Programme Title: BSc(Eng) Internet of Things Engineering

Programme Specification (UG)

Awarding body / institution:	QMUL and Beijing University of Posts and Telecoms (BUPT)
Teaching institution:	QMUL and BUPT
Name of final award and programme title:	BSc(Eng) Internet of Things Engineering
Name of interim award(s):	
Duration of study / period of registration:	4 years
QMUL programme code / UCAS code(s):	H6NI
QAA Benchmark Group:	Engineering, but benchmarks subsumed by UKSPEC
FHEQ Level of Award :	Level 6
Programme accredited by:	Institution of Engineering and Technology
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:

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

BUPT

Programme outline

This programme comes as a response to the increasing research and commercial interest for autonomous and intelligent applications that are based on the principles of the Internet of Things (IoT). This is a comprehensive programme covering all four layer structure which is needed for building complete IoT applications, such as smart grid, smart city, smart home, industrial automation, telemetry, etc. The programme focuses on computer science's foundation and support, combined with other disciplines, such as microelectronics, communication networks and economics management. It emphasises on the necessary fundamental and practical knowledge for creating, designing, implementing, maintaining, and managing IoT systems. At the same time, it will keep pace with information industry's development in terms of course construction, and constantly adapting to social changes.

In addition to the technology, the programme will also include the key skills aspects already incorporated into the other JP programmes that were specifically commended by the QAA.

Aims of the programme

he programme sets out provide graduates with:
- a solid fundamental knowledge about telecommunication and computer sciences;

- an understanding of network design and network planning principles for IoT;
- a knowledge of theory, methodology and techniques for IoT network assessment and evaluation;
- a good overall understanding of computer and telecoms network development skills.

This new interdisciplinary programme will provide graduates with a broader employment scope, covering the field of telecoms, computer science and related management.

What will you be expected to achieve?

At the end of his/her degree, each student should be able to demonstrate the following abilities:

• the ability to recall factual knowledge and the ability to apply it in familiar and unfamiliar situations;
• the ability to apply scientific, mathematical and software 'tools' to a familiar or unfamiliar situation;
• the ability to use Information Technology as a key tool pervading all aspects of Internet of Things;
• the ability to understand practical issues concerning real systems (whether hardware or software);
• the ability to recognise insufficient existing knowledge and the ability to search for the necessary scientific, mathematical and software 'tools' relevant to that particular issue;
• the ability to work as part of a team;
• the ability to manage time effectively;
• the ability to appreciate the financial background against which decisions are made in industry;
• the ability to show a certain level of reflection on the role of engineering in society;

and the following skills:

• the perceptive skills needed to understand information presented in the form of technical circuit-diagrams, flow-charts and high-level languages;
• the practical skills needed to implement a piece of hardware or software and to use laboratory test equipment;
• the analytical skills needed to verify the correct behaviour of a hardware or software system or component and to be able to identify faults;
• the design skills needed to synthesise a design (in hardware and/or software) from a specification (including the choice of the best option from a range of alternatives), to implement the design and to evaluate the design against the original specification;
• the written and oral communication skills needed to present information, in particular written information, effectively;
• the critical reasoning skills needed to appraise a particular topic;
• the ability to research and troubleshoot complex issues in such system systematically and communicate their conclusions clearly to specialist and non-specialist audiences.

Context-based aims and objectives:

• To be able to identify and apply the key communications principles (e.g. Shannon equations, queuing theory and information theory) for communications between devices, sensors, actuators and machines at any time in anywhere;
• To be able to use mathematics and statistics to systematic analysis hardware and software IoT systems e.g. use of complex numbers, matrix algebra, differential equations and transform theory to analysis and design the medium access and network routing protocols;
• To be able to apply relevant signal and information processing techniques to analyse and extract sensor information into useful representation for IoT applications;
• To be able to develop, provide and maintain IoT services, infrastructure and products for society, within the constraints imposed by economic, legal, social, cultural and environmental considerations;
• To be able to discuss the current and emerging concept e.g. Big data processing, Data mining, for development of interaction IoT application;
• To be able to identify issues and requirements in the practice of IoT engineering activities, such as ethical issues and safety (e.g. hearing damage prevention);
• To be able to demonstrate the use of appropriate design methodology, programming tools and techniques necessary for structuring IoT applications;
• To be able to apply essential business management skills for managerial careers in IoT industry and other technology-driven companies at the global level.

