Programme Specification (UG)

Awarding body / institution:	Queen Mary University of London
Teaching institution:	Queen Mary University of London
Name of final award and programme title:	BSc Computer Science with Management (ITMB) with Industrial Experience
Name of interim award(s):	Cert HE, Dip HE, BSc(Eng)
Duration of study / period of registration:	4 years FT
QMUL programme code / UCAS code(s):	I9NY
QAA Benchmark Group:	Computing
FHEQ Level of Award :	Level 6
Programme accredited by:	Tech Partnership The Chartered Institute for IT (BCS)
Date Programme Specification approved:	
Responsible School / Institute:	School of Electronic Engineering & Computer Science

Schools / Institutes which will also be involved in teaching part of the programme:

School of Business & Management

Institution(s) other than QMUL that will provide some teaching for the programme:

Tech Partnership

Programme outline

The Computer Science with Management (ITMB) degree has been developed by Tech Partnership as a collaboration between some of the UK's leading companies and universities. The programme gives you a broad knowledge of the IT industry, ensuring that you obtain both technical and business knowledge and skills.

This degree contains systems and software elements, including Fundamentals of Web Technology and Computer Systems and Networks, alongside key business modules such as Fundamentals of Management, Marketing and Financial Accounting.

Although this is a 3-year programme, there are opportunities for short industry placements (i.e. over the summer) identified with a large network of employer organisations supporting the degree programme. Industry involvement is fundamental to this degree and this is seen in the unique features offered to you including Industry Insight Lectures, access to business mentors, industry visits and access to a growing student and employer community. An active alumni network is also forming to help graduates with additional networking opportunities.

Graduates of this degree will be ready for roles in IT management, business strategy and planning, system design and IT

consultancy. In addition, we hold events, which are solely aimed at students on our Computer Science with Management (ITMB) degree. There are two student events every year where students in this programme have the opportunity to meet industry practitioners and employers who are involved in the degree. Students have the opportunity to attend interview sessions, and enter competitions which involve work experience prizes.

There are weekly student-led Tech Community meetings, where you will have the opportunity to further develop professional skills, such as interview techniques, CV writing etc.

Aims of the programme

The aim of this programme is to produce IT management graduates who are capable of making a real contribution to their new employer within a few months of graduation. It will equip students with key business, technology, interpersonal and project management skills that have been identified by employers and it will produce graduates with:-
• a broad background of business operations, procedures and culture applicable to a career in an IT environment
• sufficient technical knowledge to play a key role in an IT related environment
• personal and interpersonal skills enabling them to work closely and communicate with employees in non-IT related areas of an organisation
• a set of problem-solving and modelling skills appropriate to IT related business operations
• sufficient management and business knowledge to play a management role in an IT project
• with business experience in a project oriented environment

What will you be expected to achieve?

Students who successfully complete the degree programme should be able to achieve the learning outcomes listed in the table below.

QMUL Model

The QMUL Model is an innovative teaching and learning initiative that will broaden opportunities for Queen Mary undergraduates within and beyond higher education, supporting them to plan and manage their ongoing professional development. The Model is firmly grounded in the core QMUL values of respect for, and engagement with, the local area and communities, with a distinctive focus on enabling students to make a positive societal impact through leadership in their chosen field. The Model is organised around the key themes of:

- networking

- multi- and inter-disciplinarity

- international perspectives

- enterprising perspectives.

Students are required to study QMUL Model modules to the value of at least 10 credits at each year of undergraduate study. Model modules may be 5, 10 or 15 credits. Model modules are indicated within this programme specification.

In your first year of study, the Model module will be core or compulsory and will be situated within your home School or Institute. In subsequent years, students will be strongly encouraged to study at least one Model module beyond their home discipline(s), which could, for example, be in another School / Institute or area of QMUL or undertaken as a module outside of QMUL.

If Model module information is not provided on this programme specification for all subsequent years of study, this will be identified as your studies continue.

Where a Model module elective can be selected from an approved group of Model modules, no guarantee can be provided that your first choice of Model module will be available.

