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 (Eng) Information Technology Management for Business 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):	NI11
QAA Benchmark Group:	Computing
FHEQ Level of Award :	Level 6
Programme accredited by:	
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 ITMB degree (https://www.thetechpartnership.com/techfuture/techfuture-careers/degrees/itmb/) has been developed with some of the UK's leading companies and Universities. 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 and skills in order to produce graduates who are ready for the workplace.

Tech Partnership Technology Insights 2012 document states that "there are 1.5 million people working in IT & Telecoms in the UK – equivalent to around one in twenty of the working population. Of these individuals, 913,000 (59%) work in the IT & Telecoms industry itself whilst a further 633,000 (41%) work as IT or Telecoms professionals in other industries (the IT department of a retail chain or bank for example)" . We cannot ignore the requirement for employees with these skills.

Forecasting by Experian, as referenced in the Tech Partnership Technology Insights 2012 document concluded "that the growth of the IT & Telecoms sector is predicted to continue strongly to 2020. The IT professional workforce is forecast to grow at 1.62%, nearly twice as fast as the average employment growth of the UK. Growth is likely to manifest itself mainly amongst the more senior level/high value roles i.e. ICT managers, IT Strategy & Planning and Software Professional Roles." We can conclude that graduates are more likely to follow a senior level/high value role in these areas. The ITMB is the ideal degree programme to

prepare students for these employment opportunities.

Each provision of the ITMB degree is supported and influenced by industrial contacts and each university is given an industrial liaison and mentor. For QMUL EECS the industrial organisation mentor is SAS (www.sas.com) - SAS is the leader in business analytics software and services, and the largest independent vendor in the business intelligence market.

Tech Partnership provides significant support to universities offering the ITMB degree. This includes the mentoring above, plus weekly "Industry Insights Lectures" – (see below) and two student events where all students on the ITMB degrees from all of the universities are invited to attend to meet with employers who are involved in the degrees. Students have the opportunity to attend interview sessions, enter competitions which involve work experience prizes etc. these events are unique to the students on the ITMB degree. The access to industry is the key unique selling point of this degree.

ITMB students at QMUL also participate in weekly Tech Partnership community meetings where they discuss issues around employability, placement opportunities, learning and study skills, prepare for student competitions etc. These are typically led by 2nd year ITMB students.

Special Features of the ITMB degree (from Tech Partnership)
• ITMB students will attend/watch specialist 'Industry Insights Lectures' (where industry leaders give talks and impart their knowledge and expertise to students) and other UK-wide initiatives developed specifically for universities offering the ITMB degree.
• Students will work closely with business mentors on team-based project work in order to develop highly sought-after transferable skills. Most recently Tech Partnership launched an ITMB alumni mentoring scheme that brings together ITMB students, with the tech industry and employees.
• Students will tackle real business problems and projects geared to real work situations.
• Students will be able to get direct feedback on their CV and interview technique from employers.
• Students will be able to meet industry leaders and ask them questions.
• Students will visit companies and meet employees, helping them to make informed career choices as a result.
• Students will link up with ITMB students from other universities, giving them access to an exclusive network.

Why QMUL EECS and the ITMB?
QMUL EECS has a strong background in this area, having run similar programmes for several years (i.e. BSc (Eng) ICT with Business Management) producing a steady stream of good graduates.

Our significant USP is the type and varied research that the school covers. The research and teaching strengths of the school are broad, but some of the key areas for an IT graduate include QMedia (Centre for Digital Media, Interaction, Media and Communication, Media and Arts Technology & Multimedia and Vision), Antennas & Electromagnetics, Computer Vision, Networks (including Mobile and Cloud Computing), Risk and Information Management, Cognitive Science and Theoretical Computer Science. The overlap between each of the research and teaching groups gives the BSc (Eng) ITMB IE programme a access to cutting edge technological development which other versions of the ITMB may not deliver, which makes it a very attractive option for applicants.