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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:	
A 1	[US1] Knowledge and understanding of scientific principles and methodology necessary to underpin their education in their engineering discipline, to enable appreciation of its scientific and engineering context, and to support their understanding of historical, current and future developments and technologies. This LO is covered in many modules across all years of study to provide a solid foundation, reinforce understanding and to appreciate the application of scientific principles.
A 2	[US2] Knowledge and understanding of mathematical principles necessary to underpin their education in engineering discipline and to enable them to apply mathematical methods, tools and notations proficiently in the analysis and solution of engineering problems. This LO is mainly covered in year 1 and year 2 modules to provide a solid foundation, reinforce understanding and appreciate of mathematical principles in IoT related engineering problems. For examples: In BBC3502 (Computer Fundamentals and Programming) and BBC4114 (Discrete Mathematics), they emphasise the importance of mathematical on algorithm design, design effective Mathematical model to solve complex problem. More specialist topics are covered in year 3 for example in BBU6602 (IoT Information Processing Technology), it applies mathematical signal transforms such as data filtering and data fusion in IoT application. This LO is covered in many modules with particular emphasis being given in years 1 and 2 through modules such as: BBC4911(Advanced Mathematics 1), BBC4913 (Linear Algebra) and BBC4921 (Advanced Mathematics 2). Further specialist topics are then addressed in modules such as BBC4941 (Probability Theory + Stochastic Statistics) and BBU5374 (Signals & Systems Theory).

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A 3	[EA1] Understanding of engineering principles and the ability to apply them to analyse key engineering processes. This LO is covered in many modules across all years of study to provide a solid foundation for systematic analysis of the IoT engineering and processes. For examples in EBU5504 (Networks and Protocols) the use of wireless communication and mathematics principles to analyse the energy efficiency of the networks for IoT applications.
A 4	[EA3] Ability to apply quantitative methods and computer software relevant to the engineering discipline, in order to solve engineering problems. Quantitative methods and computer software are used in many modules to solve IoT related engineering problems. For example in EBU5504 (Networks and Protocols), probability distributions is used in evaluating the system performance in given IoT scenarios, and also in ECS652U (Project), students are required to apply quantitative methods or computer software to solve defined problems that related to IoT.
A 5	[EA4] Understanding of a systems approach to engineering problems and to work with uncertainty. This LO is covered in many modules for students to apply systematic approach to solve IoT related engineering problems. For example in EBU5476 (Microprocessors for Embedded Computing) takes a system approach to explain and design a microprocessor system that related to IoT application. Meanwhile in ECS652U (Project), students typically follow a top-down approach, devising a functional specification derived from requirements capture, before proceeding to an implementation and subsequent evaluation.
A 6	[D2] Understand customer and user needs and the importance of considerations such as aesthetics. Understand customer and user needs are important aspects in IoT Engineering degree programme. and they are mainly covered in software related modules. Specific examples include EBU5304 (Software Engineering) where students are required to understand the user requirements and needs and develop during the software development process. In ECS652U (Project) and EBC6002 (Engineering Environment), students need to establish the user/customer needs by carrying out requirement analysis and/or literature survey.
A 7	[P6] Awareness of appropriate codes of practice and industry standards. This LO of appropriate codes of practice and industry standards related to IoT engineering discipline is covered in number of modules. For examples in EBU5504 (Networks and Protocols) and ECS726U (Security and Authentication) various related standards will be covered in the lectures.
A 8	[P7] Awareness of quality issues. The awareness of quality issues are covered explicitly in number of modules. For examples, the quality issues is introduced through BBC3502 (Computer Fundamentals and Programming) and EBC5000 (Personal Development Plan 3) modules where students are required to demonstrate an awareness of quality issues, and consider the quality issues in the Design and Build product development in EBC6002 (Engineering Environment). EBU6501 also covers this LO during the design of middleware application.

