National 5 Computing Science (Course Code: C816 75)

SCQF Level 5 (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

Science and Maths

Teaching and Classroom Support

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 4 Computing Science**

What will I study?

This course aims to help you develop a range of computing and computational thinking skills. You will learn how to analyse and solve problems. And, you will develop skills in design and modelling, developing, implementing and testing digital solutions across a range of contemporary contexts. You will also look at the legal and environmental impact of computing technologies.

The course has **four** areas of study.

Software design and development

You will:

- develop knowledge, understanding and practical problem-solving skills in software design and development, through a range of practical and investigative tasks using appropriate software development environments
- develop your programming and computational-thinking skills by implementing practical solutions and explaining how these programs work. Tasks involve some complex features (in both familiar and new contexts), that require some interpretation by you
- be expected to analyse problems, and design, implement, test and evaluate your solutions.

Computer systems

You will:

- develop an understanding of how data and instructions are stored in binary form and basic computer architecture
- gain an awareness of the environmental impact of the energy use of computing systems and security precautions that can be taken to protect computer systems.

Database design and development

You will:

- develop knowledge, understanding and practical problem-solving skills in database design and development, through a range of practical and investigative tasks.
- apply computational-thinking skills to analyse, design, implement, test, and evaluate practical solutions, using a range of development tools such as SQL
- carry out some tasks involving some complex features (in both familiar and new contexts), that require some interpretation by you.

Web design and development

You will:

- develop knowledge, understanding and 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 such as HTML, CSS and Javascript
- carry out tasks that involve some complex features (in both familiar and new contexts), that require some interpretation by you.

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.

For the assignment component, there are 3 tasks. Task 1 is mandatory, and you have the option of completing **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.

Your assignment will be set by the Scottish Qualifications Authority (SQA) and marked by a visiting SQA assessor.

The question paper will be set and marked externally by the SQA.

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

The course assessment is graded A-D.

Study Materials

- SQA Past Papers Computing Science National 5
- SQA Specimen Paper Computing Science National 5
- SQA Understanding Standards Computing Science
- BBC Bitesize National 5 Computing Science
- UShare Study Resources

What can I go on to next?

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

- **Higher Computing Science**

Further study, training or employment in:

- Computing and ICT
- Science and Mathematics
- Teaching and Classroom Support
- Transport and Distribution
- Uniformed and Security Services