The Tech Partnership research document – Technology insights 2012 states that there is significant need for what they call "Future Skills" – Cloud Computing and Mobile Computing. These are both areas in which QMUL EECS has research groups. A quote from the document – "a large proportion of firms anticipate an increase in their use of cloud computing and mobile computing/applications over the coming year" . EECS at QMUL is in a strong position to provide a version of the ITMB programme that includes modules covering these developing topics.

Athena Swan Bronze Award
An additional USP for QMUL EECS is the recent Athena Swan Bronze Award in recognition of the School's work to advance the careers of women in science. EECS is the first School at Queen Mary to achieve an Athena SWAN award, in recognition of its individual efforts to further equality in higher education. This is significant as another finding of the Technology Insights 2012 document is that "Gender remains a significant and worsening issue for the IT & Telecoms sector and in 2011, just 18% of IT & Telecoms professionals were female compared to an overall figure of 48% for the UK workforce as a whole" . EECS should be seen as a school that welcomes students regardless of gender and actively encourages girls into technology based education and careers through different programmes.

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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

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.

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Academic Content:	
A 1	Broad knowledge of the IT sector, from both a technical and a business perspective
A 2	Technical knowledge in key areas identified by contributing IT-related employers
A 3	Understanding of business principles, structures, operations, procedures and cultures applicable to a career in an IT environment
A 4	Grounding in project, people and resource management principles and techniques

Disciplinary Skills - able to:	
B 1	Undertake problem-solving and modelling tasks relevant to IT-related business operations
B 2	Work closely and communicate with employees in non-IT related areas of an organisation
B 3	Investigate, select, analyse, manipulate and manage information from a variety of technical and non-technical sources
B 4	Apply the technical skills learned in the taught component of the programme while on placement, and, vice versa, apply the technical skills learned while on placement when back in your final year of study

Attributes:	
C 1	Able to have a global perspective and engage with the professional world
C 2	Keen to learn continuously and develop the skills to influence, negotiate and lead
C 3	Display initiative and resilience in the face of new challenges
C 4	Use information for evidence-based decision-making and creative thinking

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**

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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

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 endorsement criteria.

In addition, the programme includes a significant component of industrial input and experience. The industrial placement offers a real-world opportunity for them to apply the technical skills that they have learnt in the taught component of the programme. Students will receive full training in preparation for the placement, supported by the dedicated Industrial Placement Manager, who also provides support while they are out on placement.

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

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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. The assessment for the placement year includes an employer evaluation and the production of a reflective learning log, in addition to a report and oral presentation.

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
Semester 1
ECS401U Procedural Programming (15 credits)
ECS404U Computer Systems and Networks (15 credits)
ECS427U Professional and Research Practice (15 credits)
BUS001 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)
ECS507U Website Design and Authoring (15 credits)
ECS519U Database Systems (15 credits)
BUS021 Financial Accounting (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 7
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 8

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ECS635U Project (cont. 30 credits)
BUS324 The Management of Human Resources (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)

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	BUS001	15	4	Compulsory	1	Semester 1	
Fundamentals of Web Technology	ECS417U	15	4	Compulsory	1	Semester 2	
Business Modelling	ECS418U	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	

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Website Design and Authoring	ECS507U	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	
Internet Protocols and Applications	ECS524U	15	5	Compulsory	2	Semester 2	
Marketing	BUS011	15	4	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	

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
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	Compulsory	4	Semester 2	
Interaction Design	ECS612U	15	6	Elective	4	Semester 2	
Network Planning, Finance and management	ECS619U	15	6	Elective	4	Semester 2	
Digital Media and Social Networks	ECS637U	15	6	Elective	4	Semester 2	
Communicating and Teaching Computing (UAS)	ECS641U	15	6	Elective	4	Semester 2	
Bayesian Decision and Risk Analysis	ECS647U	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.

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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.

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)

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• 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. 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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