Disciplinary Skills - able to:	
B 1	[US3] Ability to apply and integrate knowledge and understand of other engineering disciplines to support study of their own engineering discipline. This LO is mainly covered in year 3 and year 4 modules to apply and integrate engineering principles to support the study of IoT engineering related discipline. For examples the use of engineering mathematics in EBU721U (Ad hoc and Broadband Wireless) and EBC6002 (Environment Environment) to provide the appreciation of other engineering principles and apply to IoT related engineering problems and scenarios.
B 2	[EA2] Ability to identify, classify and describe the performance of systems and components through the use of analytical methods and modelling techniques. This is covered in many modules to identify, classify and describe the performance of different systems and protocols for IoT. One example is in EBU5504 (Networks and Protocols), the performance of different modulation techniques to different IoT scenarios are analysed.
B 3	[D1] Investigate and define a problem and identify constraints including environmental and sustainability limitation, health and safety and risk assessment issues. This LO is covered by many modules across all 4 years. For examples, the environmental and sustainability limitations are explicitly considered within EBC4000 and EBC5000 (Personal Development). Furthermore, students are required to provide environmental and risk assessment reports along with their project final report. Various legal risks are covered in EBU6002 (Engineering Environment).
B 4	[D3] Identify and manage cost drivers. Cost drivers are covered in number of modules from year 2 onward. For examples, EBU6606 (Product Development) and EBC6002 (Engineering Environment) explicitly cover how to manage the cost drivers and budget in IoT applications .

B 5	[D4] Use creativity to establish innovative solutions. This LO is covered in many modules in IoT Engineering degree scheme to solve and present the innovative solutions related to IoT scenarios. For examples, in EBU6503 (Control Theory) students are required to creatively design controllers for complex systems using Matlab. More specifically, BBU6602 (IoT Information Processing Technology) and ECS652U (Project) are explicitly required the students to use creativity to produce their own solution to a given scenario.
B 6	[D5] Ensure fitness for purpose for all aspects of the problem including production, operation, maintenance and disposal. This LO is covered in several modules. For instance, EBU6606 (Product Development) examines the process of design, development and maintenance. In a software context, EBU5304 (Software Engineering) considers the complete software life cycle, including re-usability. Fitness-for-purpose is also implicitly covered in all student project activities, such as EBC60012(Engineering Environment). Environmental impact, including disposal, is a core element of the final-year project.
B 7	[D6] Manage the design process and evaluate outcomes. This LO covered in many modules in IoT Engineering degree scheme. More specific examples are EBU5304 (Software Engineering) where students are required to monitor the development process to avoid any slippage, and EBU6606 (Product Development) where students are required to exercise the product development which including product planning, concept development to robust design and ramp-up. Meanwhile ECS652U (Project) requires students to plan a complex project using tools such as Gantt charts, coping with uncertainly, whilst meeting deadlines. Students must also evaluate their solutions, reflecting on the final outcome.
B 8	[P1] Knowledge of characteristics of particular materials, equipment, processes, or products. This LO is covered in many modules including those specifically related to IoT Engineering discipline. For examples, in BBC5406 (Radio Frequency Identification) the architecture of readers and transponders covered in lectures; in EBU5476 (Microprocessors for Embedded Computing), various features of different microprocessors and how to choose a proper interfaces or connections for different applications are discussed in the lectures.
B 9	[P8] Ability to work with technical uncertainty. This LO is covered in number of modules. It is first introduced in BBC4102 (Introduction to Electronic Systems) and BBC4922 (Physics). It is then apply into more practical environment in BBC6521 (Project) where students required to conduct risk assessment exercises in technical uncertainly.
B 10	.. produce a coherent technical presentation in written or oral form; This is explicitly addressed in PDP and the Final Year Project (BBC6521).
B 11	.. present a coherent argument; covered in a number of modules culminating in the Final Year Project viva. After the presentation the student is cross-examined to assess aspects such as focal knowledge, context awareness and the appropriateness of the assessment methodology
B 12	.. acquire and apply knowledge in a rigorous way to new and unfamiliar situations; This is undertaken in many core technical modules and also business module, where complex situations are explored. Realistic case studies are presented and students use skills and knowledge they have acquired to determine the best course of action.
B 13	.. use quantitive data in analysis and synthesis in engineering problems. This is addressed in many modules including: EBU5504 (Networks and Protocols) and BBC4114 (Discrete Mathematics).

