UNIVERSITY FOR THE CREATIVE ARTS

PROGRAMME SPECIFICATION FOR:

BSc (HONS) CREATIVE COMPUTING[1]

PROGRAMME SPECIFICATION ACADEMIC YEAR 2020/21

This Programme Specification is designed for prospective students, current students, academic staff and potential employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the teaching, learning and assessment methods, learning outcomes and content of each unit can be found in the Unit Descriptors.

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[1] Formerly known as BSc (Hons) Creative Coding & Technology

Section A – Material Course Information

Validating Body	University for the Creative Arts.[2]
Teaching Body	University for the Creative Arts
Final Award Title and Type	BSc (Hons)
Course Title	Creative Computing

Course Location and Length	Campus: Canterbury	Length: Full-time - 3 years

Mode of Study	Full-time	✓	Part-time	

Period of Validation	2018/19 to 2022/23
Name of Professional, Statutory or Regulatory Body	Not Applicable
Type of Accreditation	Not Applicable
Accreditation due for renewal	Not Applicable

Entry criteria and requirements[3]

The standard entry requirements** for this course are:
•   112 UCAS tariff points from accepted qualifications*, or
•   Pass at Foundation Diploma in Art & Design (Level 3 or 4), or
•   Distinction, Merit, Merit at BTEC Extended Diploma, or
•   Merit at UAL Extended Diploma, or
•   112 UCAS tariff points from an accredited Access to Higher Education Diploma in appropriate subject

And four GCSE passes at grade A*-C and/or grade 4-9 including English Language (or Functional Skills English/Key Skills Communication Level 2).

Other relevant and equivalent Level 3 UK and international qualifications are considered on an individual basis, and we encourage students from diverse educational backgrounds to apply.

You will be asked to attend an Applicant Day for interview and where appropriate, we will review your Creative Portfolio.

If your first language is not English, you will need an IELTS score of 6.0 or equivalent. If you require a visa to study in the UK, you will also need a minimum score of 5.5 in each individual component.

*To see the accepted QCF qualifications, visit: http://uca.ac.uk/study/accepted-qualifications/

** We occasionally make offers which are lower than the standard entry criteria, to students who have faced difficulties that have affected their performance and who were expected to achieve higher results.

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[2] Regulated by the Office for Students
[3] This should be the standard University Criteria unless otherwise approved by the Academic Board and include UCAS entry profile for undergraduate courses.

Overall methods of assessment.[4]	Written exams:	Practical exams:	Coursework:
Stage 1	0%	0%	100%
Stage 2	0%	3.3%	96.7%
Stage 3	0%	0%	100%

Overall Learning & Teaching hours.[5]	Scheduled:	Independent:	Placement:
Stage 1	34.2%	65.8%	0%
	410 hours	790 hours	0 hours
Stage 2	34.2%	65.8%	0%
	410 hours	790 hours	0 hours
Stage 3	22.3%	77.7%	0%
	268 hours	932 hours	0 hours

General level of staff delivering the course.[6]	The University's current recruitment policy for Lecturers and Senior Lecturers states that they must have either an MA or equivalent professional practice in a relevant discipline or field. All lecturing staff are encouraged to work towards a teaching qualification or professional Recognition by the Higher Education Academy and this is a requirement for Senior Lecturers. Senior Lecturers are required to be professionally active or engaged in research in their discipline. All Lecturers and Senior Lecturers undertake scholarship in their disciplines. There are also Sessional Staff to link courses with professional practice and Technicians to provide technical support.
Language of Study	English

Subject/Qualification Benchmark Statement: QAA Art & Design and Computing Benchmark Statement
Framework for Higher Education Qualifications (FHEQ)

The course structure

The structure of all of the University's awards complies with the University's Common Credit Framework. The Common Credit Framework includes information about the:
- Rules for progression between the stages of a course;
- Consequences of failure for reassessment, compensation and exit awards;
- Calculation and classification of awards;

Unit codes and titles	Level	Credit value	Elective/ Core	Most popular student choice of optional elective units or elective options in core

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[4] As generated by the most popular unit descriptors and calculated for the overall course stage data.

[5] As generated by the most popular unit descriptors and calculated for the overall course stage data. .

[6] Include general information about the experience or status of the staff involved in delivering the course, for example Professor, Course Leader, Senior Lecturer

				units?
Year 1/Stage 1				
CCOM4002 Creative Thinking	4	30	Core	
CCCT4001 Context & History	4	20	Core	
CCOM4003 Screen Space	4	20	Core	
CCOM4004 Creative Coding 01 (Lexicon)	4	30	Core	
CCOM4005 Hardware Hack	4	20	Core	
Year 2/Stage 2				
CCOM5002 Creative Coding 02 (Objects)	5	40	Core	
CCOM5001 Context & Theory	5	20	Core	
CCOM5003 CoLAB 01 (Diverse Practice)	5	20	Elective	Yes
CCOM5004 Fabricate	5	40	Elective	Yes
Study Abroad with Host Institution	5	60	Elective	No
Year 3/Stage 3				
CCOM6002 Pitching and Prototyping	6	20	Core	
CCOM6001 Research Thesis	6	20	Core	
CCOM6003 CoLAB 02 (Entrepreneurial Practice)	6	20	Core	
CCOM6004 Major Project	6	60	Core	

Section B - Course Overview

What:
BSc (Hons) Creative Computing offers an exciting opportunity for students to develop a transdisciplinary approach to computer coding and technology, through art and design practice and philosophy. As a student on the course, you will develop a rich and diverse skillset in computer coding, software and hardware design, as well as making and fabricating.

