Programme Title: BSc(Eng) Telecommunications Engineering with Management (Multimedia)

Programme Specification

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) Telecommunications Engineering with Management (Multimedia)
Name of Interim Award(s)	
Duration of Study / Period of Registration	4 years
QM Programme Code / UCAS Code(s)	H6NX
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 which will also be involved in teaching part of the programme

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

Programme Outline

This is a comprehensive programme covering telecommunications underpinned by detailed mathematics and physics background. It includes all aspects from theory across all layers - physical to applications, with particular emphasis on multimedia at the applications layer (interactive media design and production, image and video processing, 3D graphics programming tools, computer vision). Telecommunications is the strength of BUPT. Multimedia is also nowadays an integral part of telecommunications that constitutes a majority of network traffic.

Management is an important component of this programme as all engineers will need some knowledge on this. Essential business management knowledge and skills integrated in this programme prepare students for future careers in telecom and other technology-driven companies at the global level.

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.

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Aims of the Programme

The programme sets out provide graduates with:
- a solid fundamental knowledge about telecommunication, mathematics and computer sciences;
- an understanding of network design, signal processing and network planning principles;
- a knowledge of theory, methodology and techniques for communications network assessment and evaluation;
- a good overall understanding of multimedia theories and their applications as carried across telecommunications networks.

This programme will provide graduates with good employment opportunities covering the field of telecoms, multimedia and related business and management. It combines the key skills in which QM excels together with the scientific rigour from BUPT.

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 Telecommunications, Management and Multimedia;
• 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;

Context-based aims and objectives:
• to be able to explain the mathematical principles underpinning the multimedia engineering discipline, such as boolean and linear algebra, Fourier and digital cosine transforms;
• to be able to explain scientific principles such as bit-based image and video encoding;
• to be able to apply engineering knowledge such as network programming, process modelling and human factors to the multimedia engineering discipline;
• to be able to identify and apply key engineering principles (e.g. from the information theory) to the analysis of important multimedia processes (multimedia content creation, compression, transmission, analysis, etc.);
• to be able to analyse the advantages and limitations of various media for the creation of multimedia content, and the effects of image and video coding techniques on media perceived quality;
• to be able to apply quantitative methods and computer software to solve multimedia engineering problems (e.g. processing, compression, segmentation and understanding);
• to be able to demonstrate the use of creativity to design solutions for practical business technology problems, and for the creation of multimedia content in response to a set task;
• to be able to identify issues and legal requirements in the practice of multimedia engineering activities, such as ethical issues and safety (e.g. hearing damage prevention);
• to be able to discuss the need of ethical conduct in the practice of multimedia engineering activities, for example current

standards for data and copyright protection; • to be able to discuss and review codes of practice and multimedia industry standards such as JPEG and MPEG family of standards.

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. US1 is covered in several year 1 and 2 modules of study to provide a solid foundation. Further year 3 and 4 modules, including multimedia specific modules, cover US1 to reinforce understanding and to appreciate the application of scientific principles. For example, students will know and be able to explain scientific principles such as bit-based image and video encoding (EBU5303: Multimedia Fundamentals) and signal transforms (EBU6018: Advanced Transforms Methods), as well as the methodologies to design and deploy internet applications over the network infrastructure (Internet Protocols and Networks).
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. US2 is covered in many modules across all years of study to understand the fundamentals such as mathematics and physics with particular emphasis being given in years 1 and 2 through modules such as: BBC4911 and BBC4922. US2 is also covered in Year 3 and 4 multimedia specific modules, such as: EBU6018 (Advanced Transform Methods), EBU6230 (Image and Video Processing) and EBU7405 (3D Graphics Programming Tools). For example, students will know and be able to explain the mathematical principles underpinning the multimedia engineering discipline, such as boolean and linear algebra, Fourier and digital cosine transforms.
A 3	[EA1] Understanding of engineering principles and the ability to apply them to analyse key engineering processes. EA1 is covered in several modules with particular emphasis being given in years 3 and 4, including many multimedia specific nodules (EBU5303: Multimedia Fundamentals, EBU6018: Advanced Transform Methods; EBU6305: Interactive Media Design and Production, EBU6230: Image and Video processing, EBU7405: 3D Graphics Programming Tools, and EBU724U: Computer Vision,). For example, students will be able to identify and apply key engineering principles (e.g. from the information theory) to the analysis of important multimedia processes (multimedia content creation, compression, transmission, etc.).
A 4	[EA3] Ability to apply quantitative methods and computer software relevant to the engineering discipline, in order to solve engineering problems. EA3 is covered in many modules across all years of study to provide knowledge on quantitative methods and computer software in telecommunications and multimedia through a number of software labs. In years 3 and 4 for example, students will practice and apply quantitative methods and computer software (e.g. Flash in EBU6305: Interactive Media Design and Production, and Matlab in EBU6230: Image and Video Processing) to solve multimedia engineering problems (e.g. processing, compression and segmentation).
A 5	[EA4] Understanding of a systems approach to engineering problems and to work with uncertainty. EA4 is covered in sevral modules with particular emphasis being given in years 3 and 4 through modules such as: Principles of Telecommunication Systems), EBU5303 (Multimedia Fundamentals) and EBU6230 (Image and Video processing). For example, students will recognise and be able to use a systems approach (e.g. series of encoding processes) to multimedia engineering problems (e.g. video representation).
A 6	[D2] Understand customer and user needs and the importance of considerations such as aesthetics. D2 is covered in several modules. Particularly, the coursework of EBU5606 (Product Development and Marketing) covers marketing research and analysis to understand customer demands and address the importance of considerations such as aesthetics. Students will also be able to identify and discuss user needs in the creation of multimedia content (EBU6305: Interactive Media Design and Production) and internet applications (BBU6404), and in the context of "multimedia universal access" (EBU724U: Computer Vision).

