

Programme Title: MSc Telecommunication and Wireless Systems



## Programme Specification

Awarding Body/Institution	Queen Mary University of London
Teaching Institution	Queen Mary University of London
Name of Final Award and Programme Title	MSc Telecommunication and Wireless Systems
Name of Interim Award(s)	PG Certificate and PG Diploma
Duration of Study / Period of Registration	12 Months FT, 24 Months PT
QM Programme Code / UCAS Code(s)	H6JA
QAA Benchmark Group	Engineering
FHEQ Level of Award	Level 7
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

N/A

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

N/A

### Programme Outline

This programme provides training in the principles of converged networking, network planning, network management and network performance through an integrated curriculum designed to respond to rapid developments and growing demand in the discipline. It emphasises networked applications and the underlying information and communication technologies. At the end of the programme, you will be able to address major challenges in networking and understand how the different types of infrastructure affect design and commercial decisions.

### Aims of the Programme

To provide the students with the background and skills needed for careers in related technologies  
To provide an in-depth understanding of telecommunication systems  
To provide an in-depth understanding of network structure, protocols and technologies, of network modelling and performance, wireless and mobile networks and related systems, technologies and mathematical techniques.

Specific aims include the ability to identify major new networking challenges; solve selected performance problems in converged networks; sort and compare strategies for network planning and management; identify and compare communications strategies; identify and construct logical sub-tasks from a larger project.

### What Will You Be Expected to Achieve?

- Identify key networking issues and challenges
- Solve well-formulated performance problems in converged networks
- Compare strategies for optimal network planning and management
- Identify and compare selected physical layer strategies in communication systems as appropriate to converged telecommunication systems
- Identify and construct logical sub-tasks from a larger project oriented at telecommunication systems

#### Academic Content:

A 1	Theory, principles, concepts and methodologies fundamental to the engineering of telecommunications networks.
A 2	Current developments in the engineering of converged, all-packet, next generation networks
A 3	A range of research-led specialities concentrated around telecommunications networking.

#### Disciplinary Skills - able to:

B 1	Demonstrate comprehension and higher level cognitive skills necessary to solve engineering problems in telecommunications networking.
B 2	Demonstrate the ability to analyse and evaluate using the appropriate mathematical principles and techniques that underpin the analysis of telecommunications networks.
B 3	Demonstrate an understanding of the business, management and other contextual issues relevant to the field of telecommunication networks.

#### Attributes:

C 1	Develop a global perspective, particularly with respect to the globalization of networking.
C 2	Learn to engage critically with knowledge, and particularly with respect to measured network data in which many parameters are uncertain or non-stationary.
C 3	Understand the importance of learning continuously in a fast-moving world of communications.

QMUL Model Learning Outcomes - Level 4:

D1

D2

D3

### How Will You Learn?

Each non-project-based module involves lectures, problem solving coursework and practical sessions. 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. Practical sessions provide students with the guidance and help while solving a problem. These lessons take the form of exercise classes and programming laboratories that allow the students to learn-by-doing in order to complement the lectures.

### How Will You Be Assessed?

The assessment of taught courses takes place through a written examination and coursework.

The project is examined on the basis of a written report, a formal oral presentation, and a demonstration of the piece of software developed by the student.

### How is the Programme Structured?

Please specify the full time and part time programme diets (if appropriate).

The programme is structured to enable students to have some choice within the programme, while having core modules covering essential themes. The programme structure is as follows:

#### Semester 1

- ECS701P Communication Theory (15 credits)
- ECS702P Mobile and WLAN Technologies (15 credits)
- ECS703P 21st Century Networks (15 credits)
- ECS705P Software and Network Service Design (15 credits)

#### Semester 2

- ECS724P Network Modelling & Performance (15 credits)
- ECS725P Mobile Services (15 credits)

Select two options from:

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ECS726P Security and Authentication (15 credits)  
 ECS728P Business Technology Strategy (15 credits)  
 ECS746P Network Planning, Finance and Management (15 credits)  
 ECS757P Digital Media and Social Networks (15 credits)  
 ECS721P Next Generation Mobile (15 credits)

Semester 3

ECS750P Project

### 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

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester	QMUL Model
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

### What Are the Entry Requirements?

The entry requirements are a first or upper-second class degree in Electronic Engineering, Computer Science, Mathematics or a related discipline. Applicants with unrelated degrees will be considered if there is evidence of significant relevant industrial

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experience. Applicants with lower-second class degrees may be considered if the undergraduate degree specialised in the relevant subjects.

For international students, English Language skills are required to a recognised standard. The minimum requirement is: IELTS 6.5, TOEFL (CBT) 242 or TOEFL (written test) 580. For students not quite meeting this requirement (e.g. IELTS 6.0), enrolling on a one month pre-sessional English Language course is required. These conditions are higher than standard College conditions.

### How Do We Listen and Act on Your Feedback?

There are four SSLC meetings each academic year, two in each teaching semester. The meetings act as a forum for both students and staff to raise issues about the programmes, individual modules or facilities. Each semester students are invited to complete a web-based questionnaire 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.

### Academic Support

All students are assigned an academic advisor during induction week. The advisor role is to counsel students on their academic development including modules selection. The School has one Senior Tutor for Postgraduate students who responsible for the pastoral care of students.

### Programme-specific Rules and Facts

To obtain an MSc a student must gain passes in six of the eight taught modules taken and must pass the project. The pass mark is 50% for individual modules, but compensation is allowed for failure of up to two modules provided the mark in the module is not less than 30% and the candidate's average over all the taught courses is not less than 50%.

### Specific Support for Disabled Students

N/A

### Links With Employers, Placement Opportunities and Transferable Skills

The programme is scrutinised by a School Industrial Advisory Panel. The Panel meets annually to discuss research and teaching matters pertinent to our field.

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### Programme Specification Approval

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**Person completing Programme Specification**

Jennifer Richards

**Person responsible for management of programme**

Rupal Vaja

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

18th Jan 2017

**Date Programme Specification approved by  
Taught Programmes Board**