Graduates of the course will able to demonstrate a breadth of skills and expertise, which are in great demand from both established, and emerging creative and technical industries. The rapid growth of the design and technology sector presents an unprecedented opportunity for graduates with the right training to work on cutting edge projects with pioneering companies and collectives.

Employment destinations for graduates of this course include; Software Development, Virtual and Augmented Reality, Interaction Design, Robotics, Games and Exhibition Design.

Where:
The course is situated within the highly-respected Canterbury School of Architecture at UCA and shares with it many industry leading resources in the areas of digital design, fabrication, and spatial interaction. The School has a globally recognised history of developing and nurturing well rounded, confident, and highly skilled graduates.

The alignment of the Creative Computing course within the school of architecture allows the course to leverage this holistic "art school" approach to teaching code and physical computing, which enables the course team to deliver an innovative curriculum, and will enable you to develop a critical methodology in skill acquisition and project development, qualities which greatly enhance employability, and your ability to adapt to an ever-evolving industry.

The context of a creative computing degree course within a creative arts university, and specifically

within a school of architecture, means the course can offer an alternative and increasingly more relevant approach to computation and digital media, than a traditional computer science degree.

Why:
Students at all stages of primary and secondary education are now learning to programme and understand how to control the world of technology around them. The Creative Computing course offers a natural progression for these students to higher education, building on existing skills, but also providing a foundation for those coming from art and design, and other alternative pathways too.

How:
Through a carefully designed, diverse, and challenging curriculum over three years, you will acquire a breadth of knowledge, expertise and confidence, which will prepare you for the technology related jobs of the future.

The first year of the course introduces core skills in coding, design communication and electronics, which are supplemented through contextual studies. The first year of the course provides many opportunities to balance the your collective skill set.

The focus in year 2 of the course is on further developing and enhancing your knowledge and abilities in several key programming languages. By the end of second year you will be able to confidently transition between programming languages, identifying the benefits and suitability of languages for specific uses.

Also in second year you will be introduced to the world of enterprise and practice. Having a solid foundation of knowledge in the areas of business management for small teams, or freelance practice, will be of huge benefit to you when you finish your degree and move onto the world for work.

Fabrication and larger scale making become a key focus in the second half of second year, developing new skills in digital fabrication and spatial thinking, and providing an opportunity to put into practice your coding and physical computing skills, in the production of interactive spaces.

By the time you have reached third year, you will have discovered a specific area of the coding and technology world which you wish to investigate further, through the research thesis unit in term 1. The thesis is the culmination of the contextual studies subject area, which runs through the first and second year of the course, providing an opportunity to produce a piece of well researched, and well-articulated writing.

Alongside the research thesis, the other units in term 1 of third year will help to focus your skills and confidence in presenting yourself, your unique qualities and expertise to potential employers or clients post-graduation.

The whole of the second half of the third year is dedicated to discovery, research, planning, and production of your individual final major project. This project will become the set piece in your portfolio, demonstrating your skills in coding, and expertise in your chosen field of research.

Section C - Course Aims

A1   Provide a dynamic first degree in creative coding, nurturing individual strengths for those who will go on to practice creative coding and other related practices such as data visualisation, interactive art installation and creative software applications.

A2   Prioritise the research, understanding and critique of current social and political issues placing these at the forefront of brief preparation, interrogation, and project development.

A3   Use the study of the history, current practice and future directions of the creative coding disciplines within their cultural and social context to develop knowledge and understanding of creative coding's role as a catalyst for change.

A4   Use technology as a source of inspiration from the initial stages of projects.

A5   Situate creative coding in relation to architectural and fine art practices and promote dialogue and the acquisition of skills and techniques across these related disciplines.

A6   Develop skills in a range of haptic, digital, and space-transforming techniques.

A7   Develop an understanding of the designers' role in society and the professional contexts of computational design and interactive arts, including the development and implementation of collaborative and team skills.

A8   Promote the importance of a synoptic approach to project design and explore how different demands and opportunities might be prioritised critically by the designer.

A9   Provide a deep understanding of the technical implications and opportunities presented when working in convergent practice, such as material systems, electronics, parametrics and algorithmic design.

Section D - Course Outcomes

Upon successful completion of the course students are able to:

Knowledge

LO1. Have knowledge of a broad range of contemporary programming languages and development environments.

LO2.Identify and utilise all aspects of the project development process.

LO3. Demonstrate awareness of convergent and related practices and identify opportunities to leverage their unique skills across disciplines.

Understanding

LO4. Understand the cultural and societal role that creative coding might play in enabling dialogue and debate of complex issues, situating their practice accordingly.