A 7	[P6] Awareness of appropriate codes of practice and industry standards. Industry standards in relation to communication systems are explicitly covered in Principles of Telecommunication Systems. Standards for Internet are covered in Internet Protocols and Networks. Appropriate codes of practice also forms part of the EBC4000 and EBC5000 PDP modules. Multimedia students will also be able to discuss and review codes of practice and multimedia industry standards such as JPEG and MPEG family of standards in EBU5303 (Multimedia Fundamentals) and EBU6230 (Image and Video Processing).
A 8	[P7] Awareness of quality issues. P7 is introduced through EBC5000 (PDP3). Students are made to be aware of quality issues, principles of quality systems and their application to the manufacture of engineering products. Design and Build project in EBC6010 (Engineering Environment) further addresses this LO by asking students to consider the quality issues in practice and apply it to system/product developed.

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. US3 is covered by several modules distributed among all years of study. Particular coverage is given in EBU5606 (Product Development and Marketing), EBC6010 (Engineering Environment) and EBU724U (Computer Vision). For example, students will be able to apply mathematics in modules such as "Machine Learning" and engineering knowledge such as network programming, process modelling and human factors to the multimedia engineering discipline.
B 2	[EA2] Ability to identify, classify and describe the performance of systems and components through the use of analytical methods and modelling techniques. EA2 is covered in many modules across all years of study to provide concepts of system and components performance, and reinforce understanding through the use of analytical methods and modelling techniques in telecommunication systems. Through year 3 and 4 multimedia specific modules (EBU6305: Interactive Media Design and Production, EBU6230: Image and Video processing, EBU7405: 3D Graphics Programming Tools, and EBU724U: Computer Vision) students will be able to use analytical methods to identify and appraise multimedia systems components performance, for example the advantages and limitations of various media for the creation of multimedia content, and the effects of image and video coding techniques on media perceived quality.
B 3	[D1] Investigate and define a problem and identify constraints including environmental and sustainability limitation, health and safety and risk assessment issues. D1 is covered in many modules with particular emphasis being given in years 2 and 3 through modules such as: EBU5606 (Product Development and Marketing) and BBU7031 (Business Technology Strategy). In multimedia specific modules such as EBU6305 (Interactive Media Design and Production), EBU7405 (3D Graphics Programming Tools) and EBU724U (Computer Vision), students will be able to analyse and appraise the requirements and constraints of a range of problems related to multimedia content and systems creation and deployment.
B 4	[D3] Identify and manage cost drivers. Cost drivers are addressed across year 2 to 4 in both business related modules and technical modules such as Principles of Telecommunication Systems.
B 5	[D4] Use creativity to establish innovative solutions. The creativity to establish innovative solutions is covered in many modules. For example, students will be able to demonstrate the use of creativity to design solutions for practical business technology problems, and for the creation of multimedia content in response to a set task (EBU6305: Interactive Media Design and Production and EBU7405: 3D Graphics Programming Tools).
B 6	[D5] Ensure fitness for purpose for all aspects of the problem including production, operation, maintenance and disposal. D5 is covered by several modules in years 2, 3 and 4. For example, students will be able to demonstrate their ability to ensure fitness for purpose of their productions, during a design and build project (EBC6000), and during the design and production of an interactive multimedia application (EBU6305).
B 7	[D6] Manage the design process and evaluate outcomes. D6 is covered in several modules across all years of study. The design process is covered from software, hardware to wireless networks in telecommunication systems. The outcomes of these modules are assessed by coursework such as writing test report, programming assignment, multiple choice questions, etc. Students will also be able to demonstrate their ability to manage the design process and to evaluate their productions during a design and build project (EBC6000) and during the design and production of an interactive multimedia application (EBU6305).