Academic Content:

A1	Knowledge and skills related to the key field of software engineering, including the ability to design, implement and test algorithms and larger programmes in a rigorous and principled way, and detailed understanding of the software development life-cycle, relevant methodologies and tools.
A2	Knowledge and skills related to the key field of computer systems, including understanding of the principles of computer architecture, operating systems and networks, and the ability to use specific techniques for small-scale implementations.
A3	Knowledge and skills related to the key field of applications, including understanding of some of the major application areas in the sciences, medicine, industry and commerce, and the ability to grasp and apply appropriate usability principles and techniques for these areas.
A4	Knowledge and skills related to the key field of business management, including understanding of the fundamentals of management, strategy, marketing and organisational behaviour, and an appreciation of the context in which information technology is used.

Disciplinary Skills - able to:

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B 1	Analyse and solve technical problems effectively, both individually and as part of a design team
B 2	Understand and apply technical project management techniques and skills
B 3	Demonstrate awareness and understanding of the mathematical, scientific and engineering foundations of the discipline of computer science
B 4	Demonstrate awareness and understanding of the historical, social, professional, industrial and ethical context of the discipline of computer science
B 5	Communicate technical detail effectively to a variety of audiences, both through production of well-written technical reports and through oral presentation / demonstration

Attributes:	
C 1	Connect information and ideas within the broader context of the discipline of computer science
C 2	Acquire and apply knowledge in a critical way, evaluating its reliability and relevance, in order to investigate and solve unfamiliar problems
C 3	Explain complex technical concepts clearly in a variety of settings, to a variety of audiences, using a variety of media
C 4	Use information for evidence-based decision-making and creative thinking
C 5	Think and work creatively, using information and experience as the basis for decision-making

QMUL Model Learning Outcomes - Level 4:	
D 1	**(Networking) Identify and discuss their own career aspirations or relevant skills and knowledge and how they i**
D 2	**(Networking) Identify and discuss what their own role in their programme and/or subject discipline might mea**
D 3	**(International Perspectives) Consider the role of their discipline in diverse cultural and global contexts**
D 4	**(Multi/Inter-Disciplinarity) Identify and demonstrate the perspectives or problem solving techniques of differe**

QMUL Model Learning Outcomes - Level 5:	
E 1	(Enterprising Perspectives) Demonstrate and evaluate how they have enhanced their own learning through engaging
E 2	(Networking) Evaluate and demonstrate their own attitudes, values and skills in the workplace and/or in the wider wo
E 3	(Networking) Evaluate and demonstrate evidence of their skills to support networking and how these have influenced
E 4	(Multi/Inter-Disciplinarity) Evaluate perspectives from different disciplines

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QMUL Model Learning Outcomes - Level 6:	
F 1	
F 2	
F 3	

QMUL Model Learning Outcomes - Level 7:	
G 1	
G 2	
G 3	

How will you learn?

The teaching and learning strategies are tailored to the learning outcomes of the different modules. These will
include lectures, lab and tutorial sessions, practical and library-based research, presentations and group work. Lectures are used
to introduce principles and methods and also to illustrate how they can be applied in practice, e.g. through examples and case
studies. Lab and tutorial sessions will allow students to put these theoretical principles and methods into practice. Practical and
library-based research will allow them to develop skills in review, investigative methods and critical analysis. Presentations and
group work will enhance their team-working and communication skills. The overall profile of teaching and learning strategies is
designed to foster the development of (i) Graduate Attributes, as captured in Queen Mary's Statement of Graduate Attributes and
(ii) key skills, as captured in the Tech Partnership UK endorsement criteria.

Learning materials will be hosted on Queen Mary's tailored virtual learning environment, QMPlus. This will also provide access to
announcement and discussion forums used for asynchronous support.

How will you be assessed?

Taught modules are usually assessed through a combination of examination and coursework, as appropriate for the content and
focus of each individual module. Laboratory-based modules are often assessed through practical coursework, while more
theoretical modules may be assessed through in-class tests, exercise sheets or written assignments. Project work, both group and
individual, forms a significant component of the assessment - project modules are assessed on the basis of a written report, oral
presentation and demonstration of the concrete outcomes of the module, e.g. developed software.