Attributes:	
C 1	[S1] Knowledge and understanding of commercial and economic context of engineering processes. The LO of the awareness of the commercial and economic aspects of engineering is covered across 3 modules, particularly EBC6002 (Engineering Environment) and EBU6606 (Product Development). Additionally, the final-year project contains the budgetary constraints, requiring students to justify expenditure and operate within a commercially constrained environment.
C 2	[S2] Knowledge of management techniques that may be used to achieve engineering objectives within that context. The knowledge of management techniques and develop the students' management skills in term of team working, team playing and communications are explicitly covered in EBU6402 (Enterprise management). Other modules also incorporate this LO explicitly, for examples EBU5304 (Software Engineering) requires students to work as a team to develop an artifact.

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C 3	[S3] Understanding of the requirement for engineering activities to promote sustainable development. This LO is covered in number of modules in IoT Engineering degree scheme. For examples in EEBC4000 and EBC5000 (Personal Development Plan 2 and 3) have integrated part of this LO in the coursework.
C 4	[S4] Awareness of the framework of relevant legal requirements governing engineering activities, including personnel, health, safety, and risk (including environmental risk). This LO is covered by number of modules, specifically in EBC5000 (Personal Development Plan 3) and ECS652U (Project), where students are required to prepare documentation related legal requirements such as Risk Assessment and health and safety Assessment.
C 5	[S5] Understanding of the need for a high level of professional and ethical conduct in engineering. The understanding of high level of professional and ethical conduct in engineering is covered in many modules. For examples, in EBC4000 and EBC5000 (Personal Development Plan 2 and 3) where Engineering Ethics will be covered specifically in the lectures. And also, students in BBC3914 (English 1), BBC3923 (English 2) and BBC4104 (Communication Skills) are required to team up and present aspects related to social issues and ethics.
C 6	[P3] Understanding of contexts in which engineering knowledge can be applied (e.g. operations and management, technology development, etc). P3 is covered in several modules specifically relating to engineering applications such as EBU6606 (Product Development). Other modules bring out the LO directly within a coursework requirement where students need to consider manufacturing processes, planning control and product development as part of the assessment. The students will also be able to explain how and in which contexts telecommunication technology can be developed and deployed (covered in EBU6476: Microprocessors for Embedded Computing).
C 7	[P4] Understanding use of technical literature and other information sources. This LO is covered in many modules to develop the skills of technical literature reading and finding. For examples in EBU5476 (Microprocessors for Embedded Computing) requires students to refer to the design user manual of common 8051 microprocessors in labs; and in EBU6503 (Control Theory), students are required to literature for selecting appropriate sensors for particular IoT applications.
C 8	[P5] Awareness of nature of intellectual property and contractual issues. The awareness of nature of intellectual property and contractual issues are covered in number of modules. For examples in BBC3914 and BBC3923 (English 1 and 2) require students to practice professional writing and to avoid plagiarism and EBU6606 (Product Development) has the integrated part of intellectual property and contractual issues into the business plan coursework.

QMUL Model Learning Outcomes - Level 4:	
D 1	
D 2	
D 3	

QMUL Model Learning Outcomes - Level 5:	
E 1	
E 2	
E 3	

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QMUL Model Learning Outcomes - Level 6:	
F1	
F2	
F3	

QMUL Model Learning Outcomes - Level 7:	
G1	
G2	
G3	

How will you learn?

