

Geotechnics and Engineering Management

This programme is No Longer Recruiting.

Final award	MSc
Intermediate awards available	PgCert, PgDip
UCAS code	N/A
Details of professional body accreditation	
Relevant QAA Benchmark statements	Masters in Engineering (MEng)
Date specification last up-dated	September 2011

Profile

The summary - programme advertising leaflet

Programme content

The aim of the programme is to meet the needs of civil engineers engaged in the field of Geotechnics and Engineering Management and enhance their expertise in this area.

MSc at UEL

The programme is made up from core Geotechnics and Engineering Management modules covering ground investigation, soil-structure interaction, and project organisation alongside optional modules which include highway and transportation engineering and design for seismic effects.

This programme has been developed from the MSc Programme in Civil Engineering, to enable study of the particular issues and details associated with Geotechnics and Engineering Management. Postgraduate programmes in the field of Civil Engineering and Surveying have been successfully run at UEL since 1964.

Admission requirements

1. BEng (Hons) minimum 2:2 or BSc(Hons) minimum 2:1, both in Civil Engineering
2. Appropriate professional qualifications such as MICE or MStructE
3. Applicants with other qualifications will be considered on an individual basis

In the case of applicants whose first language is not English, then IELTS Academic 6.0 Overall, with no less than 5.5 in components, or equivalent, is required. International qualifications will be checked for appropriate matriculation to UK Higher Education postgraduate programmes.

Students that apply to enter stages of the programme may be admitted through normal Accreditation of Experiential Learning (AEL) or Accreditation of Certificated Learning (ACL) processes, or through an approved articulation agreement. Therefore such applicants

must be able to demonstrate and evidence that they have the required learning outcomes as listed in the modules for which they are seeking exemption.

Programme structure

The programme can be taken either in a part-time mode, by engineers employed in the UK, or in a full-time mode by either national or overseas engineers. The MSc is offered for full-time students with the possibility of being completed in one calendar year's duration. The MSc for part-time students has half load during the semesters and, consequently, the length of these studies is doubled. Part-time students require two years to complete the MSc programme.

Enrolment on the programme is possible either in semester A (starting in September, comprising the academic period from September to January) or semester B (starting in February, comprising the academic period from February to May).

Semester C (June-September) is only available for research supervision.

The programme consists of four 30-credit modules plus one 60-credit dissertation. The common schedules for MSc students are included below:

Full-time MSc student starting in semester A:

- Semester A (1st year): two 30-credit modules
- Semester B (1st year): two 30-credit modules
- Semester C (1st year) or Semester A (2nd year): 60-credit dissertation

Full-time MSc student starting in semester B:

- Semester B (1st year): two 30-credit modules
- Semester A (1st year): two 30-credit modules
- Semester B (2nd year): 60-credit dissertation

Part-time MSc student starting in semester A:

- Semester A (1st year): one 30-credit module
- Semester B (1st year): one 30-credit module
- Semester A (2nd year): one 30-credit module
- Semester B (2nd year): one 30-credit module
- Semester C (2nd year) and Semester A (3rd year), or Semesters A and B (3rd year): 60-credit dissertation

Part-time MSc student starting in semester B:

- Semester B (1st year): one 30-credit module
- Semester A (1st year): one 30-credit module
- Semester B (2nd year): one 30-credit module
- Semester A (2nd year): one 30-credit module
- Semesters B and C (3rd year), or Semesters B and A (3rd year): 60-credit dissertation

The maximum registration period is six years.

Students require one 30-credit module for a Postgraduate Associate Certificate, two 30-credit modules for the PGCert, four 30-credit modules for the PGDip (Intermediate awards) and four 30-credit modules plus a 60-credit Research Dissertation in the area of Geotechnics and Engineering Management for the MSc.

Learning environment

Teaching methods include lectures, tutorials, seminars, laboratory work and external site visits. Web based learning is also employed for the research dissertation.

Assessment

Assessment involves end of semester examinations and coursework. The aggregate pass mark for a module is 50% with minimum module component mark of 40%.

Relevance to work/profession

Our teaching is informed by strong links with industry and the profession. We welcome research dissertation topics arising from and linked to professional work.

Dissertation/project work

This gives you an opportunity to work independently making your own critical appraisal of a chosen subject. This may include literature survey, laboratory testing, numerical analysis with commercial computing software, and computer programming.

Added value

Accreditation from the JBM will be sought.