In addition to summative assessment, the programme provides regular opportunities for formative feedback, e.g. through the
submission of a draft report for project modules. The School has a feedback policy, which stipulates standard requirements for
acceptable types and timing of feedback. The School also uses the TurnItIn plagiarism detection system, and students will have
the opportunity to submit some formative assignments to TurnItIn for feedback on the correctness and effectiveness of their
referencing.

How is the programme structured?
Please specify the full time and part time programme diets (if applicable). Please also outline the QMUL Model
arrangements for each year of study. The description should be sufficiently detailed to fully define the
structure of the diet.

Year 1 Modules

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Semester 1
ECS401U Procedural Programming (15 credits)
ECS404U Computer Systems and Networks (15 credits)
ECS427U Professional and Research Practice (15 credits)
BUS024 Fundamentals of Management (15 credits)
Semester 2
ECS414U Object Oriented Programming (15 credits)
ECS417U Fundamentals of Web Technology (15 credits)
ECS419U Information Systems Analysis (15 credits)
BUS017 Economics for Business (15 credits)

Year 2 Modules
Semester 3
ECS505U Software Engineering (15 credits)
ECS5**U Business Modelling (15 credits)
BUS021 Financial Accounting (15 credits)
ECS519U Database Systems (15 credits)
Semester 4
ECS506U Software Engineering Project (15 credits)
ECS508U Business Information Systems (15 credits)
ECS524U Internet Protocols and Applications (15 credits)
BUS011 Marketing (15 credits)

Year 3 Modules
Semester 5 and 6
ECS550U Industrial Placement Project (30 credits)

Final Year Modules
Semester 5
ECS635U Project (30 credits)
ECS609U Project Risk Management (15 credits)
BUS204 Strategy (15 credits)
Plus one module from:
ECS607U Data Mining (15 credits)
ECS639U Web Programming (15 credits)
ECS650U Semi-Structured Data and Advanced Data Modelling (15 credits)

Semester 6
ECS635U Project (cont. 30 credits)
Plus one from:
BUS324 The Management of Human Resources (15 credits)
ECS622U Product Development (15 credits)

And two modules from:
ECS612U Interaction Design (15 credits)
ECS619U Network Planning, Finance and Management (15 credits)
ECS637U Digital Media and Social Networks (15 credits)
ECS641U Communicating and Teaching Computing (15 credits)
ECS647U Bayesian Decision and Risk Analysis (15 credits)
ECS655U Security Engineering (15 credits)
ECS656U Distributed Systems (15 credits)

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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 Practices	ECS427U	15	4	Compulsory	1	Semester 1	Yes
Procedural Programming	ECS401U	15	4	Compulsory	1	Semester 1	
Computer Systems and Networks	ECS404U	15	4	Compulsory	1	Semester 1	
Fundamentals of Management	BUS024	15	4	Compulsory	1	Semester 1	Yes
Object Oriented Programming	ECS414U	15	4	Compulsory	1	Semester 2	
Fundamentals of Web Technology	ECS417U	15	4	Compulsory	1	Semester 2	
Information Systems Analysis	ECS419U	15	4	Compulsory	1	Semester 2	
Economics for Business	BUS017	15	4	Compulsory	1	Semester 2	

Academic Year of Study   FT - Year 2

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Software Engineering	ECS505U	15	5	Compulsory	2	Semester 1	
Business Modelling	ECS5**U	15	5	Compulsory	2	Semester 1	
Database Systems	ECS519U	15	5	Compulsory	2	Semester 1	
Financial Accounting	BUS021	15	4	Compulsory	2	Semester 1	
Software Engineering Project	ECS506U	15	5	Compulsory	2	Semester 2	Yes
Business Information Systems	ECS508U	15	5	Compulsory	2	Semester 2	

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Internet Protocols and Applications	ECS524U	15	5	Compulsory	2	Semester 2	

Academic Year of Study FT - Year 3

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Industrial Experience Project	ECS550U	30	5	Core	3	Semesters 1 & 2	

