Creative Computing

Further Information
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Annual Intake: 20
Teaching hours per week: 4 hours lectures, 3 hours supervised labs, and 1 hour tutorial, workshop or project supervision.

Why Creative Computing?
Dual Honours Creative Computing requires a solid grounding in Computer Science, and for that reason the course shares some modules with Dual Honours Computer Science. However, it is a specialist course for students with an interest in the creative side of computing: topics such as computer animation, multimedia, web design, virtual worlds and games programming.

Career Opportunities
We anticipate that graduates of this course will move into employment within the creative industries, for example as computer animators, game designers and developers. In some cases the sector of employment may also relate to another Dual Honours degree subject, which will enable our students to offer a unique blend of skills to potential employers.

Course Outline
In the first year of study the emphasis is placed upon learning to design and write programs to solve problems. You therefore study both the algorithmic aspects of programming and the use of specialist animation packages with their own in-built languages for story-boarding. In addition, you learn about some of the fundamental concepts in computing and the way in which humans interact with technology.

The second year builds upon this foundation and introduces a number of different models for solving complex problems with computers. You examine some of the ways in which the web is used as a platform for delivering creative content, and learn to use virtual worlds as immersive three-dimensional creative environments. You also explore some of the professional and ethical issues in computing, and learn to develop sophisticated web applications and configure the servers on which these rely.

During the final year, you study a selection of more advanced and specialist topics. Each student also undertakes an individual project which continues throughout the year, culminating in a written dissertation.

The other side of this leaflet includes a complete list of modules and their descriptions, as well as a list of possible Dual Honours course combinations. Creative Computing is a popular combination with Music Technology. The rapid expansion of the use of computers to aid music composition, sound processing and recording has made skills in music software (whether for home, educational or professional use) very marketable. Combining these skills with skills in other creative software, such as computer animation, virtual worlds and computer games, clearly adds new dimensions to the career opportunities of graduates.

Other popular combinations include Creative Computing and Marketing and Creative Computing and Business Management. As business and entertainment move increasingly online, new opportunities are opening up. Whether through computer animations on web pages, or programmed marketing in virtual worlds and computer games, the benefits of reaching customers in new ways and using new marketing strategies are growing. The combination of technical computing skills and marketing knowledge will put graduates in good stead to work in this area.

Entry Requirements
Candidates do not have to have any qualifications or previous experience in computing. We do require that you have at least GCSE grade C (or equivalent) in both Mathematics and English.

Our typical offer is A-level grades BBC. There may be some flexibility for students who have chosen two AS levels in place of a third A2 subject.

We also welcome applications from candidates with non-traditional qualifications and equivalent international qualifications. Please see the online prospectus for details.

If you do not meet the above entry requirements, you can apply for our four year degree course Computer Science with Science Foundation Year.

About Keele
Keele University was founded in 1949, and is situated in a very beautiful and spacious campus in the middle of England, in the county of Staffordshire. All the student rooms, academic departments and lecture theatres, the library and IT facilities are on campus, making it a very convenient place for study.

From Keele campus there are regular bus services to the nearby towns and train stations and the central location of the University in the UK makes it easy to travel to cities and places of interest. Manchester international airport is only one hour away by road or rail, and London is two and a half hours away by rail.

The School of Computing & Mathematics has dedicated networked PC laboratories, which use the Microsoft Windows and Linux operating systems and provide a wide range of supported software. Access is available twenty-four hours a day, seven days a week. Additional facilities are provided for final year projects.