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B 8	[P1] Knowledge of characteristics of particular materials, equipment, processes, or products. P1 is addressed by a several modules. For example, it is covered in introductory / foundational modules such as BBC4102 (Introduction to Electronic Systems) where basic components of circuits, such as resistors and conductors are introduced. Multimedia students will also gain knowledge and practical experience with some multimedia tools and software (e.g. Flash in EBU6305: Interactive Media Design and Production, and OpenGL in EBU7405: 3D Graphics Programming Tools).
B 9	[P8] Ability to work with technical uncertainty. P8 is initially introduced in BBC4102 (Introduction to Electronic Systems) and BBC4922 (Physics). This LO is then addressed from a more practical perspective during the EBC6000 (Design and Build) and BBC6521 (final year project) where the construction of complex systems allows students to consider how to mitigate uncertainty, and to develop skills for scenario analysis and ability to identify credible options in Engineering context. Through EBU724U (Computer Vision), multimedia students will also be able to demonstrate their ability to analyse various multimedia processing and delivery scenarios and identify the need for novel solutions.

Attributes:	
C 1	[S1] Knowledge and understanding of commercial and economic context of engineering processes. S1 is covered by 3 modules across 3 years of study. The commercial and economic context of engineering processes in telecommunications are addressed in the business modules EBU5606 (Product Development and Marketing) and BBU7031 (Business Technology Strategy). This LO is also emphasised in the technical module EBC6010 (Engineering Environment). Students will be able to define and illustrate commercial and economic context of multimedia engineering processes, thanks to case studies and discussions, and practical experience during a design and build project.
C 2	[S2] Knowledge of management techniques that may be used to achieve engineering objectives within that context. S2 is covered by 2 business modules in year 2 and year 3 respectively. In EBU5402 (Enterprise Management) students come across many management analytic tools which they can apply for decision making, project and operations management to achieve engineering objectives. This LO is also addressed in the Design and Build, an open ended group project which forms part of the EBC6010 (Engineering Environment) module.
C 3	[S3] Understanding of the requirement for engineering activities to promote sustainable development. S3 is covered by 3 modules. For example, corporate social responsibilities for sustainable development is covered in EBU5402 (Enterprise Management). PDP also covers this LO on ethical topics.
C 4	[S4] Awareness of the framework of relevant legal requirements governing engineering activities, including personnel, health, safety, and risk (including environmental risk). S4 is covered across several modules, and explicitly covered in EBU5402 (Enterprise Management), EBU6304 (Software Engineering), EBC5000 (Personal Development Plan 3) and BBC6521 (Project), where students are required to submit a Risk Assessment. In EBU6230 (Image and Video Processing), students will be able to identify issues and legal requirements in the practice of multimedia engineering activities, such as ethical issues and safety (e.g. hearing damage prevention).
C 5	[S5] Understanding of the need for a high level of professional and ethical conduct in engineering. S5 provides an excellent theme that is addressed within BBC3914 (English 1), BBC3923 (English 2) and BBC4106 & BBC4107 (Communication Skills 1 & 2), where teams of students are required to present aspects related to social issues and ethics. It is also covered explicitly in EBC4000 and EBC5000 PDP lectures. Professional and ethical conduct in engineering is also covered in extra curriculum activities, such as the IET talk given by staff from the IET Beijing office. Multimedia students will also be able to discuss the need of ethical conduct in the practice of multimedia engineering activities, for example current standards for data and copyright protection (addressed in EBU6230: Image and Video Processing).
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 enterprise management and 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. Multimedia students will also be able to explain how and in which contexts multimedia technology can be developed and deployed (covered in EBU5303: Multimedia Fundamentals).

