Mobile Communications

This version of the programme is no longer recruiting. Please refer to the updated programme specification for the programme with the same name.

Final award	MSc
Intermediate awards available	PGCert, PGDip
UCAS code	N/A
Details of professional body accreditation	N/A
Relevant QAA Benchmark statements	Engineering
Date specification last up-dated	August 2012

Profile

The summary - programme advertising leaflet

Programme content

The general aim of the programme is to provide the opportunity for graduate scientists/engineers and computer scientists to develop expertise to meet the increasing demands of the new technologies in mobile communications. The programme intends to promote and engender a positive interest in current practice and through the dissertation an understanding of research methods. This is to encourage students to respond to changes and developments and allow them to contribute to future developments.

MSc Mobile Communications at UEL

We have over 100 years of teaching Engineering and have developed programmes, which are current and will give you the opportunity to develop your understanding and skills. With a large proportion of computer laboratory and other practical work you will reinforce the theories and practices learnt in the classroom with 'hands on' experience. Our programmes offer you the opportunity to study the advanced knowledge and theories required for mobile communications and apply these to the practical work environment.

Admission requirements

The entry requirement for the MSc programme is normally satisfied by possession of one of the following:

1. A 2:2 or higher honours degree in Electrical Engineering, Electronic Engineering, Communication Engineering, Applied Mathematics or Physics.
2. A degree qualification of a subject and standard equivalent to 1. obtained after a programme of full-time study extending over a period of not less than three years in a recognised university outside the UK.

UEL is committed to recognising and accrediting prior learning and learning which may have derived from experience. Applicants who hold other qualifications and/or relevant experience

may apply to have that learning assessed in order to gain entry to the programme and/or credit towards an award. All enquiries should be directed to the Programme Leader.

Applicants whose first language is not English require an IELTS (International English Language Testing System) score of 6.0 or equivalent.

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Programme structure

The programme will be delivered across two semesters of 15 weeks duration for the taught modules of the full-time mode of study, with the project dissertation being completed during the following semester A or B or the Summer Vacation. The part-time provision will span two academic years for the taught modules and followed by the project dissertation. UK students opting for the part-time mode of study can accumulate credits over a longer period of time and can obtain the MSc award in no more than six years.

Learning environment

The programme benefits from access to communication and electrical/electronic engineering laboratories, an integrated circuit design,suite and IT labs. Teaching is delivered through formal lectures, tutorials, workshops, practical classes and laboratory sessions. Most lectures are supported by programme notes, which allow the student to concentrate on the lecture and complete some independent studies of his/her own. Group work is also encouraged in some modules.

Assessment

Assessment varies from module to module but will include examinations, coursework, and project work, and tests on competence in practical sessions.

Relevance to work/profession

The School has strong links with industry and benefits from vocationally based programmes designed to meet the needs of industrial partners. The School also hosts an Industrial Liaison Board meeting with members attending from local industries and commercial organisations.

Dissertation/project work

The research dissertation is a key element of this programme and as such counts as a double module. Research topics are often developed from work based problems and many are supported by industrialists.

The objective of the dissertation is to develop the student's ability to study independently, making their own critical appraisal of the chosen subject and drawing conclusions therefrom.

Students will be required to demonstrate that the research undertaken has been completed to an appropriate level for a Masters award. The dissertation must therefore, in general terms, include elements of research, independent work, the derivation of a product (through laboratory testing, critical analysis or computer programming) and the analysis of data.

The research will be required to make a contribution to the understanding of the field studied and will be supervised by a member of staff with an interest in the field.

Your future career

Many MSc students have successfully moved to careers in communications, engineering and computing industries or higher study in the UK, Europe and the USA. However a number of students have also embarked on careers in business, management, and finance.

How we support you

The School prides itself on its student support systems. Based on the practice of industry we operate an open door policy with students encouraged to consult with their tutors. Personal Tutors and Programme Leader will monitor your progress and provide assistance and advice with academic and personal problems.

The School facilities include dedicated computer labs and equipment, which you are free to use, as long as they are not required for a class. Technical support is readily available supported by academics.

Employer links are maintained through our Industrial Liaison Group and employers are invited to attend the University to talk to students about careers. The professional bodies also visit the University regularly and provide details on the qualification process and the advantages available to members.

Bonus factors

The programme benefits from its close links with industry

Outcomes

Programme aims and learning outcomes

What is this programme designed to achieve?