Academic Year of Study FT - Year 4

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Project	ECS635U	30	6	Core	4	Semesters 1 & 2	
Project Risk Management	ECS609U	15	6	Compulsory	4	Semester 1	
Strategy	BUS204	15	5	Compulsory	4	Semester 1	
Data Mining	ECS607U	15	6	Elective	4	Semester 1	
Web Programming	ECS639U	15	6	Elective	4	Semester 1	
Semi-Structured Data and Advanced Data Modelling	ECS650U	15	6	Elective	4	Semester 1	
The Management of Human Resources	BUS324	15	6	Elective	4	Semester 2	
Product Development	ECS622U	15	6	Elective	4	Semester 2	
Interaction Design	ECS612U	15	6	Elective	4	Semester 2	
Digital Media and Social Networks	ECS637U	15	6	Elective	4	Semester 2	

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Communicating and Teaching Computing (UAS)	ECS641U	15	6	Elective	4	Semester 2	
Bayesian Decision and Risk Analysis	ECS647U	15	6	Elective	4	Semester 2	
Security Engineering	ECS655U	15	6	Elective	4	Semester 2	
Distributed Systems	ECS656U	15	6	Elective	4	Semester 2	

What are the entry requirements?

Further information about the entry requirements for this programme can be found at:

http://www.eecs.qmul.ac.uk/undergraduates/entry-requirements/

How will the quality of the programme be managed and enhanced?

EECS has a Student Experience Teaching Learning and Assessment (SELTA) structure which enables programmes to be both managed and enhanced.

The Structure allows for subject level teaching groups and programme coordinators to regularly evaluate the content and delivery of each programme. Feedback from module evaluations and SSLC meetings are fed into these groups and this provides an opportunity for student feedback to be incorporated into the programmes.

Additionally, programme coordinators work with the Director of Taught Programmes to ensure each programme is current and can be delivered effectively.

How do we listen to and act on your feedback?

The Student-Staff Liaison Committee provides a formal means of communication and discussion between the School and its students. The committee consists of student representatives from each cohort, together with appropriate representation from School staff. It is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments. Student-Staff Liaison Committees meet four times a year, twice in each teaching semester.

Each semester, students are invited to complete a web-based module questionnaire for each of their taught modules, and the results are fed back through the SSLC meetings. The results are also made available on the student intranet, as are the minutes of the SSLC meetings. Any actions necessary are taken forward by the relevant Senior Tutor, who chairs the SSLC, and general issues are discussed and actioned through the School's Student Experience Learning Teaching And Assessment (SETLA) Committee .

The School's SETLA Committee advises the 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, including through student membership and consideration of student surveys and module questionnaires.

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The School participates in the College's Annual Programme Review process, which supports strategic planning and operational issues for all undergraduate and taught postgraduate programmes. The APR includes consideration of the School's Taught Programmes Action Plan, which records progress on learning and teaching related actions on a rolling basis. Students' views are considered in the APR process through analysis of the NSS and module questionnaires, among other data.

What academic support is available?

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.

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.

Programme-specific rules and facts

See Academic Regulations, www.arcs.qmul.ac.uk

Further information on the Academic Regulations can be found at http://www.arcs.qmul.ac.uk/media/arcs/policyzone/academic/Academic-Regulations-2017-18.pdf

In addition to this the programme does have special regulations (further details are available in the Academic Regulations):
1.   There is a requirement for students to achieve a minimum mark of 30.0 in every module, and to pass the project outright (in addition to the standard award rules) in order to achieve the intended, accredited, award.
2.   The exit award and the field of study of the exit award will be dictated by the specific modules passed and failed by a student.

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 ITMB degree has been developed by Tech Partnership as a collaboration between some of the UK's leading companies, the government and 18 Universities. It is a unique programme and it has proved over the past decade that there is a clear demand from students and industry for a degree that combines business and technical learning objectives with business skills in order to produce graduates who are ready for the workplace.
A network of almost 1,000 employers from well known global brands to dynamic local businesses and startups are involved in the ITMB degree through networking events, industry insights lectures, meetings, University visits, online networks etc.

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Endorsement will be given by Tech Partnership.

Programme Specification Approval

Person completing Programme Specification:

Person responsible for management of programme:

Date Programme Specification produced / amended by School / Institute Learning and Teaching Committee:

Date Programme Specification approved by Taught Programmes Board:

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