All taught courses involve lectures, problem solving coursework, laboratory work, case study and independent study. Lectures are used to introduce principles and methods and also to illustrate how they can be applied in practice. Coursework allows students to develop their skills in problem solving and to gain practical experience. Laboratory work provide students with the guidance and help while solving a problem using a wide range of tools and techniques. This allows students to learn-by-doing in order to complement the lectures. QM Graduate Attributes are available for all JP students to identify students' attributes and develop students' knowledge, skills and behaviour that employers' value.

How will you be assessed?

The assessment of the taught course units takes place through a written examination and practical coursework. Some courses also include in-class tests as a component in assessment.

The final year project is examined on the basis of a written report, a formal oral presentation, and a demonstration of the piece of software or hardware developed by the student. In addition to the final year project, other modules introduce project and group working skills.

Examinations must contribute at least 70% of the overall marks to satisfy IET Accreditation.

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.

Most modules are shown with a value of 15 credits. This is to simplify the procedure to fit the QM system. EBU modules are actually 44 contact hours instead of 33 so should count for more than 15 credits; BBx modules use Chinese credits that do not map exactly to QM credits. The exception is Personal Development Plan (PDP) which is 1.8. Engineering Environment is a mix of QM and BUPT modules that does not have any specific credits but counts 5% towards the award of Honours and exists in all JP modules, with a slightly different mix depending on programme; PDP counts towards Engineering Environment but does not have any real credits by itself, although it is shown on the transcript.

In addition there are more modules than in a degree in London in order to satisfy Chinese requirements - the module load is not

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symmetrical across semesters as the technical modules are balanced with the Chinese compulsory modules not shown.
All modules are taught in English and every module must be passed for a degree to awarded (Chinese regulations) - so are all shown as core.

JP programme has two parts: technical content and compulsory courses. The degree is awarded on the basis of the technical content, but the compulsory part must be passed to get a degree to comply with Chinese MoE requirements.

Only modules shown on the QM transcript counting towards the award of Honours are included; Chinese compulsory courses are not shown in detail, nor are short summer semester modules, but these must all be passed for the award of the degree so a pass/ fail module is included to allow that to be handled at QM.

Note that each unit is assigned credits based on contact time; again these are Chinese requirements.

Academic Year of Study FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
English 1	BBC3914	15	3	Core	0	Semester 1	No
Advanced Mathematics 1	BBC4911	15	4	Core	0	Semester 1	No
Personal Development Plan 1	EBC3000	1.8	3	Study only	0	Semesters 1 & 2	No
Computer Fundamentals and Programming	BBC3502		3	Core	0	Semester 1	No
English 2	BBC3923		3	Core	0	Semester 2	No
Introduction to Electronic Systems	BBC4102		4	Core	0	Semester 2	No
Advanced Mathematics 2	BBC4921		4	Core	0	Semester 2	No
Physics	BBC4922		4	Core	0	Semester 2	No

Academic Year of Study FT - Year 2

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Data Structure	BBU4208	15	4	Core	1	Semester 1	No

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Signals and Systems	EBU5375	15	5	Core	1	Semester 1	No
Discrete Mathematics	BBC4114	15	4	Core	1	Semester 1	No
Enterprise Management	EBU6402	15	6	Core	1	Semester 1	No
Digital Circuit Design	EBU4202	15	4	Core	1	Semester 2	No
Professional Communication Skills	BBC4104	15	4	Core	1	Semester 2	No
Probability Theory + Stochastic Statistics	BBC4941	15	4	Core	1	Semester 2	No
Introductory Java Programming	EBU4201	15	4	Core	1	Semester 2	No
Product Development	EBU6606	15	6	Core	1	Semester 2	No
Personal Development Plan 2	EBC4000	1.8	4	Study only	1	Semesters 1 & 2	No