Further Information
For more detailed programme information please see:
www.keele.ac.uk/qao/programmespecifications

Slightly more detailed module information, for the current academic year, is available from:
www.keele.ac.uk/recordsandsexams/az
Course Combinations

Dual Honours Courses: UCAS
Creative Computing and... CGV4
Applied Psychology: GF46
Astronomy: GC4R
Biochemistry: GC4R
Biology: GC4R
Business Management: GN4F
Criminology: GM4X
English: GN4H
Film Studies: GN4H
Finance: GN4H
Forensic Science: GF44
Geography: GF48
Geology: GF48
History: GV4C
Human Biology: GC4D
Human Geography: GL4R
Human Resource Management: GN4P
International Business: GN4C
International Relations: GL4F
Law: GM4C
Marketing: GN4M
Mathematics: GG41
Music: GW4H
Music Technology: GJ49
Neuroscience: GB41
Philosophy: GV4M
Physical Geography: GF4V
Physics: GF43
Politics: GL4G
Psychology: GC4V
Sociology: GL43

Creative Computing with Science Foundation Year: G450
This four-year degree course is designed for students who wish to study Creative Computing but lack the necessary background qualifications.

See also:
Single Honours Courses: UCAS
Single Honours Computer Science: G400

Course Content (Modules)

First Year Modules

In the first year you will take the following four modules.

Fundamentals of Computing introduces the core concepts of the discipline, and acts as a foundation for other modules covering these topics in more detail. It enables students to understand the links between individual modules on their course, and to understand them properly in context.

Programming I introduces the fundamental concepts underlying computer programming together with techniques for applying these using a contemporary programming language. The module has a strong practical element.

Computer Animation and Multimedia provides students with an introduction to Computer Graphics, Animation, and Multimedia; and with appropriate programming and media development skills to design and develop Multimedia.

Information Systems and Interaction provides students with an introduction to Information Systems and an opportunity to apply the knowledge and understanding they gain to a practical task. It also explores the human-computer interface and introduces concepts, techniques and tools that support the analysis of needs for, and design of, system interfaces. The main focus is on web interfaces.

Second Year Modules

In the second year you will take the following four modules.

Requirements, Evaluation and Professionalism develops skills in the design and execution of empirical studies to gather evidence about software systems, methods and processes. It also covers requirements engineering and enables students to recognize the professional, economic, social, environmental and ethical issues involved in the development and use of computer technologies.

Web Technologies provides an understanding of Internet communication architectures (such as client-server) with reference to standard protocols, and enables students to develop multi-tier web applications and configure the servers on which these rely.

System Lifecycles and Design provides students with knowledge of the techniques and processes to undertake the design of a system once requirements and analysis activities have been completed.

Virtual Worlds introduces students to three-dimensional computer modelling, animation and programming and their use within the creative digital sector of the economy.

Third Year Modules

In the third year, you study a selection of more advanced and specialist modules. You also undertake an individual project which continues throughout the year under the supervision of a member of staff, culminating in a written dissertation. Dual Honours Creative Computing students take the first and choose two additional of the following modules.

Games Computing delivers comprehensive knowledge of a games engine and the theory and practice of computer game design, and explores the human factors involved in game design and interactive media environments.

Double Weighted Project enables students to undertake a project equivalent to two standard (15-credit) modules rather than one. This option can be used to tackle a larger or more complex problem.

Software Engineering Project Management provides an understanding of the scope of, and problems and techniques associated with, software engineering project management.

IT Architectures delivers the concepts, methods and tools involved in the IT architecture discipline, and examines the role of IT architects and software architecture within development projects. The module also outlines current architectural developments, such as service-oriented architectures. Students gain practical experience by undertaking a case study.

Communications and Networks extends students’ knowledge of principles and practice in communications and computer network technologies and their deployment.

Electronic Commerce provides a theoretical and practical understanding of the problems involved in the development of web-based electronic commerce applications.

Additional computing modules may be available to students whose other Dual Honours subject allowed them to elect to take the relevant precursor computing modules in their first and second years – see the Single Honours Computer Science leaflet, or entry in the prospectus, for a complete list.

Assessment

Most modules use a mixed assessment system involving an examination, typically two hours long, and some coursework, which could be a practical assignment tackled in your own time, a laboratory or tutorial exercise, or occasionally an essay. You will also have the opportunity to work as part of a group, which will provide valuable experience for future employment. The project forms an important part of the final year’s assessment. Our Learning and Teaching Support allows you to ask for help with any aspect of the course, including coursework.