Queen Mary
University of London

Programme Specification

Awarding Body/Institution	Queen Mary University of London
Teaching Institution	Queen Mary University of London
Name of Final Award and Programme Title	Bachelor of Science (Engineering) Creative Computing
Name of Interim Award(s)	Bachelor of Science (Engineering)
Duration of Study / Period of Registration	3 Years FT
QM Programme Code / UCAS Code(s)	I152
QAA Benchmark Group	Engineering
FHEQ Level of Award	Level 6
Programme Accredited by	
Date Programme Specification Approved	
Responsible School / Institute	School of Electronic Engineering & Computer Science

Schools which will also be involved in teaching part of the programme
School of Engineering & Materials Science
School of Languages, Linguistics & Film
School of Geography

Institution(s) other than Queen Mary that will provide some teaching for the programme
N/A

Programme Outline

This programme is intended to respond to a growing demand in the industry for graduates with a high level of training in creative multimedia production, multimedia social networks, computer-driven animation, multimedia scripting, interactive multimedia design, 3D graphics, web-based advertisement production, and management and planning of media assets. The programme aims to access a new population of better quality and better motivated undergraduate students by exploiting the unique competencies within EECS that shall be complemented by relevant courses from the Humanities and Social Studies faculty. The programme is designed to respond to the demand from the creative sector that requests for people who can combine technical and creative skills, as demonstrated from our experience with the industries linked with the MAT Doctoral Training Centre - http://www.mat.qmul.ac.uk/

The Creative Industries form some 7% of the UK economy, similar in size to the financial services industry, with export of

Queen Mary
University of London

services of nearly £15bn in 2005 (DCMS, Creative Industries Economic Estimates Statistical Bulletin, October 2007). During 1997-2005 they grew by 6%, double the overall UK economic growth, making them important not just to the UK Digital Economy, but to the UK economy as a whole. Yet the Creative Industries are unlike almost every other industry, with a small number of large players complemented by a very large number of small businesses, micro-businesses, and individuals. Training students with the skills to maintain the UK's position as a world leader in the Creative Industries will be a particularly important challenge - which the Doctoral Training Centre in Media and Arts Technology has already started addressing at graduate level. We want now to naturally complete our training provision with this undergraduate programme.

Aims of the Programme

This programme covers fundamental aspects of the digital economy, creative multimedia production, computer-driven animation, multimedia scripting, interactive multimedia design, 3D graphics, web-based advertisement production, and management and planning of media assets. Graduates from this programme will effectively combine technical and creative skills. The programme aims to emphasise computer systems, digital installations and software with a special focus on new media creation; to provide a core knowledge of media production, multimedia system design; to focus on the increasingly important area of 3D graphics and computer-driven animation; to emphasise scripting and production aspects of media creation; to equip the students with the practical skills needed to modify and test a piece of software and hardware; to enable the students to develop the written and oral communication skills needed to present information, both in written and multimedia form, effectively.

The career opportunities for the graduates from this programme are in the (interactive) media production, music and game industry, internet, communications and consumer industries. The blending of technical courses with business and arts courses will equip the graduates with the skills that are necessary to understand and to contribute to the modern arts and media sectors of the digital economy.

What Will You Be Expected to Achieve?

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills and other attributes in the following areas. The programme outcomes are referenced to the relevant QAA benchmark statement(s) (see above) and the Framework for Higher Education Qualifications in England, Wales and Northern Ireland (2008), and relate to the typical student. Additionally, the SEEC Credit Level Descriptors for Further and Higher Education 2003 and Queen Mary Statement of Graduate Attributes have been used as a guiding framework for curriculum design.

Academic Content:	
A 1	Audio/Video data capture and processing, and an understanding of how these systems can be used creatively for audiovisual and computer-based content production
A 2	Principles of operation, limitations, potential and effective use of electronic media and their associated tools and technologies
A 3	Design, project and people management principles and techniques

Disciplinary Skills - able to:	
B 1	Analyse information and experiences, formulate independent judgements, and articulate reasoned arguments through reflection, review and evaluation
B 2	Source, navigate, select, retrieve, evaluate, manipulate and manage information from a variety of sources
B 3	Formulate reasoned responses to the critical judgements of others

Attributes:	
C1	Work independently on a practical or research-based project under supervision
C2	Work effectively as part of a team, identifying tasks and roles, and managing time, resources and progress appropriately
C3	Apply technical knowledge, understanding and skills in new situations

QMUL Model Learning Outcomes - Level 4:	
D1	Identify and discuss their own career aspirations or enterprise skills and knowledge and how they impact on others
D2	Identify and discuss what their own role in their programme and/or subject discipline might mean to them for future (
D3	Discuss socio-cultural values and practices with others

How Will You Learn?

