COMPUTING SCIENCE – NATIONAL 4

What are the aims of this course:

- introduce and develop aspects of computational thinking across a range of contemporary contexts

♦ develop knowledge and understanding of key facts and ideas in computing science
♦ apply skills and knowledge in analysis, design, implementation and testing to a range of digital solutions
♦ communicate computing concepts clearly and concisely using appropriate terminology
♦ develop an understanding of the impact of computing science in changing and influencing our environment and society

What are the recommended entry levels for this course?

The Course is designed to build on prior learning. It is designed to be of value to all learners, especially those considering further study or a career in computing science and related disciplines.

What content is included in this course?

Software Design and Development: Learners will develop basic computational thinking and programming skills through practical tasks. Learners will also explore the impact of contemporary software-based applications on society or the environment.

Information System Design and Development: Learners will implement practical solutions using appropriate development tools to create databases, web-based information systems and multimedia information systems. Learners will also develop an understanding of basic computer hardware, software, and security issues through a range of practical and investigative tasks.

Computing Science Assignment(Added Value Unit): This Unit requires the learner to apply skills and knowledge from the other Units to analyse and solve an appropriate challenging computing science problem.

What skills will I develop?

Programming skills, independent working and thinking, working with others, problem solving, collaborative working, research and presentation

What learning and teaching approaches will I experience?

- active learning
- development of problem solving skills and analytical thinking skills
- practical investigation and inquiry
- appropriate and effective use of technology,
- building on the principles of Assessment is for Learning
- collaborative learning and independent thinking.

How will I be assessed? All Units are internally assessed. They will be assessed on a pass/fail basis within centres.

Both units have assessment in the form of written and practical tasks. The Assignment uses knowledge and skills gained through the Units to solve an appropriately challenging computing science problem.

What are the homework requirements?

There is at least one significant written piece of homework each week with ongoing learning homework after each class.

What are the possible progression routes?

Progression to National 5 Computing Science upon achieving a Pass at this level

Certification anticipated in:

To achieve the National 4 Computing Science Course, learners must pass all of the required Units including the Added Value Unit. Employability, enterprise and citizenship skills gained in this National Course provide automatic certification of Core Skill: ICT at SCQF level 4.