COMPUTING

ADVANCED LEVEL COURSES AS/A2

ST MARY'S COLLEGE

INTRODUCTION

Do you want to learn to program computers for yourself, rather than just using standard programs written by others? Are you interested in how computers work, or how they are linked together to create modern communication systems? If you are interested in any of these questions, then Computing at St Mary's College is the subject for you.

SINGLE AS

Content

Module	Assessment
Computer fundamentals: to include hardware, software, the presentation, structure and management of data, how data is transmitted and networked, the life cycle of systems development, the characteristics of information systems, and the implications of computer use.	50% of the total AS GCE marks • Written exam – 1½ hours • All questions compulsory • 100 marks
Programming techniques and logical methods: designing solutions to particular problems, how procedural programs are structured, the types of data and data structures, the common facilities of procedural languages, how to write maintainable programs, and how to test and run solutions.	50% of the total AS GCE marks • Written exam – 1½ hours • All questions compulsory • 100 marks.

How is the course delivered?

The course is delivered as a combination of practical work and theory. At the start of the course practical time will be spent learning to program. Theory is taught partly in the classroom and partly using the range of computerised learning aids which are available

Entry requirements

Students require five GCSE passes at higher grades, but there is no absolute restriction on subjects. We do however, strongly recommend that you have a grade C or better in maths

What skills will be developed?

- Thinking logically.
- Problem solving skills, and the ability to program computers.
- Presentation skills.

How does it build upon studies in Key Stage 4?

Topics such as operating systems, computer hardware and networks will not have been covered at GCSE. You will continue to use databases and spreadsheets but you will look at advanced functions within this software. Menu screens to customise the software will be developed for project work. Systems analysis, design and implementation will be an essential part of year two.

A2 LEVEL

Content

Module	Assessment
Advanced Computing Theory: to include the function of operating systems, the function and purpose of translators, how computer architectures are structured, how data is represented, how data is structured and manipulated, high level language programming paradigms, low level languages and how databases function.	30% of the total Advanced GCE marks • Written exam – 2 hours • All questions compulsory • 120 marks
Computing Project: a substantial piece of work over an extended period of time, which is organised, evaluated and presented in a report to cover the analysis, design, development, testing, documentation, and evaluation of a programmed solution to a real identified problem.	20% of the total Advanced GCE marks • Coursework • Internally assessed, externally moderated.80 marks

How is the course delivered?

The teaching methods used will be similar to those employed in the AS. However it will be expected that students will have developed as independent learners and thus be able to take more responsibility for their learning.

Entry requirements

A pass grade in AS Computing.

Progression routes

Knowledge and experience in the use of computers is an extremely valuable life skill which can assist in many forms of employment. Some students use A level Computing as a starting point for careers in computing, the sciences or engineering or as an entry qualification for an appropriate degree course. Others find it beneficial to careers in teaching or business.

Further Information

For further information please contact David Hendry

Full specifications can be found at www.ocr.org.uk

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