The teaching, learning and assessment strategies will be tailored to the learning outcomes of the different modules. These will include lectures, practical and library-based research, presentations, group work and knowledge transfer activities. Lectures are used to introduce principles and methods and also to illustrate how they can be applied in practice. Practical and library-based research allows students to develop skills in review, investigative methods and critical analysis. Presentations and group work enhance students' team-working and communication skills. Knowledge transfer activities increase students' awareness of the broader context of their discipline and supports them in translating their knowledge, understanding and skills to that broader context.

How Will You Be Assessed?

Taught modules will be assessed through a combination of examinations (EXM), coursework (CWK), portfolio and performance (PRA), as appropriate for the content and focus of each individual module. Project modules (DIS) will be examined on the basis of a final written report, a formal oral presentation, and a demonstration of the software / hardware / installation developed by the student.

How is the Programme Structured?
Please specify the full time and part time programme diets (if appropriate).

The BSc(Eng) Creative Computing will be a single programme with four pathways as electives: creative production pathway,

society and geopolitics pathway, design pathway and advanced programming pathway. The programme includes a number of modules that bridge the gap between creative arts and technology to cater to the current industrial demand. The BSc(Eng) Creative Computing will contain compulsory and elective modules as specified below.

Year 1 Modules
Semester 1
ECS405U Arts Application Programming (15 credits)
ECS406U Bridging Arts Technology (15 credits)
ECS427U Professional and Research Practice (15 credits)
DEN126 Studio Practice Year 1 (30 credits)
Semester 2
ECS415U Introduction to Audio (15 credits)
ECS416U Introduction to Multimedia (15 credits)
ECS417U Fundamentals of Web Technology (15 credits)
DEN126 Studio Practice Year 1 (cont. 30 credits)
Semester 1 and 2
ECS422U Skills for Electronic Engineering and Computer Science (non-credit bearing module)

Year 2 Modules
Semester 3
ECS507U Website Design and Authoring Tools (15 credits)
ECS511U Creating Interactive Objects (15 credits)
ECS521U Interactive Media Design and Production (15 credits)
Select a stream from the following:
Students must follow the same stream over Semesters 3 and 4
Stream A (Technology):
Plus one module from:
ECS505U Software Engineering (15 credits)
ECS524U Internet Protocols and Applications (15 credits)
Stream B (Geography/Media):
GEG5126 Cultural Geographies (15 credits)
Stream C (Film: Production):
and one module from:
ECS505U Software Engineering (15 credits)
ECS524U Internet Protocols and Applications (15 credits)
Stream D (Design):
DEN212 Design Studio (30 credits)
Semester 4
ECS512U Sound Design (15 credits)
ECS520U Group Creative Project (15 credits)
Follow the stream selected in Semester 3:
Stream A (Technology):
ECS519U Database Systems (15 credits)
ECS522U Graphical User Interfaces (15 credits)
Stream B (Geography/Media):
ECS522U Graphical User Interfaces (15 credits)
GEG5127 Society and Space (15 credits)
Stream C (Film: Production):
FLM403 Production Skills (30 credits)
Stream D (Design):
ECS522U Graphical User Interfaces (15 credits)
DEN212 Design Studio (cont. 30 credits)

Final Year
Semester 5
ECS625U Project (30 credits)
Plus two modules from:
ECS604U Entrepreneurship in Information Technology (15 credits)

Programme Title: BSc (Eng) Creative Computing

ECS607U Data Mining (15 credits)
ECS610U Computer Graphics (15 credits)
ECS614U Sound Recording and Production Techniques (15 credits)
ECS638U Design for Human Interaction (15 credits)
ECS639U Web Programming (15 credits)
ECS650U Semi-Structured Data and Advanced Data Modelling (15 credits)
Semester 6
ECS625U Project cont (30 credits)
ECS612U Interaction Design (15 credits)
ECS637U Digital Media and Social Networks (15 credits)
Plus one module from:
ECS622U Product Development (15 credits)
ECS624U C++ for Image Processing (15 credits)
ECS629U Artificial Intelligence (15 credits)
ECS647U Bayesian Decision and Risk Analysis (15 credits)
FLM6201 Creative Production (15 credits) –Programme Co-ordinator approval required

QMUL Model

Students are required to undertake the equivalent of one module (15 credits in 2017/18) per year of study which has been identified as meeting the requirements of the QMUL Model. Each of these modules has been designed to combine the best of QMUL's academic excellence with your ability to identify and develop your skills, networks and experience. This will help to ensure you become a graduate who can undertake further study or secure graduate employment in areas that interest you, and will support your ability to position yourself to find the right job or opportunity for you. The relevant module for your first year of study in 2017/18 is indicated below.

Where more than one module is specified, this is because pertinent elements from these modules have been identified as being appropriate to the QMUL Model and when studied together, deliver the equivalent content of one 15-credit QMUL Model module.

The QMUL Model modules for future years and associated Learning Outcomes will be identified as your studies continue.

