

BEng (Hons) Civil Engineering

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| Course Aim and Title | BEng (Hons) Civil Engineering |
| Intermediate Awards Available | BEng, Dip HE, Cert HE |
| Teaching Institution(s) | UEL |
| Alternative Teaching Institutions (for local arrangements see final section of this specification) | AKMI Metropolitan College, Greece British College of Applied Studies (BCAS), Sri Lanka Myanmar Nobel College, Myanmar |
| UEL Academic School | Architecture, Computing and Engineering |
| UCAS Code | H200 |
| Professional Body Accreditation | <u>UEL on-campus BEng (Hons) only; not at the alternative teaching institutions</u> JBM Accredited: IEng (Full) CEng (Partial) Accredited by Chartered Institution of Civil Engineering Surveyors (ICES) |
| Relevant QAA Benchmark Statements | Engineering |
| Additional Versions of this Course | BEng (Hons) Civil Engineering and Construction (at Metropolitan College, Greece) BEng (Hons) Civil Engineering with Structural Design (at British College of Applied Studies, Sri Lanka) BEng (Hons) Civil Engineering with Structural Design (at Myanmar Nobel College, Myanmar) |
| Date Specification Last Updated | March 2019 |

Course Aims and Learning Outcomes

The general aim is to provide an educational course of study for Civil and Structural engineers that with further learning will 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 engineers to a level that will enable them to function effectively in industry
- provide knowledge and understanding of current theories and developments in civil engineering
- enhance understanding of the design and management processes relevant to civil engineering
- encourage critical awareness and understanding of other professionals in the construction industry
- contribute to the development of the Engineer as an important professional in society and the built environment
- allow progression in career and educational development giving opportunities to study for a postgraduate Masters degree.

What you will learn:

Knowledge

- Civil engineering procurement and construction process
- Principles of fluid mechanics and hydraulics
- 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
- Design and practical project applications

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

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

For our on-campus based students:

Students, who have come directly onto the BEng (Hons) 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. 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 |

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| 4 | EG4020 | Thermofluids | 20 | Core | N |
| 4 | EG4015 | Engineering Mechanics | 20 | Core | N |
| 4 | EG4018 | Land Construction & Surveying (¥) | 20 | Core | N |
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| 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 |
| <i>On-campus students who take an optional industrial sandwich placement would normally do so after completion of L5 modules. They are required to register for:</i> | | | | | |
| 5 | EG5023 | Industrial Sandwich Placement | 120 | Option | N |
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| 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 |
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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 EGXXX 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 360 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

For our UEL on-campus students:

The BEng (Hons) Civil Engineering course is accredited IEng (Full) and CEng (Partial) 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. partially satisfying the educational base for a Chartered Engineer (CEng). A course of accredited Further Learning will be required to complete the educational base for CEng.

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

This professional accreditation means that the degree course can provide part of your preparation for Chartered Engineer status. It can also give you entry to one of our Masters degrees to provide further learning.

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

The BEng (Hons) Civil Engineering degree is also accredited by the Chartered Institution of Civil Engineering Surveyors.

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.

For students at our collaborative partners (Metropolitan College, BCAS or MNC):

This course is not accredited by the JBM, however students may apply directly to the JBM for accredited status on an individual basis.

This course is not approved as providing the underpinning educational base for either the 'Civil Engineer' Degree apprenticeship or the 'Civil Engineering Site Management' degree apprenticeship.

For students at our collaborative partner at Metropolitan College:

This course, is delivered and assessed in Greek, and is titled BEng (Hons) Civil Engineering and Construction.

For students at our collaborative partner at BCAS:

Only the following elements of the course are delivered and assessed, as a Top-up qualification for BEng (Hons) Civil Engineering with Structural Design: 30 credits at L5 (EG5103 Engineering Maths and Hydraulic Analysis) and 120 credits at L6 (excluding EG6108 Construction Site Field Project).

For students at our collaborative partner at MNC:

Only the following elements of the course are delivered and assessed, as a top-up qualification for BEng (Hons) Civil Engineering: 30 credits at L5 (EG5109 Structures, Geotechnics and Surveying) and 120 credits at L6 (excluding EG6108 Construction Site Field Project).

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 3 years full-time or 6 years part-time.

Day release/Degree Apprenticeship mode

There is also a 6 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

A student cannot normally continue study on a course after 4 years of study in full time mode unless exceptional circumstances apply and extenuation has been granted. The limit for completion of a course in part time mode is 7 years from first enrolment.

For students at our collaborative partner at BCAS:

The expected duration of the course is 1 year full time.

For students at our collaborative partner at MNC:

The expected duration of the course is 1 year full time or 2 years part-time.

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 level 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

For students at our collaborative partner (Metropolitan College BCAS and MNC):

This course does not have professional body accreditation although students are encouraged to make individual applications for accredited status.

This course is not approved as providing the underpinning educational base for either the 'Civil Engineer' Degree apprenticeship or the 'Civil Engineering Site Management' degree apprenticeship.

Industrial Sandwich Placement module is not available.

For students at our collaborative partner at Metropolitan College:

This course is delivered and assessed in Greek.

For students at our collaborative partner at BCAS:

- Only the following elements of the course are delivered and assessed, as a Top-up qualification for BEng (Hons) Civil Engineering: 30 credits at L5 and 120 credits at L6

- The expected duration of the course is 1 year full time.

For students at our collaborative partner at MNC:

- Only the following elements of the course are delivered and assessed, as a Top-up qualification for BEng (Hons) Civil Engineering: 30 credits at L5, and 120 credits at L6.
- The expected duration of the course is 1 year full time or 2 years part-time