National 5
Course Unit Description

SOFTWARE DESIGN AND DEVELOPMENT
This Unit explores a range of key facts and ideas relating to software design and development. Pupils will develop skills in problem solving, modelling and evaluating through practical tasks using professional programming environments in a range of contemporary contexts, such as games development and intelligent systems. Learners will also explore the impact of emerging and innovative technologies on the environment and society.

INFORMATION SYSTEMS DESIGN AND DEVELOPMENT
This Unit explores a range of key concepts relating to information system design and development. Pupils will develop their knowledge and understanding of information system hardware, security, databases, web-based information systems and multimedia information systems through a range of practical and investigative tasks. Learners will also explore the impact of emerging and innovative technologies on the environment and society.

PURPOSE AND AIMS OF THE COURSE
Computing and information science 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 today and for the future, in fields which include science, communications, entertainment, education, business and industry. Our society needs more computer scientists and for all young people to have an informed view of the IT industry and its contribution to the economy.

♦ develop knowledge and understanding of key facts and ideas in computing and information science
♦ develop aspects of computational thinking in a range of contexts
♦ apply analysis, design, modelling and evaluation to a range of problems
♦ communicate clearly and concisely using appropriate terminology
♦ develop an understanding of the impact of computing and information technology in changing and influencing our environment and society

The study of computing and information science equips the pupil with an essential range of skills, including the ability to use computational thinking, an awareness of technological progress and trends, the relationship between software, hardware and system performance. These are used to explore a variety of specialist areas through practical and investigative tasks.

Holy Cross High School
Computing Science Department
www.holycross.sch.uk
Assessment  Information about assessment for the Course is included in the *Course Assessment Specification*, which provides full details including advice on how a learner’s overall attainment for the Course will be determined.

**Unit assessment**

All Units are internally assessed on a Unit-by-Unit basis or by combined assessment. They will be assessed on a pass/fail basis within centres. SQA will provide rigorous external quality assurance, including external verification, to ensure assessment judgements are consistent and meet national standards.

The assessment of the Units in this Course will be as follows:

**Software Design and Development (National 5)**

For this Unit, the learner will be required to provide evidence of:

- skills in software design and development
- knowledge and understanding of software design and development
- understanding of the impact of technologies on the environment and society

**Information System Design and Development (National 5)**

For this Unit, the learner will be required to provide evidence of:

- skills in information system design and development
- knowledge and understanding of information system design and development
- understanding of the impact of technologies on the environment and society

**Course Assessment**

Courses from National 4 to Advanced Higher include assessment of added value. At National 5, Higher and Advanced Higher, the added value will be assessed in the Course assessment. The added value for the Course will address the key purposes and aims of the Course as defined in the Course Rationale. It will do this by addressing one or more of breadth, challenge or application. In the National 5 Computing Science Course, added value will focus on:

- breadth
- challenge
- application

**SQA External Examination**

The question paper introduces breadth to the assessment. It requires depth of understanding and application of knowledge from the Units.

The learner will draw on, extend and apply the skills and knowledge they have developed during the Course. These will be assessed through a combination of an assignment and a question paper.

The Computing Science assignment adds value by requiring challenge and application. Learners will apply knowledge and skills from both Units to solve an appropriately challenging computing science problem.

**Progression**

Having successfully completed this course – learners can progress to Higher or SQA Unit Awards.