL in order to produce new and useful queries frequently used in real life, such as calculating the total of an order.

Web Design and Development
You will continue to develop your HTML, CSS and Javascript in order to produce professionally looking websites.

Course Assessment (Subject to change by SQA)
The Course Assignment will be externally assessed (31%). External assessment (69%) will take the form of a 2.5 hours written paper. The course will be graded A-D.

Essentials
No specific equipment is required; however, having access to a computer at home is recommended.

Where might this course take me?
Computing skills are required in hundreds of today's jobs and are highly value in Science and Engineering.

Computing specific jobs can be found in areas such as Software Engineering, Database Design and Administration, Telecommunications, Oil & Gas Industry, Computer Technical Support, Network Administration, Games Development, Teacher/Trainer.

Not only will you acquire knowledge and learn programming skills, Computing will also improve your ability to problem solve – an excellent attribute that all employers look for. This will be useful to you whatever direction you choose later.

The Higher course prepares the way for Advanced Higher Computing Science and University courses.