This programme is designed to give you the opportunity to:

Gain advanced theoretical and practical knowledge of the hardware and software technologies and techniques related to the application of mobile communications devices and systems. The programme gives an in depth understanding in the applications of mobile technology, hardware and software interaction and application development.

What will you learn?

Knowledge

1. Evaluate a range of mobile devices
2. Distinguish between different types of mobile architecture and their operating system
3. Apply design tools to improve the efficiency, reliability and security in time-variant wireless channels
4. Extend knowledge to capture the latest development in wireless communication systems and evaluate and model different RF devices

Thinking skills

5. Exercise appropriate engineering judgement in decision-making processes.
6. Systematically analyse problems and implement effective solutions

Subject-Based Practical skills

7. Plan and implement a major engineering project, write critical evaluations and defend the work undertaken.
8. Apply and develop expertise in a range of mobile applications

Skills for life and work (general skills)

9. Demonstrate an ability to study independently and effectively and to be able to convey technical information to others.
10. To develop interpersonal skills and be able to contribute and work effectively in a team environment

Structure

The programme structure

Introduction

All programmes are credit-rated to help you to understand the amount and level of study that is needed.

One credit is equal to 10 hours of directed study time (this includes everything you do e.g. lecture, seminar and private study).

Credits are assigned to one of 5 levels:

- 0 - equivalent in standard to GCE 'A' level and is intended to prepare students for year one of an undergraduate degree programme
- 1 - equivalent in standard to the first year of a full-time undergraduate degree programme
- 2 - equivalent in standard to the second year of a full-time undergraduate degree programme
- 3 - equivalent in standard to the third year of a full-time undergraduate degree programme

- M - equivalent in standard to a Masters degree

Credit rating

The overall credit-rating of this programme is **180 for Masters, 120 for PGDip**, **60 for PGCert**

Typical duration

The programme is offered on a one calendar year full-time basis. Each calendar year consists of two semesters for the taught modules, with the research dissertation being completed during the following semester A or B or the summer recess. The maximum registration period is four years for full-time students.

UK students opting for the part-time mode of study undertake the taught modules in two academic years and followed by the research dissertation. Part-time students can accumulate credits over a longer period of time and can obtain the MSc award in no more than and six years.

How the teaching year is divided

The programme will be delivered across two semesters of 15 weeks each (full-time) and the project dissertation will be completed during the summer vacation period or a 3rd semester giving a total of 45 or 60 weeks for the academic year. The part-time provision will span two academic years for taught modules, plus further study for the project dissertation. A typical full-time student will study two 30-credit modules per semester and a typical part-time student will study one module per semester. Assessment Boards are held in February, June and September.

What you will study when

The modules offered on this programme are as follows:

Semester	Code	Module title	Credit	status
A	CNM201	Design and Application of Mobile Computing Systems	30	Core
A	EEM129	Digital Signal Processing for Mobile Communications	30	Core
B	EEM127	RF and Microwave Engineering	30	Core
B	EEM128	Communication Networks	30	Core
A,B,C	EEM130	Research Dissertation	60	Core

The programme structure will operate as follows in the full-time modes:

Semester A   Semester B Summer Vacation or 3rd Semester
2 x 30 credits 2 x30 credits Project Dissertation 60 credits

Requirements for gaining an award

If a student attains 60 M level credits of taught modules and decides to proceed no further on the programme you will be awarded a Postgraduate Certificate.

If a student attains 120 M level credits of taught modules and decides to proceed no further on the programme you will be awarded a Postgraduate Diploma.

In order to obtain a Masters, you will need to obtain 180 credits at Level M. These credits will include a 60-credit level M core module of advanced independent research.

Masters Award Classification

Where a student is eligible for an Masters award then the award classification is determined by calculating the arithmetic mean of all marks and applying the mark obtained as a percentage, with all decimals points rounded up to the nearest whole number, to the following classification

70% - 100% Distinction
60% - 69% Merit
50% - 59% Pass
0% - 49%   Not Passed

Assessment

Teaching, learning and assessment

Teaching and learning

Various teaching methods are employed on the programme, including lectures, tutorials, seminars and laboratory work. In a lecture period, a member of the academic staff or a visiting lecturer presents ideas or information to a body of students. In a seminar, ideas are discussed by a group of students. The discussion is led by a member of the staff or a nominate student and moderated by one or more members of staff. In a tutorial the students solve problems under the guidance of a member of staff with whom they can also discuss information presented in a previous lecture.