Should Professional, Statutory and Regulatory Body requirements apply to your programme of study, these will be taken into account in the specification of QMUL Model requirements.

Academic Year of Study   FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Professional and Research Practice	ECS427U	15	4	Compulsory	1	Semester 1	Yes

What Are the Entry Requirements?

A/AS-levels

Tariff/Grades requirement: ABB(320 points)GCSE Maths grade B or above.

Vocational or applied A-levels
Acceptability: Accepted and subject to the above tariff requirements for A/AS-levels. Additional information: Must be in related subject, Creative Media OR ICT/Computing.

BTEC Extended Diploma
Pass with D*D*D in Creative Media or ICT/Computing with grade B in GCSE Maths.

BTEC Diploma (120 Credit)
Pass with DD in Creative Media or ICT/Computing with grade B in A-level Maths.

BTEC Subsidiary Diploma (60 Credit)
Pass with D*. These qualifications are acceptable ONLY if offered with two appropriate A-levels ie Maths/ICT grade B.

HNC
These qualifications will be considered on a case by case basis.

HND
These qualifications will be considered on a case by case basis.

Access
Pass with 45 credits in Access in Computing at level 3, of which 30 credits must be Distinction and 15 credits at Merit or Higher. An additional entry maths test will be required if you do not hold a grade B or above in GCSE Mathematics.

International Baccalaureate
Acceptability: Acceptable on its own and combined with other qualifications. Subjects and grades required: 32 points overall. Must include SL English grade 4 or above.

IELTS 6.0(must have 5.5 in all components)

How Do We Listen and Act on Your Feedback?

The Staff-Student Liaison Committee provides a formal means of communication and discussion between Schools and its students. The committee consists of student representatives from each year in the school/institute together with appropriate representation from staff within the school/institute. It is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments. Staff-Student Liaison Committees meet regularly throughout the year.

Each school operates a Learning and Teaching Committee, or equivalent, which advises the School/Institute Director of Taught Programmes on all matters relating to the delivery of taught programmes at school level including monitoring the application of relevant QM policies and reviewing all proposals for module and programme approval and amendment before submission to Taught Programmes Board. Student views are incorporated in this Committee's work in a number of ways, such as through student membership, or consideration of student surveys.

All schools operate an Annual Programme Review of their taught undergraduate and postgraduate provision. The process is normally organised at a School-level basis with the Head of School, or equivalent, responsible for the completion of the school's Annual Programme Reviews. Schools/institutes are required to produce a separate Annual Programme Review for undergraduate programmes and for postgraduate taught programmes using the relevant Undergraduate or Postgraduate Annual Programme Review pro-forma. Students' views are considered in this process through analysis of the NSS and module evaluations.

Academic Support

All students are assigned an academic adviser during induction week. The adviser's role is to guide advisees in their academic development including module selection and to provide first-line pastoral support.

In addition, the School has a Senior Tutor for undergraduate students who provides second-line guidance and pastoral support as well as advising staff on related matters.

Programme Title: BSc (Eng) Creative Computing

The School also has a Student Support Officer who is the first point of contact regarding all matters.

Every member of Teaching Staff holds 2 open office hours per week during term time.

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Programme-specific Rules and Facts

n/a

Specific Support for Disabled Students

Queen Mary has a central Disability and Dyslexia Service (DDS) that offers support for all students with disabilities, specific learning difficulties and mental health issues. The DDS supports all Queen Mary students: full-time, part-time, undergraduate, postgraduate, UK and international at all campuses and all sites.

Students can access advice, guidance and support in the following areas:
• Finding out if you have a specific learning difficulty like dyslexia
• Applying for funding through the Disabled Students' Allowance (DSA)
• Arranging DSA assessments of need
• Special arrangements in examinations
• Accessing loaned equipment (e.g. digital recorders)
• Specialist one-to-one "study skills" tuition
• Ensuring access to course materials in alternative formats (e.g. Braille)
• Providing educational support workers (e.g. note-takers, readers, library assistants)
• Mentoring support for students with mental health issues and conditions on the autistic spectrum.

Links With Employers, Placement Opportunities and Transferable Skills

The School of Electronic Engineering & Computer Science has a wide range of industrial contacts secured through research projects and consultancy, our Industrial Experience programme and our Industrial Board.

The Industry Panel works to ensure that our courses are state of the art and match the changing requirements of this fast moving industry. The Panel includes representatives from a variety of Electronic Engineering & Computer Science orientated companies ranging from SMEs to major blue-chips. These include: Microsoft Research, Royal Bank of Scotland, BT Labs, Oaklodge Consultancy, Intel Research, The Usability Company, Hewlett Packard Labs and Arclight Media Technology Limited

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Programme Specification Approval

Person completing Programme Specification

Programme Title: BSc (Eng) Creative Computing

Person responsible for management of programme	
Date Programme Specification produced/amended by School Learning and Teaching Committee	
Date Programme Specification approved by Taught Programmes Board	