C 7	[P4] Understanding use of technical literature and other information sources. For many modules P4 is a core part of the learning. Student have access to a vast number of books and electronic journals from which they complement their lectures and reference material for their coursework. For example, through EBU724U (Computer Vision), students will be able to discuss, review and summarise information from various resources including multimedia technical literature, as required in projects and courseworks.
C 8	[P5] Awareness of nature of intellectual property and contractual issues. P5 is addressed in both English modules in year 1 and particularly covered by BBU4161 (Programming Fundamentals) where software intellectual property is explicitly introduced. The LO is also emphasised in EBU5606 (Product Development and Marketing) where students are made aware of Intellectual property rights. Multimedia students will also be able to state and discuss the issues of patents and their interaction with multimedia standards as well as multimedia content protection issues (EBU6230: Image and Video Processing, and EBU724U: Computer Vision).

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

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 appropriate).

Most modules are shown with a value of 15 credits. This is to simplify the procedure to fit the QM system. EBU modules are

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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 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.

QMUL Model

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

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

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

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

Academic Year of Study FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
English Language and Study Skills 1	BBC3915	15	3	Core	0	Semester 1	No
Advanced Mathematics 1	BBC4911	15	4	Core	0	Semester 1	No
Linear Algebra	BBC4913	15	4	Core	0	Semester 1	No

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Personal Development Plan 1	EBC3000	1.8	3	Study only	0	Semesters 1 & 2	No
Programming Fundamentals	BBU4161	15	4	Core	0	Semester 2	No
English Language and Study Skills 2	BBC3924	15	3	Core	0	Semester 2	No
Introduction to Electronic Systems	BBC4102	15	4	Core	0	Semester 2	No
Advanced Mathematics 2	BBC4921	15	4	Core	0	Semester 2	No
Physics D	BBC4923	15	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
Engineering Mathematics 2	BBC4111	15	4	Core	1	Semester 1	No
Introduction to AI	BBC4931	15	4	Core	1	Semester 1	No
Signals and Systems Theory	BBU4374	15	4	Core	1	Semester 1	No
Enterprise Management	EBU5402	15	5	Core	1	Semester 1	No
Communication Skills 1	BBC4106	5	4	Core	1	Semester 1	No
Personal Development Plan 2	EBC4000	1.8	4	Study only	1	Semesters 1 & 2	No
Digital Circuit Design	EBU4202	15	4	Core	1	Semester 2	No
Introductory Java Programming	EBU4201	15	4	Core	1	Semester 2	No
Probability Theory and Stochastic Statistics	BBC4941	15	4	Core	1	Semester 2	No

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Digital Signal Processing	EBU5376	15	5	Core	1	Semester 2	No
Internet Protocols and Networks	EBU5213	15	5	Core	1	Semester 2	No
Communication Skills 2	BBC4107	10	4	Core	1	Semester 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
Advanced transform Methods	EBU6018	15	6	Core	2	Semester 1	No
Principles of Telecommunication Systems	BBU6302	15	6	Core	2	Semester 1	No
Multimedia Fundamentals	EBU5303	15	5	Core	2	Semester 1	No
Electric and Magnetic Fields	BBC5210	15	5	Core	2	Semester 1	No
Personal Development Plan 3	EBU5000	1.8	5	Study only	2	Semesters 1 & 2	No
Interactive Media Design and Production	EBU6305	15	6	Core	2	Semester 2	No
Software Engineering	EBU6304	15	6	Core	2	Semester 2	No
Machine Learning	CBU5201	15	5	Core	2	Semester 1	No
Image and Video Processing	EBU6230	15	6	Core	2	Semester 2	No
Product Development and Marketing	EBU5606	15	5	Core	2	Semester 2	No

Academic Year of Study FT - Year 4

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
Project	BBC6521	30	6	Core	3	Semesters 1 & 2	No
Engineering Environment (Telecom)	EBC6010	15	6	Core	all years	Semesters 1-3	No
Chinese Compulsory Topics	BBF7000	0	7	Core	all years	Semesters 1-3	No
Business Technology Strategy	BBU7031	15	7	Core	3	Semester 1	No
3D Graphics Programming Tools	EBU7405	15	7	Core	3	Semester 1	No
Computer Vision	EBU7240	15	7	Core	3	Semester 1	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.

How Do We Listen 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.

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. Students' views are considered in this process through analysis of the module evaluations and SSLC comments. In addition BUPT conducts a biannual review of all programmes.

Academic Support

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.

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

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