

**METROPOLITAN COLLEGE
UNIVERSITY OF EAST LONDON**

**UNDERGRADUATE PROGRAMME SPECIFICATION
BEng (Hons) Civil Engineering & Construction -
Extended**

Final award	BEng(Hons) Civil Engineering & Construction - Extended
Intermediate awards available	BEng , Cert HE, Dip HE
Mode of delivery	FT – PT AMC
Relevant QAA Benchmark statements	Engineering
UEL Academic School	Architecture, Computing and Engineering
Date specification last up-dated	January 2017

The summary

“Study in one of the most diverse professions around and with established career paths in everything from planning and designing transport systems to enhancing the energy efficiency of buildings or undertaking the treatment and restoration of contaminated sites.”

ENTRY REQUIREMENTS

The standard entry requirement **for Greek students** entering level 3 will be a Greek Secondary School diploma (Apolytirion of Lykeio) with a minimum average of 10 (equivalent of 50%). Non-Greek nationals who have obtained this qualification through attendance in the Greek schooling system will be eligible for admission on the same basis as Greek nationals. Greek nationals who have been schooled overseas may be admitted to the programme on demonstrating that:

1. They hold a qualification recognised by UEL for admission to undergraduate programmes, as documented in the current edition of the “Blue Book”

For students entering level 4, the standard entry requirement will be a Greek Secondary School diploma (Apolytirion of Lykeio) with a minimum Apolyterion average of 15.

AMC has an organized interviewing and admissions process which it follows for every academic programme it offers. Candidates are expected to sit one or more interviews with a qualified interviewer (who is usually the Course Leader in the student’s respective subject area of interest). Following the interview, candidates are required to fill out an application form which formalizes their request to be granted admission to their chosen programme of study. All decisions on student admission are then undertaken by a committee consisting of the Director, the Programme Leader, and selected course tutors.

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

For International Students:

- From A Level:
including passes at A2 in at least 2 subjects, must include Maths minimum grade C
- From Btec:
Extended Diploma (QCF) or Diploma (QCF) in a related subject grade MMM. Must include Merit in both Mathematics and Further Mathematics.
- From International Baccalaureate:
Diploma with 27 points including a minimum of 15 points at Higher Level and must include Maths and Physics at Higher Level

We would normally expect you to have Grade C in GCSE Mathematics, English and either Physics or Double Science.

English language requirements for all students:

Overall IELTS 6.0 with a minimum of 6.0 in Writing and Speaking; minimum 5.5 in Reading and Listening (or recognised equivalent).

ABOUT THE PROGRAMME

What is Civil Engineering?

For hundreds of years civil engineers have played a vital role contributing 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.

BEng (Hons) Civil Engineering & Construction at AMC

The University of East London which has 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. This programme is now delivered at AMC by highly qualified staff whith extensive academic and professional experience.

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 3 years full time, (4 years extended) or 6 years day-release part-time (up-to 60 credits per academic year).

- students are encouraged to undertake an optional industrial placement between level 5 and 6
- includes field trips covering surveying and geology
- site visits to current civil engineering and construction projects are regularly available throughout the academic year
- showcase of design work to local employers

Learning environment

The programme benefits from access to purpose built labs, an up-to-date drawing office, IT labs and modern surveying equipment. Teaching is delivered through formal lectures, tutorials, practical classes, field work 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 assessments and open book assignments and tests on competence in practical sessions.

Feedback will be provided for all activities. This may take the form of: comments on the practical work during the session or laboratory class, response to emails, etc.

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

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 4, through to team run integrated design projects at level 6, you will have an opportunity to develop your own ideas, work in groups and research specific topics.

During level 6 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 subject area and will normally include some laboratory work or the analysis of a specific engineering problem.

IS THIS THE PROGRAMME FOR ME?

If you are interested in

- design, management, surveying, construction, sustainable and environmental engineering, structures, hydraulics, highways and transportation, geology and geotechnics
- leaving a lasting legacy in the built environment
- solving problems and working as a team
- turning design solutions into reality
- having a rewarding career with great prospects

If you enjoy....

- *designing and building things*
- *being well organised and planning ahead*
- *using logic and problem solving skills*
- *working both indoors and outdoors*
- *dealing with a wide range of people*
- *being rewarded for your achievements*
- *working where no two days are the same*

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
 - teaching by experienced academics enhanced with guest lecturers from industry
- ...then the BEng (Hons) in Civil Engineering and Construction at AMC is the course for you.

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

AMC operates with an open door policy with students encouraged to consult with their tutors on a regular basis. Personal tutors will monitor progress and provide assistance and advice with academic and personal problems.

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

Extensive use is made of the AMC Virtual Learning Environment (VLE) known as 'Moodle'. In addition to study material, a variety of interactive teaching & learning facilities are available such as message and discussion boards where students can post queries to the whole group and staff.

Programme aims and learning outcomes

What is this programme designed to achieve?