Your future career

Engineers qualified to masters level in Geotechnics and Engineering Management will find a wide range of career opportunities with consulting, contractor and client organisations, as well as in other related areas such as research and management.

How we support you

Students may approach staff for help with personal or academic problems either in person or by e-mail. A programme handbook provides all relevant information on the programme and the teaching resources. The research dissertation is carried out with the help of a web-based guidance notes and a project supervisor.

Bonus factors

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Outcomes

Programme aims and learning outcomes

What is this programme designed to achieve?

This programme is designed to give you the opportunity to:

- To gain an in depth knowledge and understanding of geotechnical design and engineering management issues in relation to civil engineering projects
- To understand the role of the structural engineer as an important professional in society and the built environment

What will you learn?

Knowledge

Understand the latest theories and practices in:

- Ground and site investigation
- Soil structure engineering
- Engineering Management
- Highway Design
- Design of structures for seismic effects

Thinking skills

Develop skills in:

- Development of models for the analysis of structures and their foundations
- Geotechnical Design
- Interpretation of results of ground and site investigation
- Engineering management techniques
- Critical assessment
- Interpret experimental and numerical data

Subject-Based Practical skills

Ability to:

- Use of computer design and construction management packages
- Use of office packages
- Use of current codes and relevant geotechnical design guidelines

Skills for life and work (general skills)

Ability to:

- Communicate effectively both verbally and in writing
- Express, discuss and defend technical ideas in front of others
- Work as a part of a design team

- Plan the work in advance, estimate the resources required, comply with deadlines and submit works in time

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 and 30 for PGAssCert.

Typical duration

The duration of this programme is one year full time if the enrolment is in September, and two years part-time.

How the teaching year is divided

The teaching year is divided into two semesters of roughly equal length (semester A, from September to January, and Semester B, from February to May). A typical student registered in a full-time attendance mode will study two 30-credit modules per semester and a typical student registered in a part-time attendance mode will study one 30-credit module per semester. February starts are also available.

What you will study when

The modules offered in this MSc in Geotechnics and Engineering Management are:

- CEM003: Engineering Management and Project Organisation (30-credit core module taught in semester B)
- CEM004: Soil Structure Engineering (30-credit core module taught in semester B)
- CEM009: Site Investigation Practice and Ground Exploration (30-credit core module taught in semester A)
- CEM010: Structural Dynamics and Earthquake Engineering (30-credit optional module taught in semester A)
- CEM012: Highway Engineering (30-credit optional module taught in semester B)
- CEM013: Transportation Engineering (30-credit optional module taught in semester A)
- CEM011: Research Dissertation (60-credit core module)

Requirements for gaining an award

In order to gain a Postgraduate Associate Certificate, you will need to obtain 30 credits at Level M.

In order to gain a Postgraduate Certificate, you will need to obtain 60 credits at Level M.

In order to gain a Postgraduate Diploma, you will need to obtain 120 credits at Level M

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 decimal 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

Knowledge is developed through:

- Lectures
- Tutorials
- Seminars
- Site visits

Thinking skills developed through:

- Coursework
- Mini projects
- Research dissertation

Practical skills:

- Laboratory experiments
- Design projects
- Planning of work required for the research dissertation

Skills for life developed through:

- Seminars
- Presentation of research
- Research dissertation

Assessment

Knowledge is assessed by:

- Coursework
- Examinations
- Research dissertation

Thinking skills are assessed by:

- Solutions to practical problems
- Evaluation of literature
- Evaluation of experimental data
- Research dissertation

Practical skills are assessed by:

- Use of design aids
- Use of computer aided design packages
- Laboratory experiments
- Preparation of research dissertation

Skills for life are assessed by:

- Seminars
- Design drawings
- Research dissertation
- Oral examinations

Quality

How we assure the quality of this programme

Before this programme started

Before the 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, in the case that these have been published (not applicable, since no benchmark requirements on MSc in Engineering have been published);
- 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 University's Quality Standing 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 to UEL 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:

- Module evaluations
- Student representation on programme committees

Students are notified of the action taken through:

- circulating the minutes of the programme committee
- providing charts on student feedback on the programme notice board

Listening to the views of others

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

- Questionnaires to former students
- Industrial liaison committee

Further Information

Alternative locations for studying this programme

Location	Which elements?	Taught by UEL staff	Taught by local staff	Method of Delivery
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Where you can find further information

Further information about this programme is available from:

- The UEL web site <http://www.uel.ac.uk>
- The programme handbook
- Module Specifications
- UEL Manual of General Regulations <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/>