In each field the time allocated over the semester to lecture, tutorials, seminars and laboratory work is left to the discretion of the lecturer involved. While more formal instruction (lectures and laboratory work) necessarily constitutes an important aspect of the work, tutorials, and to lesser extent seminars, are of value in providing time for students to discuss their problems with members of staff.

To enable students to derive maximum benefit from their period of attendance, lectures are designed to cover only essential subject matter, this being complemented by lecture handout notes. Considerable importance is attached to home assignments and a commitment to private study.

You are recommended to plan their work in advance, where practicable a programme of work, requirements of home assignments, together with reading references and tutorial sheets

are distributed at the beginning of each section of each module. Regular assessments of the students' work are undertaken in order to monitor progress and identify problem areas.

Assessment

Modules are allocated a mark out of 100%. The pass mark for each module is based on an aggregate mark of 50%. The aggregate mark comprises marks from components whose threshold is 40%. Assessment may incorporate one, two or three components.

The module specifications specify the mode of assessment for each module.

Assessment methods include formal examinations, phase tests, time constrained assignments, coursework, project work and group exercises.

Quality

How we assure the quality of this programme

Before this programme started

Before this programme started, the following was checked:

- there would be enough qualified staff to teach the programme;
- adequate resources would be in place;
- the overall aims and objectives were appropriate;
- the content of the programme met national benchmark requirements;
- the programme met any professional/statutory body requirements;
- the proposal met other internal quality criteria covering a range of issues such as admissions policy, teaching, learning and assessment strategy and student support mechanisms.

This is done through a process of programme approval which involves consulting academic experts including some subject specialists from other institutions.

How we monitor the quality of this programme

The quality of this programme is monitored each year through evaluating:

- external examiner reports (considering quality and standards);
- statistical information (considering issues such as the pass rate);
- student feedback.

Drawing on this and other information, programme teams undertake the annual Review and Enhancement Process which is co-ordinated at School level and includes student participation. The process is monitored by the Quality and Standards Committee.

Once every six years an in-depth review of the whole field is undertaken by a panel that includes at least two external subject specialists. The panel considers documents, looks at student work, speaks to current and former students and speaks to staff before drawing its

conclusions. The result is a report highlighting good practice and identifying areas where action is needed.

The role of the programme committee

This programme has a programme committee comprising all relevant teaching staff, student representatives and others who make a contribution towards the effective operation of the programme (e.g. library/technician staff). The committee has responsibilities for the quality of the programme. It provides input into the operation of the Review and Enhancement Process and proposes changes to improve quality. The programme committee plays a critical role in the quality assurance procedures.

The role of external examiners

The standard of this programme is monitored by at least one external examiner.

External examiners have two primary responsibilities:

- To ensure the standard of the programme;
- To ensure that justice is done to individual students.

External examiners fulfil these responsibilities in a variety of ways including:

- Approving exam papers/assignments;
- Attending assessment boards;
- Reviewing samples of student work and moderating marks;
- Ensuring that regulations are followed;
- Providing feedback through an annual report that enables us to make improvements for the future.

Listening to the views of students

The following methods for gaining student feedback are used on this programme: The following methods for gaining student feedback are used on this programme:

- Student questionnaires
- Student representation on programme committees (meeting normally 2 times year)
- Student/Staff consultative committee (meeting annually)

Students are notified of the action taken through: Students are notified of the action taken through: Publication of results on notice board, UEL-Direct leading to UEL Plus and circulating the minutes of the programme committee

Listening to the views of others

The following methods are used for gaining the views of other interested parties:

- Industrial liaison committee
- Professional accreditation visit
- Informal meetings

Further Information

Alternative locations for studying this programme

Location	Which elements?	Taught by UEL staff	Taught by local staff	Method of Delivery
Legenda College	MSc Mobile Communications	No	Yes	Full-time and Part-time
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Where you can find further information

Further information about this programme is available from:

- The UEL web site (http://www.uel.ac.uk)
- The student handbook
- Module study guides
- UEL Manual of General Regulations and Policies http://www.uel.ac.uk/qa/
- UEL Quality Manual http://www.uel.ac.uk/qa/
- Regulations for the Academic Framework http://www.uel.ac.uk/academicframework/
- The Schools website http://www.uel.ac.uk/cite

- Current External examiners
- External examiner reports (available from UEL virtual learning environment (UELPlus or Moodle))