Higher Computing Science (Course Code: C816 76)

SCQF Level 6 (24 Credit Points)

Why study Computing Science?

Computing science is vital to everyday life – on social, technological and economic levels. It shapes the world in which we live and its future. Computing is embedded in the world around us, from systems and devices in our homes to our places of work. It has also changed the way we learn, relax, travel and communicate.

Learning computing science will give you many benefits apart from learning about technology. You will learn valuable transferable work and life skills, such as being able to solve problems in a logical way, think creatively and handle information.

The skills you learn in this course are useful in lots of different job areas. These include science, communications, entertainment, education, business and industry.

Career Pathways

To see what career areas this subject could lead to and the routes to get there, download and view these career pathways:

Computing and ICT

Engineering

Science and Maths

Transport and Distribution

Uniformed and Security Services

What do I need to get in?

The school or college will decide on the entry requirements for the course. You would normally have achieved:

- **National 5 Computing Science**

What will I study?

- The course consists of **four** areas of study.

Software design and development

You will:

- develop knowledge and understanding of advanced concepts and practical problem-solving skills in

software design and development

- develop modular programming and computational-thinking skills by analysing, designing, implementing, testing, and evaluating practical solutions and explaining how these programs work
- use your knowledge of data types and constructs to create efficient programs to solve advanced problems.

Computer systems

You will:

- develop their understanding of how data and instructions are stored in binary form and factors affecting system performance
- gain an awareness of the environmental impact of intelligent systems, as well as the security risks, precautions and laws that can protect computer systems.

Database design and development

You will:

- develop knowledge, understanding and advanced practical problem-solving skills in database design and development through a range of practical tasks, using a minimum of three linked tables and implemented in SQL
- apply computational-thinking skills to analyse, design, implement, test, and evaluate practical solutions, using a range of development tools
- apply interpretation skills to tasks involving some complex features in both familiar and new contexts.

Web design and development

You will:

- develop knowledge, understanding and advanced practical problem-solving skills in web design and development through a range of practical and investigative tasks
- apply computational-thinking skills to analyse, design, implement, test, and evaluate practical solutions to web-based problems, using a range of development tools including HTML, Cascading Style Sheets (CSS) and JavaScript
- apply interpretation skills to tasks involving some complex features in both familiar and new contexts.

How will I be assessed?

The course assessment has **two** components **totalling 120 marks**:

- Component 1: question paper – worth 80 marks
- Component 2: assignment – worth 40 marks.

The question paper has 3 sections. Section 1 is mandatory and you have the option of completing **either** Section 2 or Section 3:

- **Section 1**: Software design and development, and Computer systems - 55 marks
- **Section 2**: Database design and development - 25 marks
- **Section 3**: Web design and development - 25 marks.

For the assignment component there are 3 tasks. Task 1 is mandatory and you have the option of competing **either** Task 2 or Task 3:

- **Task 1**: Software design and development - 25 marks
- **Task 2**: Database design and development - 15 marks
- **Task 3**: Web design and development - 15 marks.

Both the question paper and the assignment are set and externally marked by the Scottish Qualifications Authority (SQA).

The grade awarded is based on the total marks achieved across course assessment.

The course assessment is graded A-D.

Study Materials

- [SQA Past Papers Computing Science Higher](#)
- [SQA Specimen Paper Computing Science Higher](#)
- [SQA Understanding Standards Computing Science](#)
- [BBC Bitesize Computing Science Higher](#)

What can I go on to next?

If you complete the course successfully, it may lead to:

- **Advanced Higher Computing Science**

Further study, training or employment in:

- Computing and ICT
- Engineering
- Science and Mathematics
- Transport and Distribution
- Uniformed and Security Services