LO5. Comprehend the deepening physical and metaphysical relationships humans have with computer systems in the fields of AI, robotics, and cybernetics.

LO6. Understand relevant business models and practice approaches, and the value of communication and team working.

Application
LO7. Develop comprehensive projects in a range of related subjects to a very high standard.

LO8. Apply practical understanding of electronic and making skills in combination with software and coding abilities.

LO9. Edit, organise, and present work to a professional standard, employing appropriate processes and workflows, and making use of digital platforms for the dissemination of work.

Section E - Learning, Teaching and Assessment

Learning and Teaching Strategy

The School of Architecture has a well-established studio based approach to developing communities of practice within and across courses. This approach directly mirrors the experience in design practice and engenders and healthy peer support and learning mechanism, which augments and enhances the taught curriculum. These communities of practice have been seeded and nurtured in more general terms within the design studios in the school, as well as in specific subject areas such as the FabLAB and the recently developed TrakLAB. The open access nature of these resources has led to a natural coalescing of interested parties, facilitating discovery, independent learning, and the dissemination of new knowledge to the wider community.

The Creative Computing course will sit within this framework of cross disciplinary communities of practice, enriching the existing base with new approaches, technologies, and ideas.

The course follows an approach similar to most design subjects, of studio brief project development; which encourage an iterative process, consisting of discovery, definition, experimental development and delivery. These stages are the foundation for all design development exercises and are emphasised in each unit appropriately.

Prior to, or in the early stages of engagement with design briefs, students are "pre-loaded" with appropriate skills and technologies through practical skills workshops and seminars. These workshops offer a flexible approach to skills development, setting a datum of understanding for the whole cohort, but supporting those who wish, to exceed it. The course engages with the wider university teaching and learning departments through these workshops, for example engaging with Library and Gateway Services team for research methodologies workshops, and with the Central Resources team for practical skills workshops.

The course recognises the importance of providing education for sustainable design and has embedded this agenda within its philosophy. These include a focus on independent lifelong learning, recognising the importance of cross disciplinary collaboration, situating one's own practice and identifying destinations and employment opportunities. The course programme also emphasises the importance of an international approach to collaboration, learning and dissemination. This is especially relevant for courses such as Creative Computing as the community is truly global, and the nature of computing negates issues of border and language.

A flexible online learning strategy is a cornerstone of the course and its teaching strategy. Extensive use will be made of the UCA online learning systems, MyUCA, to deploy course materials, unit handbooks and other communications. To augment these systems, students will also make use of online blogging platforms to document their project development and learning. Tools such as GitHub will become a platform for the sharing and collaboration of code and an open source attitude to production and licencing will be encouraged.

The course is designed around an inclusive agenda, providing flexibility in all aspects of teaching, learning, and assessment, to adapt to different learners needs as required, enabling all students to reach their maximum potential. All students are encouraged to develop an independent approach to

learning, respecting and learning from, the culturally diverse community they are a part of.

Students in stage 2 have the opportunity to study abroad, at an appropriate and equivalent institution, for the whole of term 2, acquiring sixty credits from the host university. This is optional but provides a valuable opportunity for those students who wish to diversify their learning experience, to travel and study abroad.

Employer and industry engagement is a key feature of the course, maintaining a constantly "live" link between the course delivery and the context of current practice. This is enabled by engaging current practitioners as studio tutors, visiting lecturers and guest critics.

Assessment Strategy

The course assessment strategy is designed in line with the QA guidelines on inclusive and diverse assessment. Throughout the course several assessment typologies are deployed. These might be best categorised as summative or formative types of assessment.

Formative assessment occurs on a continual basis throughout the course at the level of "tutorial", but is also more formally engaged with at key interim moments in projects where peer assessment or design crit assessment methods are utilised. In both of these instances students present their work visually and orally to their peers and/or guest critics. Feedback at formative assessment points does not affect grading, rather it provides an indication to the student, of their progress and trajectory.

Summative assessment takes place at the end of units and for most units will involve the production of a digital design portfolio which demonstrates design process and outcomes. Summative assessment involves team marking and moderation to ensure a fair and unbiased grade is given to each piece of work.

The criteria and timetable for assessment is clearly presented within each unit handbook and is discussed at length in project introductions and reiterated at formative and summative assessment points.

Given the profoundly digital nature of the course, the use of online tools to enhance assessment and feedback is utilised. Design blogs and comment-enabled code repositories provide opportunities for the course team and the wider community of engaged practitioners and outside institutions to respond and provide formative comment on student work.

Section F - Enhancing the Quality of Learning and Teaching

The course is subject to the University's rigorous quality assurance procedures which involve subject specialist and internal peer review of the course at periodic intervals, normally of 5 years. This process ensures that the course engages with the applicable national Subject Benchmarks and references the Framework for Higher Education Qualifications.

All courses are monitored on an annual basis where consideration is given to:
- External Examiner's Reports
- Key statistics including data on retention and achievement
- Results of the Student Satisfaction Surveys
- Feedback from Student Course Representatives