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)BSc (Eng) Information Technology Management for Business
Name of Interim Award(s)	Cert HE, Dip HE, BSc(Eng)
Duration of Study / Period of Registration	3 years FT
QM Programme Code / UCAS Code(s)	NN11
QAA Benchmark Group	Computing
FHEQ Level of Award	Level 6
Programme Accredited by	e-skills
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 Business & Management

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

e-Skills

Programme Outline

The ITMB degree (http://www.e-skills.com/itmb) has been developed with some of the UK's leading companies and Universities. It has proved over the last seven years 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.

e-skills 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 e-skills 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.

e-Skills provides significant support to universities offering the ITMB degree. This includes the mentoring above, plus weekly "Guru 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.

Special Features of the ITMB degree (from e-skills)
• ITMB students will attend specialist 'guru 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.
• 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 the BSc (Eng) ICT with Business Management degree within EECS for over nine years 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 and Theoretical Computer Science. The former of these and indeed the overlap between each of the research and teaching groups gives the BSc (Eng) ITMB IE programme a theme which other versions of the ITMB may not deliver, which makes it a very attractive option for applicants.

The e-skills UK 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.

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

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• 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

Academic Content:	
A1	Broad knowledge of the IT sector, from both a technical and a business perspective
A2	Technical knowledge in key areas identified by contributing IT-related employers
A3	Understanding of business principles, structures, operations, procedures and cultures applicable to a career in an IT environment
A4	Grounding in project, people and resource management principles and techniques

Disciplinary Skills - able to:	
B1	Undertake problem-solving and modelling tasks relevant to IT-related business operations
B2	Investigate, select, analyse, manipulate and manage information from a variety of technical and non-technical sources

Attributes:	
C1	Able to have a global perspective and engage with the professional world
C2	Keen to learn continuously and develop the skills to influence, negotiate and lead
C3	Display initiative and resilience in the face of new challenges
C4	Use information for evidence-based decision-making and creative thinking

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	Consider the role of their discipline in diverse cultural and global contexts

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 e-skills 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. 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 appropriate).

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
ECS417U Fundamentals of Web Technology (15 credits)
ECS418U Business Modelling (15 credits)
ECS419U Information Systems Analysis (15 credits)
BUS017 Economics for Business (15 credits)
Semester 1 and 2
ECS422U Skills for Electronic Engineering and Computer Science (non-credit bearing module)

Year 2 Modules
Semester 3
ECS505U Software Engineering (15 credits)
ECS507U Website Design and Authoring Tools (15 credits)
ECS524U Internet Protocols and Applications (15 credits)
BUS021 Financial Accounting (15 credits)
Semester 4

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ECS508U Business Information Systems (15 credits)
ECS519U Database Systems (15 credits)
ECS523U ICT Group Project (15 credits)
BUS011 Marketing (15 credits)

Final Year Modules
Semester 5
ECS635U Project (30 credits)
ECS609U Project Risk Management (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)
and one module from:
ECS604U Entrepreneurship in Information Technology (15 credits)
BUS204 Strategy (15 credits)
Semester 6
ECS635U Project (cont. 30 credits)
BUS324 The Management of Human Resources (15 credits)
Plus 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)

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

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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		Yes

What Are the Entry Requirements?

General entry requirements
• A-levels: Our A-level entrance requirements are based on 3 A-levels, or 2 A-levels and 2 AS-levels. We are delighted to receive applications from students who have studied Computer Science at GCSE or A-Level (often called Computing by the examination boards), and in general we prefer Maths and Science based A-levels, though we will consider other combinations of subjects.
• Advanced diplomas: The School warmly welcomes applications from students taking Advanced or Extended (level-3) Diplomas in Information Technology or Engineering. We require 320-360 UCAS Tariff points (320 for BSc Computer Science and Mathematics, 340 for BSc(Eng) and BEng, 360 for BSc, MSci and MEng programmes) and applicants must also have passed GCE A-level Mathematics at grade C or above. Grade B or above for BSc Computer Science and Mathematics.
• Vocational or applied A-levels: Vocational A-levels are acceptable and are subject to the above tariff requirements for A/AS-levels. They should be subject-related: electronic engineering or engineering for MEng and BEng programmes. Grade B GCSE Mathematics minimum.
• Key skills: Results of key skills tests will not normally form part of an offer of a place.
• BTEC National Diploma (18 units): The BTEC National Diploma is acceptable on its own and combined with other qualifications with minimum grade requirements: DDM for BEng, MEng, DDD (with Distinctions in all modules) for BSc(Eng), BSc. Your BTEC National Diploma must be subject-related: engineering, electronic engineering for MEng and BEng programmes, computing or related subject for BSc programmes. The IT practitioners Diploma is only accepted for BSc(Eng) programmes. Additionally, we require a minimum Grade C GCSE in mathematics.
• International Baccalaureate: We require a minimum of 32 points overall for BEng and BSc programmes, 34 points for MEng and BSc(Eng) programmes. Subjects must include mathematics HL at least five points for all MEng and BEng programmes and at least six points for all BSc programmes; physics is required for selected MEng and BEng programmes; see programme details.
• European Baccalaureate: We require 80% including grade eight minimum Mathematics for all MEng and BEng programmes. Physics at grade eight required for selected MEng and BEng programmes as per A-level subject requirements, please see programmes for specific requirements.
• Access to HE Diploma: Applicants will be considered on a case-by-case basis. Please contact the School for guidance.
• European and international qualifications: The College accepts a wide range of EU and International qualifications, for information please contact the School.
• Other qualifications: The College welcomes applications from those holding qualifications not listed above. The School will be happy to advise you as to the acceptability of your qualification.

Specific programme entry requirements
• GCSE Grade Mathematics grade B or higher required.

International students - English Language entry requirements
For international students, English Language skills are required to a recognised standard. The minimum requirement is IELTS 6.0 or equivalent.

How Do We Listen and Act on Your Feedback?

The Staff-Student Liaison Committee provides a formal means of communication and discussion between schools/institutes 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/institute 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 the committee's work in a number of ways, such as through student membership, or consideration of student surveys.

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All schools/institutes operate an Annual Programme Review of their taught undergraduate and postgraduate provision. APR is a continuous process of reflection and action planning which is owned by those responsible for programme delivery; the main document of reference for this process is the Taught Programmes Action Plan (TPAP) which is the summary of the school/institute's work throughout the year to monitor academic standards and to improve the student experience. 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.

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

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 ITMB degree has been developed by e-Skills UK as a collaboration between some of the UK's leading companies and 14 Universities. It is a unique programme and it has proved over the last seven years 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.
Endorsement will be given by e-Skills UK.

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Programme Specification Approval

Person completing Programme Specification

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