Academic Year of Study FT - Year 3

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Database	EBU5502	15	5	Core	2	Semester 1	No
Personal Development Plan 3	EBC5000	15	5	Study only	2	Semesters 1 & 2	No
Radio Frequency Identification	BBC5406	15	5	Core	2	Semester 1	No
Networks and Protocols	EBU5504	15	5	Core	2	Semester 1	No
Control Theory	EBU6503	15	6	Core	2	Semester 1	No
Ad hoc and Broadband Wireless	EBU721U	15	7	Core	2	Semester 1	No

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
IoT Information Processing Technology	BBU6602	15	6	Core	2	Semester 2	No
Wireless Sensor Networks	BBC6406	15	6	Core	2	Semester 2	No
Software Engineering	EBU5304	15	5	Core	2	Semester 2	No
Microprocessors for Embedded Computing	EBU5476	15	5	Core	2	Semester 2	No
Operating System	BBC6204	15	6	Core	2	Semester 2	No

Academic Year of Study FT - Year 4

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Project	ECS625U	15	6	Core	3	Semesters 1 & 2	No
Engineering Environment (H6NI)	EBC6002	15	6	Core	all years	Semesters 1-3	No
Chinese Compulsory Topics	BBF7000	0	7	Core	all years	Semesters 1-3	No
Big Data Processing	ECS640U	15	6	Core	3	Semester 1	No
Data Mining	ECS607U	15	6	Core	3	Semester 1	No
Security and Authentication	ECS726U	15	7	Core	3	Semester 2	No
Digital Media and Social Networks	ECS637U	15	6	Core	3	Semester 2	No

What are the entry requirements?

Pass the minimum entry requirements for BUPT. As a national key university, all entrants to BUPT must score above the top line in the Chinese national entrance examinations. In addition, BUPT's requirement is much higher than that and the level is approximately equivalent to the top 2-3% of the population in China of that age group.

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

The JP operates an Academic Committee which is responsible under the contract and MoE licence for 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.

The JP operates an Annual Programme Review of the taught undergraduate provision. The process is normally organised with the Director and co-Director of JP who 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 using the relevant Undergraduate Annual Programme Review process. In addition BUPT conducts a biannual review of all programmes.

How do we listen to and act on your feedback?

The Staff-Student Liaison Committee (SSLC) provides a formal means of communication and discussion between QM and BUPT and JP students. The committee consists of student representatives from each year in JP together with appropriate representation from staff within the QM and BUPT. It is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments. SSCLs meet twice a semester.

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What academic support is available?

Induction and pastoral support is provided through BUPT. Students are organised into "classes" of 30 as in the usual Chinese model. Each class has a tutor who provides pastoral support. One male and one female tutor sleep on campus every night so there is 24/7 access to pastoral support.
Feedback mechanisms from students are: (i) directly to the lecturers (ii) to their tutor (as described above) and (iii) through an SSLC that meets twice a semester. Because of the large numbers of students, a separate SSLC is held for each cohort.
For every module, whether taught by QM or BUPT, formal office hour or tutorial slots are provided. In addition QM staff can give advice and supervision remotely using a variety of techniques including Skype, MSN and the cloud-based Nefsis conferencing system.

Programme-specific rules and facts

The Special Regulations for the JP apply to this programme.

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Specific support for disabled students

A specific disabled students support that complies with Chinese law is applied to this programme since the students are physically in China.

Links with employers, placement opportunities and transferable skills

There is an industrial advisory committee consisting of senior staff from the Chinese Telecommunications industry. A dedicated Industrial Liaison Manager is part of the JP team to develop links with industry and industrial projects, to ensure that projects are appropriate and to monitor their progress. A good industrial project provides excellent experience for an engineering undergraduate. There is a compulsory internship for all year 3 summer students and frequent invited industry lectures to year 3 and 4 students.

To date the JP has a record of 100% employment or PG education.

In fact, most JP graduates (>80%) go on to PG education

Programme Specification Approval

Person completing Programme Specification:	Michael Chai
Person responsible for management of programme:	Yue Chen
Date Programme Specification produced / amended by School / Institute Learning and Teaching Committee:	
Date Programme Specification approved by Taught Programmes Board:	

Queen Mary University of London