

Civil Engineering

Final award	BEng(Hons)
Intermediate awards available	Cert HE; Dip HE
UCAS code	H200
Details of professional body accreditation	JBM Accredited CEng (Partial)
Relevant QAA Benchmark statements	Engineering
Date specification last up-dated	May 2013

Alternative locations for studying this programme

Location	Which elements?	Taught by UEL staff	Taught by local staff	Method of Delivery
Linton Education Group, Malaysia (Not accredited by the JBM)	Entire Programme	No	Yes	Full-time

Profile

The summary - UCAS programme profile

BANNER BOX:

Programmes in Civil Engineering are accredited by the professional institutions and benefit from close links with these and many major employers.

ENTRY REQUIREMENTS

Either (i) GCE Advanced level or equivalent, including Mathematics A2 minimum grade D, with a minimum UCAS tariff of 280 points. Mathematics, English and either Physics or Double Science must be included at GCSE level minimum grade C. Or (ii) A BTEC/EDEXCEL National qualification in a cognate subject with minimum grades MMM including Mathematics and Further Mathematics both with minimum grade M.

Applicants for the full time programme who hold a good higher national diploma in civil engineering will be considered for direct entry to level 2.

Applicants for part time will normally hold a good higher national certificate in civil engineering. Applicants with other qualifications who seek entry to the part time programme should contact the Programme Leader or Admissions Tutor.

Students may be admitted through Accreditation of Experiential Learning (AEL) or Accreditation of Certificated Learning (ACL) processes.

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

ABOUT THE PROGRAMME

What is Civil Engineering?

For hundreds of years civil engineers have contributed to the health and welfare of society. Roman viaducts and roads, the Suez and Panama canals, the Eiffel tower, the Channel Tunnel, the London Eye and the Olympic Stadium are just a few of the thousands of great civil engineering accomplishments. Whether it be in design, construction or management civil engineers provide innovative and technical abilities that will ensure a projects success. Civil Engineering is a profession that makes a 'real' contribution to society.

Civil Engineering at UEL

The University of East London which evolved from North East London Polytechnic has over 100 years of experience in teaching engineering and has developed programmes that reflect current practices and give students the opportunity to develop an understanding of engineering applications and learning skills. The programmes contain a large proportion of laboratory and practical work to reinforce the theories and practices learnt in the classroom with 'hands on' experience developed through field courses. The programmes also provide an opportunity to study the fundamental knowledge and theories required by all Civil Engineers and apply these to the practical work environment.

Programme structure

Study is based on three years full-time or four years sandwich with an industrial placement between levels two and three. The programme includes field trips, at level 2, covering surveying and geology which are undertaken on a residential basis in locations such as Bournemouth, Tenby, Newquay and North Wales.

Learning environment

The programme benefits from access to purpose built labs, up-to -date drawing office and IT labs and modern surveying equipment. Teaching is delivered through formal lectures, tutorials, workshops, practical classes and laboratory sessions. Lectures are supported by key text books and on line materials which allow you to concentrate on the lecture and complete some independent studies of your own. Further learning and skill development is encouraged through site visits, guest lectures, team work, and interdisciplinary design projects.

Assessment

Assessment varies from module to module but will include examinations, coursework, project work, design work, laboratory reports, time constrained and open book assignments and tests on competence in practical sessions.

Work experience/placement opportunities

The School has strong links with industry and hosts a number of visits at which informal interviews for full and part-time employment opportunities take place. We advise and support you in making your applications.

Project work

Project work is an important feature of this programme. Throughout your studies you will undertake a number of small projects. Starting with group research and design projects at level 1, through to team run interdisciplinary research projects at level 3. During the final year of the programme you will be required to complete a research project in the form of independent research and study of a technical subject. This project will be supervised by a member of staff with an interest in the field and will normally include some laboratory work or the analysis of a specific engineering problem. The project constitutes one third of the final level of the programme.

Added value

The BEng(Hons) Civil Engineering programme is accredited CEng(Partial) by the Joint Board of Moderators, 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 programme 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 programmes for CEng.

This professional accreditation means that the degree programme 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.

IS THIS THE PROGRAMME FOR ME?

If you are interested in...

- design
- management
- surveying
- construction
- environmental engineering
- structures
- hydraulics
- highways and transportation
- geology and geotechnics

If you enjoy...

- team work
- designing and building things
- variety
- indoor and outdoor work
- mathematics
- science
- physics
- information technology

If you want...

A traditional degree with a real practical emphasis geared to meet the needs of employers and the opportunity to study various built environment specialisms.

Your future career

Opportunities are available in all aspects of construction, consultancy, research and design in civil, structural, water engineering, geotechnics, IT or transportation. Many graduates have also successfully moved to careers in business, project management, and finance.

How we support you

The School prides itself on its student support systems. We encourage you to consult with your tutors, who 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 Advisory Board and employers are invited to attend the University to talk to students about careers in civil engineering. The professional bodies also visit the University regularly and provide details on the qualification process and the advantages available to members.

Bonus factors

Civil Engineering is studied at the Docklands Campus at the heart of the East London catchment area. Transport links are available via bus or tube linking Central London and major airports.