This programme is designed to give you the opportunity to:

The general aim is to provide an educational programme of study for Civil and Structural engineers that with further learning will meet the demands of their profession. 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.

This programme is designed 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 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 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

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:

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

Credit rating

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

Typical duration

The expected duration of this programme is 3 years full-time (4 years if on extended programme) or 6 years part-time (7 years on extended programme).

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. A student cannot normally continue study on a programme after 4 years of study in full time mode unless exceptional circumstances apply and extenuation has been granted. The limit for completion of a programme in part time mode is 8 years from first enrolment.

How the teaching year is divided

The teaching year begins in October and ends in June

A typical student, in full-time attendance mode of study, will register for 120 credits in an academic year. A student in a part-time mode of study may register for up to 90 credits in any academic year.

What you will study when

A student registered in a full-time attendance mode will take 120 credits per year. Typically this will be comprised of four 30 credit modules. The exact number may differ if the programme is comprised of 15, 45 or 60 credits modules. An honours degree student will complete modules totalling 120 credits at level four, modules totalling 120 credits at level five and modules totalling 120 credits at level six.

Year 0 (Level 3, extended BEng only)

Semester A	EG3101	EG3102	EG3103	
	Mathematics	Physical Science	Engineering in Society	
Semester B	[45 credits]	[45 credits]	[30 credits]	

Level	Module Code	Module Title	Distance learning Y/N	Credits	Status *
4	EG4101	Introduction to Structural Mechanics	N	30	Core
4	EG4102	Earth and Materials properties	N	30	Core
4	EG4103	Maths and Introduction to Fluid Mechanics	N	30	Core
4	EG4104	Construction Technology & Surveying	N	30	Core
5	EG5101	Analysis and Design of Structural Elements	N	30	Core
5	EG5102	Geotechnical and Material Analysis	N	30	Core
5	EG5103	Engineering Maths and Hydraulic Analysis	N	30	Core
5	EG5104	Engineering Surveying and Management	N	30	Core

Students who take an optional industrial sandwich placement would normally do so after completion of level 5 modules. They are required to register for:

P	EG5100	Industrial Sandwich Placement	N	120	Option
6	EG6101	Structural Analysis and Design	N	30	Core
6	EG6102	Geotechnical Engineering Design	N	30	Core
6	EG6103	Integrated Design Project	N	30	Core
6	EG6104	Individual Research Project	N	30	Core

**Please Note – A core module for a programme 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 programme is a module selected from a range of modules available on the programme.*

The optional level P placement module EG5100 is required to obtain a sandwich degree, in addition to the other requirements, but does not count towards the degree classification.

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 four or higher
- A minimum of 120 credits at level five or higher
- A minimum of 120 credits at level six 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 four or higher
- A minimum of 120 credits at level five or higher
- A minimum of 60 credits at level six 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 four or higher and 120 credits at level five or higher

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

Degree Classification

Where a student is eligible for an Honours degree by passing a valid combination of modules to comprise an award and has gained the minimum of 240 UEL credits at level 5 or level 6 on the current enrolment for the programme, including a minimum of 120 UEL credits at level 6, the award classification is determined by calculating;

The arithmetic mean of the best 90 credits at level 6	x	0.8	+	The arithmetic mean of the next best 90 credits at levels 5 and/or 6	x	0.2
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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%	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

Teaching, learning and assessment

Teaching and learning

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

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 subject area 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.

The external examiner reports for this programme are located on the UEL virtual learning environment (Moodle) on the school notice board under the section entitled 'External Examiner Reports & Responses'. You can also view a list of the external examiners for the UEL School by clicking on the link below.

<http://www.uel.ac.uk/qa/externalexaminersystem/currentexaminers/>

Listening to the views of students

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

List the methods that you use e.g.

- Module evaluations
- Programme evaluations
- Student representation on programme committees (meeting 2 times year)
- Open forums at least twice per year

Students are notified of the action taken through:

List the methods that you use e.g.

- circulating the minutes of the programme committee
- providing details on the programme noticeboard
- individual responses to students as required

Listening to the views of others

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

- Feedback from external examiners
- Industrial Advisory Board
- Information from professional bodies
- Annual student satisfaction questionnaire

Further information

Where you can find further information

Further information about this programme is available from:

The UEL web site (<http://www.uel.ac.uk>)

The AMC website (<http://www.metropolitan.edu.gr>)

- The programme handbook
- Module study guides

UEL Manual of General Regulations (<http://www.uel.ac.uk/qa/policies/manual/>)

UEL Quality Manual (<http://www.uel.ac.uk/qa/policies/qualitymanual/>)

School of Architecture, Computing and Engineering web pages

<http://www.uel.ac.uk/ace>

Institution of Civil Engineers <http://www.ice.org.uk>

Joint Board of Moderators <http://www.ibm.org.uk/>

Engineering Council <http://www.engc.org.uk/>