National 4/5 Computing

What are the aims of this course?

Computing is vital to everyday life; it shapes the world in which we live and its future. Computer scientists play key roles in meeting the needs of society in the following fields – science, communications, entertainment, business and industry.

The aims of these courses are to allow learners to:

§ Develop knowledge and understanding of key facts and ideas in computing science
§ Develop computational thinking
§ Analyse, design, model and evaluate a range of problems
§ Communicate clearly and concisely using appropriate technology
§ Understand the impact of technology in changing and influencing our society

What will I be learning about in this course?

There are 4 sections in the Nat 5 Computing Science course

· **Software Design and Development**
Learn the skills involved in designing, coding, testing and debugging computer programs. The main language used currently is Visual Basic.

· **Database Design and Development**
Learn the practical problem solving skills involved in designing, implementing and evaluating databases. The software used is Microsoft Access and SQL is used as a development tool.

· **Web Design and Development**
Learn how to design and create web sites with multimedia content taking into account effective user interface design and consistent navigation. The development tools used are: HTML, CSS and Javascript.

· **Computer systems**
This covers the following areas - data representation, computer structure, computer security environmental issues and legal implications.

What skills will I develop?

- § An awareness of the use of computers at work, in the home and for leisure activities;
- § A knowledge of computing systems and a confidence in making use of them;
- § A confident and informed attitude towards using computer technology in the future.
- § The ability to design, implement, test and maintain your own computer programs

Learners will have developed skills in analysis and problem solving, design and modelling, developing and implementing solutions and evaluating digital solutions.

What learning and teaching approaches will I experience?

A wide variety of learning and teaching approaches will be adopted – each suited to the individual part of the course being studied. These approaches will include teacher-led lessons and demonstrations, working in pairs and groups, whole class discussions, making use of the Interactive white board, quizzes and competitions and individual research.

How will I be assessed?

National 4 will be assessed **internally**. This will involve passing two mandatory units and a computing science based project which will be the Added Value unit.

National 5 will be assessed **externally** by means of an exam. There will also be a computing science based project which will be the Added Value unit which will focus on breadth, challenge or application.

What are the homework requirements?

Homework is given out on an extremely regular basis and could consist of the following:

- Answering written questions to reinforce knowledge gained in the class
- Preparing programs for implementation in the class
- Producing reports to back up printed evidence of practical activities carried out in class
- Learning necessary facts and reading over notes in preparation for exams

Homework is expected to be completed to a very high standard and to be handed in punctually.

What might this course lead to in the future?

There will be an opportunity for those who achieve success in National 5 to progress further in this subject by studying Higher Computing which in turn could lead to Advanced Higher Computing.