

A Level Computer Science

AIMS OF THE COURSE

This course aims to encourage students to develop:

- the capacity to think creatively, innovatively, analytically, logically and critically;
- an understanding of the organisation of computer systems, including software, hardware, data communications and people;
- the ability to apply skills, knowledge and understanding of computing, including coding in Python, SQL and JavaScript, in a range of contexts to solve problems;
- skills in project and time management;
- the capacity to see relationships between different aspects of the subject and perceive their field of study in a broader perspective;
- an understanding of the consequences of using computers, including social, legal, ethical and other issues;
- an awareness of emerging technologies and an appreciation of their potential impact on society.

COURSE CONTENT

- Characteristics of contemporary processors
- Software and software development
- Programming
- Exchanging data
- Data types, structures and algorithms
- Legal, moral and ethical issues
- The principles of computational thinking
- Problem solving and programming
- Algorithms to solve problems and standard algorithms
- Computing Project covering:
 - Analysis
 - Design
 - Development of code
 - Evaluation

A LEVEL ASSESSMENT (OCR H446)

Unit 1: Computer systems

40% of the A Level
2hr30min written exam

Unit 2: Algorithms and Programming

40% of the A Level
2hr30min written paper

Unit 3: Programming Project

20% of the A Level
Coursework

CAREER OPPORTUNITIES

In today's workplace, those with knowledge and skills in computing have the opportunity to pursue new and exciting careers and to be instrumental in the conception of computer systems that increasingly shape work and leisure activities.

It is envisaged that students will utilise the skills and knowledge of computing in one of three ways. Firstly, to provide a general understanding of the use of computer technology and systems, which will inform their decisions and support their participation in an increasingly technologically dependent society. Secondly, to provide the necessary skills and knowledge to seek employment in areas that utilise computing, where they may develop their skills and knowledge further through practical experience and training. Thirdly, students may choose to continue to develop their knowledge and understanding of computing through entry to higher education, where this qualification will provide a useful foundation for further study of computing or more specialist aspects of computing.

PRIOR LEARNING

Students will have been assessed in IT skills at Key Stage 3 and many will have followed a course in IT and Key Stage 4. Whilst not assuming the full knowledge and understanding of the subject at Key Stage 4, this course assumes that all students will have a basic understanding and knowledge of both the hardware and software of a standard, stand-alone computer system.

ENTRY REQUIREMENTS

The minimum entry requirements for Level 3 academic study apply. In addition, applicants will need to have achieved at least Grade 6 in Maths.

CTEC Level 3 Digital Media Single, Double and Triple award

AIMS OF THE COURSE

This qualification is designed for learners who have an interest in the media industry and want to study digital media concepts and production development. It allows them to study a wide range of different media industries and product types, such as Audio, Audio-visual and Print based media including Sound in Media, Photography and Animation. Learners will develop specialist knowledge, skills and understanding in the different media product types and sectors to prepare them for further study or employment in the digital media sector. There are a wide range of skills involved, including project management and utilising a wide range of ICT and writing skills which are highly sought after in today's ever-demanding and competitive job market.

There are three courses available: a single award (Extended Certificate) equivalent to one A Level, a double award (Diploma) equivalent to two A Levels and the triple award (Extended Diploma) equivalent to three A Levels.

ASSESSMENT

These qualifications are assessed by:

- External examinations - two for single award, three for double, four for Triple award.
- Internal assessment, where the subject teachers assess the learners work and OCR externally moderate it, organised at a time by the teacher. Learners will know their assessed grade within two days of the moderation visit and have the opportunity to resubmit improved coursework units for external moderation.

COURSE CONTENT

There are a wide range of units. Some are mandatory and some are optional that the Academy selects. See the information below for units that are studied in each award. Giving students a broad range of media products to study, allows students the opportunity to trial different areas to help inform them of their specialism to pursue.

PRIOR LEARNING

Students will have developed and been assessed in IT and Digital Media skills at Key Stage 3 and many will have followed the Level 2 course in Creative Media Production at Key Stage 4. Whilst not assuming the full knowledge and understanding of the subject at Key Stage 4, this course assumes that all students will have a basic understanding and knowledge of a range of media products, audiences, pre-production and planning techniques and some of the hardware and software required to design and create a media product. An initial assessment will make sure learners are capable of reaching the required standards of the qualification they intend to work towards.

CAREER / HIGHER EDUCATION OPPORTUNITIES

Learners will develop specialist knowledge, skills and understanding in their chosen area, to prepare them for employment in the digital media sector in job roles such as digital layout artists, assistant animators, production runners or freelance crew or for a media-related apprenticeship. It could also provide a route to a higher education media-related programme such as Digital Media, Media Production, Media and Communications, Journalism and Media, Digital Marketing. The University of Lincoln is one of many contributors to the writing of this course in addition to other education and industry specialists in digital media.

ENTRY REQUIREMENTS

The minimum entry requirements for Level 3 applied study apply.



SINGLE AWARD (EXTENDED CERTIFICATE)

The single award offers students a good starting point in learning about Digital Media – there are many key concepts and theorists’ theories to understand and apply to existing media products as a means of analysis, as well as when designing and creating your own solutions to meet the requirements of the client brief specifications. Single units studied are outlined below.

*Students will have an opportunity to choose a different scenario which is based on our visit to Harry Potter studios.

DOUBLE AWARD (DIPLOMA)

When students are studying the double and triple units, they are delving in to much more specialised units within Digital Media where you get the opportunity to try out various different types. We have attempted to pick units which give a broad range of skills to develop for each different media product type whilst mastering the production process.

TRIPLE AWARD (EXTENDED DIPLOMA)

Like double award before it, students opting for triple award get to complete a wider range of more specialised units not available on single or double award – you get to make use of more equipment, showcasing different skills with the inclusion of a research project.

SINGLE AWARD	DOUBLE AWARD	TRIPLE AWARD
Extended Certificate 360 GLH	Diploma 720 GLH	Extended Diploma 1080 GLH
Unit 1: Media Products and Audiences - Exam 90 GLH	Unit 4: Create an interactive media product - Coursework 60 GLH	Unit 5: TV and short film production - Coursework 60 GLH
Unit 2: pre-production and audiences - Exam 90 GLH	Unit 6: Social media and globalisation	Unit 15: Create audio-visual promos - Coursework 60 GLH
Unit 3: Create a Media Product - Coursework 60 GLH	Unit 7: Newspapers and the print media industry - Coursework 60 GLH	Unit 20: Advertising media - Coursework 60 GLH
Unit 16: Create sound for media - Coursework 60 GLH	Unit 8: Photography for digital media products - Coursework 60 GLH	Unit 23: Create a personal media profile - Coursework 30 GLH
Unit 21: Pitch a media product - Coursework 30 GLH	Unit 9: Comics and graphic novel storytelling - Coursework 60 GLH	Unit 25: Research for product development - Exam 120 GLH
Unit 24: Cross-Media Promotion - Coursework 30 GLH	Unit 10: Create a digital animation - Coursework 60 GLH	Unit 26: Application of converging technologies within a digital design proposal - Coursework 90 GLH

Double students will complete the single and double units, triple award students will complete single, double and triple units.