MEng Civil Engineering

Course Aim and Title	MEng Civil Engineering
Intermediate Awards Available	BEng (Hons), BEng, Dip HE, Cert HE
Teaching Institution(s)	UEL
Alternative Teaching Institutions (for local arrangements see final section of this specification)	N/A
UEL Academic School	Architecture, Computing and Engineering
UCAS Code	4D77
Professional Body Accreditation	JBM Accredited: IEng (Full), CEng (Full)
Relevant QAA Benchmark Statements	Engineering
Additional Versions of this Course	N/A
Date Specification Last Updated	March 2019

Course Aims and Learning Outcomes

The general aim is to provide a course of study for civil and structural engineers of sufficient width and depth to meet the demands of their profession and to enable them to progress to the status of Chartered Engineer. A specific aim of the course is to promote an active interest in engineering and to encourage students to respond to changes and developments within their profession.

This course is designed to give you the opportunity to:

- educate students to a level that will enable them to function effectively as engineers in industry
- provide a width and depth of knowledge and understanding of current theories and developments in civil engineering
- enhance understanding of the integrated process of design and management relevant to civil engineering
- develop a critical awareness and understanding of the integrated nature of the construction industry.
- contribute to the development of the Engineer as an important professional in society and the built environment
- demonstrate self-direction and originality in solving problems and act autonomously in planning and implementing tasks at a professional level

What you will learn:

Knowledge

- Civil engineering procurement and construction process
- Principles of fluid mechanics, hydraulics and coastal engineering
- Soil mechanics, geotechnics and material science
- Principles of analysis & design of engineering structures
- Land surveys, setting out of building and civil engineering structures
- Analytical mathematical and IT problem-solving
- Integrated design and practical project applications

- Transportation Engineering
- Dynamics and advanced structural analysis
- Planning and project management
- Mental wealth/professional life

Thinking skills
- Critical assessment skills
- Intellectual appreciation
- Time management
- Risk Management

Subject-Based Practical skills
- Use of Information Technology
- Field surveying skills
- Laboratory testing and analysis

Skills for life and work (general skills)
- Communication skills
- Problem-solving skills
- Analytical skills
- Management skills
- Ethics
- Health and Safety
- Mental wealth/professional life

Learning and Teaching

Knowledge is developed through
- attending lectures/guest presentations
- engaging with formative tutorial work
- actively participating in design and project work
- guided-reading
- knowledge-based activities with feedback
- online-discussions and activities
- attending evening lectures/seminars hosted by the professional institutions

Thinking skills are developed through
- analytical assessment of data
- solving tutorial problems
- critical assessment of information
- problem-solving practical applications
- design and research projects
- reflective activities with feedback
- tutorial activities & discussions
- online discussions and activities

Practical skills are developed through
- laboratory and experimental work
- drawing and design
- field courses and site visits
- applying technical regulations to given scenarios
- application to real life and simulated case studies

- IT activities with feedback
- research skills-based activities with feedback
- seminar preparation and presentations

Skills for life and work (general skills) are developed through
- interactive communication exercises
- individual and group working sessions
- the demands of the study medium
- planning activities with feedback
- project and team work
- using of specialist software

Assessment

Knowledge is assessed by
- time-constrained examinations
- laboratory and field work exercises
- assignments, design and project work

Thinking skills are assessed by
- approach to solving problems
- analysis of alternative solutions
- practical solutions to complex tasks

Practical skills are assessed by
- laboratory reports and experimental assessment
- group survey work
- application to practical problem-solving

Skills for life and work (general skills) are assessed by
- oral presentations
- written communication exercises
- drawing, sketching and design work
- team project work
- use of specialist software

Students with disabilities and/or particular learning needs should discuss assessments with the Course Leader to ensure they are able to fully engage with all assessment within the course.

Work or Study Placements

Students, who have come directly onto the MEng Civil Engineering course, can opt to undertake a sandwich placement between the second and third year of study. Recently we have had students working for Atkins, Morgan Sindall, Balfour Beatty, Hardman Structural Engineering. Alternatively, some arrange work experience over the summer.

The School has strong links with industry and employers often approach us when looking for placement / internship students.

Relevant personnel from CfSS will oversee the administration of the year out placements and we are fortunate in the support of our Industrial Advisory Board (IAB) partners in enabling this important optional element to happen, although this is a competitive process and a placement cannot be guaranteed.

Course Structure

All courses 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:

3 Equivalent in standard to GCE 'A' level and is intended to prepare students for year one of an undergraduate degree course.
4 Equivalent in standard to the first year of a full-time undergraduate degree course.
5 Equivalent in standard to the second year of a full-time undergraduate degree course.
6 Equivalent in standard to the third year of a full-time undergraduate degree course.
7 Equivalent in standard to a Masters degree.

Courses are made up of modules that are each credit weighted.