Local Civil Engineering companies visit our School regularly seeking to recruit quality students for work within the industry. The strong industrial links provided through our industrial advisory board encourages the employment and career paths of our engineers.

Outcomes

Programme aims and learning outcomes

What is this programme designed to achieve?

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

Throughout the programme there are overlapping objectives:

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

What will you learn?

Knowledge and understanding of;

- science, mathematics and associated engineering disciplines
- engineering analysis
- design
- economic, social and environmental context
- engineering practice

and the ability to apply them effectively in the civil engineering industry.

Knowledge

- Civil Engineering procurement and construction process
- Principles of fluid mechanics and hydraulics
- Soil mechanics, geotechnics and material science
- Principles of analysis & design of civil 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

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

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

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Credit rating

The overall credit-rating of this programme is 360 credits.

Typical duration

The typical duration of this programme is 3-years full-time. Part time study, requiring attendance on up to 2 days per week, is possible for all levels of the programme. It is possible in certain circumstances to move from full-time to part-time study and vice-versa to

accommodate any external factors such as financial constraints or domestic commitments. Some of our students make use of this flexibility and this may impact on the overall duration of their study period.

How the teaching year is divided

The teaching year is divided into two semesters of roughly equal length.

This programme is a modular degree with a typical full time student studying 6 modules at a value of 20 credits per module in each year.

What you will study when

This programme is part of a modular degree scheme, but professional accreditation only applies to those who follow the core modules for the Civil Engineering programme listed below:

The following are the core and optional requirements for the single and major pathways for this programme

SKILLS MODULES					
Level	Code	Module title	credit	(Insert Y where appropriate)	status
1	CE1201	Skills for Academic Learning in the Built Environment	20	Y	Core
1	CE1302	Structural Mechanics	20		Core
1	CE1303	Engineering Material Properties	20		Core
1	CE1204	Mathematics and Computing	20		Core
1	CE1305	Introduction to Engineering Surveying	20		Core
1	CE1306	Construction Technology and Measurement	20		Core
2	CE2211	Professional Studies	20	Y	Core
2	CE2202	Engineering Surveying	20		Core
2	CE2203	Analysis and Design of Structural Elements	20		Core
2	CE2304	Geotechnics	20		Core
2	CE2205	Engineering Mathematics	20		Core
2	CE2206	Hydraulics	20		Core
3	CE3216	Final Project	40	Y	Core
3	CE3202	Structural Engineering	20		Core
3	CE3203	Geotechnical Engineering	20		Core
3	CE3204	Integrated Design	20		Core
3	CE3205	Water and Environmental Engineering	20		Core

Requirements for gaining an award

In order to gain an honours degree you will need to obtain 360 credits including:

- A minimum of 120 credits at level one or higher
- A minimum of 120 credits at level two or higher
- A minimum of 120 credits at level three or higher

In order to gain an ordinary degree you will need to obtain a minimum of 300 credits including:

- A minimum of 120 credits at level one or higher
- A minimum of 120 credits at level two or higher
- A minimum of 60 credits at level three or higher

In order to gain a Diploma of Higher Education you will need to obtain at least 240 credits including a minimum of 120 credits at level one or higher and 120 credits at level two or higher

In order to gain a Certificate of Higher Education you will need to obtain 120 credits at level one or higher.

In order to gain a Foundation Degree you will need to obtain a minimum of 240 credits including:

- A minimum of 120 credits at level one or higher
- A minimum of 120 credits at level two or higher

(A foundation degree is linked to a named Honours degree onto which a student may progress after successful completion of the Foundation degree.)

Degree Classification

Where a student is eligible for an Honours degree, and has gained a minimum of 240 UEL credits at level 2 or level 3 on the programme, including a minimum of 120 UEL credits at level 3, the award classification is determined by calculating:

The arithmetic mean of the best 100 credits at level 3 $\times 2/3$ + The arithmetic mean of the next best 100 credits at levels 2 and/or 3 $\times 1/3$

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% First Class Honours
- 60% - 69% Second Class Honours, First Division
- 50% - 59% Second Class Honours, Second Division
- 40% - 49% Third Class Honours
- 0% - 39% Not passed

Assessment

Teaching, learning and assessment

Teaching and learning

Knowledge is developed through

- Lectures and Seminars
- Assignments
- Projects
- Design Work
- Use of IT
- 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

Practical skills are developed through

- Laboratory and experimental work
- Drawing and design
- Field courses and site visits

Skills for life and work (general skills) are developed through

- Interactive communication exercises
- Individual and group working sessions

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

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;
- 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 external examiners. External examiners have two primary responsibilities:

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

Listening to the views of students

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

- Module evaluations
- Staff/Student representation on programme committees (meeting 2 times year)
- Field feedback information analysis for programme and module evaluation

Students are notified of the action taken through:

- circulation the minutes of the programme committee
- the provision of details on the programme notice board
- the posting of the minutes on the web site

Listening to the views of others

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

- Feedback from external examiners
- Industrial Liaison committee
- Information from professional bodies

Further Information

Where you can find further information

Further information about this programme is available from:

- The UEL web site
- The student handbook
- UEL Manual of 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>
- Institution of Civil Engineers <http://www.ice.org.uk>

- School of Architecture, Computing and Engineering web pages
<http://www.uel.ac.uk/ace>