The module structure of this course:

Level	Module Code	Module Title	Credit Weighting	Core/Option	Available by Distance Learning? Y/N
4	EG4019	Mental Wealth: Professional Life 1	20	Core	N
4	EG4014	Engineering Materials	20	Core	N
4	EG4011	Applied Mathematics & Computing	20	Core	N
4	EG4020	Thermofluids	20	Core	N
4	EG4015	Engineering Mechanics	20	Core	N
4	EG4018	Land Construction & Surveying (¥)	20	Core	N

5	EG5010	Mental Wealth: Professional Life 2	20	Core	N
5	EG5024	Advanced Mathematics and Modelling	20	Core	N
5	EG5018	Structural Analysis and Element Design	20	Core	N
5	EG5017	Ground Engineering	20	Core	N
5	EG5016	Engineering Surveying	20	Core	N
5	EG5031	Water Engineering	20	Core	N
5	EG5023	Industrial Sandwich Placement	120	Option	N
6	EG6010	Mental Wealth: Professional Life 3	20	Core	N
6	EG6011	Capstone Project	40	Core	N
6	EG6024	Structural Engineering	20	Core	N
6	EG6022	Geotechnical Engineering	20	Core	N
6	EG6026	Transport Infrastructure Engineering	20	Core	N
7	EG7034	Mental Wealth: Professional Life (Engineering Management)	30	Core	N
7	EG7038	Applied Research and Engineering Practice II	30	Core	N
7	EG7033	Structural Stability and Dynamics	30	Option	N

7	EG7005	Design in Steel and Concrete	30	Option	N
7	EG7032	Highway and Railway Engineering	30	Option	N
7	EG7037	Environmental Sustainable Engineering & Logistics	30	Option	N
7	EG7004	Soil Structure Engineering	30	Option	N
7	EG7031	Intelligent Transport Systems	30	Option	N

Please note: Optional modules might not run every year, the course team will decide on an annual basis which options will be running, based on student demand and academic factors, in order to create the best learning experience. ¥ = compulsory field trip)

Additional detail about the course module structure:

Part time day release students (including Degree Apprentices) would normally study 60 credits per academic year and follow the same structure as noted for full time study.

'Civil Engineer' Degree Apprentices would normally start at L4, whereas 'Civil Engineering Site Management' Degree Apprentices would normally start at L5.

- The learning outcomes for approximately 25% of the assignments for each part time study year are able to be achieved via work related examples/projects.
- The opportunity to achieve the learning outcomes via work based assignments will depend on the occupational profile of the apprentice.
- Work based assignment learning outcomes will be assessed by module teaching team under UEL's academic framework.

The optional level P placement module EGxxxx is required to obtain a sandwich degree, in addition to the other requirements, but does not count towards the degree classification.

A core module for a course is a module which a student must have passed (i.e. been awarded credit) in order to achieve the relevant named award. An optional module for a course is a module selected from a range of modules available on the course.

The overall credit-rating of this course is 480 credits. If for some reason you are unable to achieve this credit you may be entitled to an intermediate award, the level of the award will depend on the amount of credit you have accumulated. You can read the University Student Policies and Regulations on the UEL website.

Course Specific Regulations

The MEng Civil Engineering course is accredited IEng (Full) and CEng (Full) by the Joint Board of Moderators (JBM), which represents the Institution of Civil Engineers (ICE), the Institution of Structural Engineers (IStructE), the Chartered Institution of Highways and Transportation (CIHT) and the Institute of Highway Engineers (IHE).

This degree is accredited (at 3rd class honours and above) as:

1. fully satisfying the educational base for an Incorporated Engineer (IEng)
2. fully satisfying the educational base for a Chartered Engineer (CEng).

See www.jbm.org.uk for further information and details of Further Learning courses for CEng

.

The MEng Civil Engineering degree is accredited as fully satisfying the educational base for a Chartered Engineer (CEng) under the provisions of UK-SPEC. This professional accreditation means that the degree course can provide part of your preparation for Chartered Engineer status.

This course can provide the underpinning educational base for the 'Civil Engineer' Degree apprenticeship and the 'Civil Engineering Site Management' degree apprenticeship.

The School hosts a regular course of construction site visits open to all students on construction management courses. Students will benefit from visiting some of the most prestigious construction projects being built today in London with the opportunity to network with many civil engineering and construction company professionals. Recent visits have included the Tate Modern Phase 2 Extension courtesy of Mace and the Canary Wharf Crossrail Station courtesy of Canary Wharf Contractors.

Typical Duration

It is possible to move from full-time to part-time study and vice-versa to accommodate any external factors such as financial constraints or domestic commitments. Many of our students make use of this flexibility and this may impact on the overall duration of their study period.

The expected duration of this course is 4 years full-time or 8 years part-time.

Students are encouraged to undertake an optional industrial placement between L5 and L6

Day release/Degree Apprenticeship mode

There is also an 8-year part-time day release (including apprenticeships) mode of study, which does not include the Industrial Sandwich Placement.

- 'Civil Engineer' Degree Apprentices would normally start at L4
- 'Civil Engineering Site Management' Degree Apprentices would normally start at L5

Further Information

More information about this course is available from:

- The UEL web site (www.uel.ac.uk)
- The course handbook
- Module study guides
- UEL Manual of General Regulations (available on the UEL website)
- UEL Quality Manual (available on the UEL website)
- School web pages
- Institution of Civil Engineers http://www.ice.org.uk
- Joint Board of Moderators http://www.jbm.org.uk/
- Engineering Council http://www.engc.org.uk/

All UEL courses are subject to thorough course approval procedures before we allow them to commence. We also constantly monitor, review and enhance our courses by listening to student and employer views and the views of external examiners and advisors.

Additional costs:

For the 2018/19 academic year these were typically:

Compulsory field trip (at levels 4): £300 - £400 per student

Optional field trip (at L6): £500

Note that cost could be considerably lower if students book ahead of time and/or share accommodation with friends.

Besides the normal costs of stationery, there are also costs involved in the purchase of specialist construction PPE, drawing equipment and transport costs to two/ three day trips to exhibitions and trade fairs. These costs will be in the region of £150 for the course.

Alternative Locations of Delivery

The course is offered only on UEL campus