

Civil Engineering & Construction Management

**Please note that this programme specification is currently being revalidated and will be updated by end of July 2014.*

Final award	FdSc. (Foundation Degree)
Intermediate awards available	Cert HE
UCAS code	HK22
Details of professional body accreditation	None at present but formal accreditation is currently being renewed with all three of the following professional industry bodies – Institution of Civil Engineers (ICE), The Chartered Institution of Civil Engineering Surveyors (ICES) & The Chartered Institute of Building (CIOB).
Relevant QAA Benchmark statements	Foundation Degrees
Date specification last up-dated	June 2012

Contents

This programme specification contains the following sections:

BANNER BOX:

The construction industry is one where there has always been close co-operation between engineers, surveyors and contractors and this course reflects the multi-disciplinary nature of the industry featuring route specific options in civil engineering, civil engineering surveying and construction management. There has always been very close links between these three areas in that they all share the same core units for the majority of the first year and one module in the final year.

The Foundation Degree in Civil Engineering & Construction Management provides a work related programme of study Successful completion can lead to entry to any one of the following honours degree dependant on the choice of optional route modules:

- BSc (Hons) in Civil Engineering;
- BSc (Hons) in Construction Management
- BSc (Hons) in Civil Engineering Surveying & Mapping Sciences

The programme would suit those already working in the construction industry who would like to obtain a formal qualification. Civil Engineers and Construction Managers play a vital role in both design and construction of the 2012 Olympics, Crossrail and other major infrastructure and construction developments.

ENTRY REQUIREMENTS

Candidates will be expected to have 120 UCAS tariff points, however mature candidates will be considered on an individual basis. Entry is possible in both semester A & B. There is also a language requirement that If English is not the candidates first language, we require an English language skills test to be taken with a successful outcome of an overall IELTS score of 5.5 with no skill level below 5.0.

ABOUT THE PROGRAMME

What is the content of the course?

Civil Engineering is defined as 'harnessing the resources of nature for the benefit of society'. Civil Engineers have had a profound influence on society. Public health, transportation, commerce and the environment have all benefited from the work of Civil Engineers. Similarly Construction Management can be defined as procuring and directing human and physical resources for the successful realisation of a construction project. Both civil engineering and construction management require that the enterprise meets the desires of the client, the requirements of the budget and quality of the specification.

The modular structure of the UEL Foundation Degree in Civil Engineering & Construction Management is so designed to allow enable flexibility and cross-disciplinary working but also specialisation. Design of structures, engineering surveying, construction planning and costing are just a few of the areas students could find themselves working in a career after studying at UEL that offers variety, travel and immense job satisfaction. Here is the list of modules that are offered within the programme. All are 20 credit modules unless noted otherwise:

Module Code	Module Title	Level	Semester Delivery
CE 1201	Skills for Academic Learning in the Built Environment	1	A
CE1210	Structures	1	B
CE 1211	Geomatics & Construction	1	B
CE 1212	Work based Study	1	B
CE 1213	Construction Technology	1	B
CE 2208	Construction Management and Organisation	2	A
CE2211	Professional Studies	2	B
CE 2214	Work based Project (40 Credits)	2	A/B
CE 2215	Properties of Materials	2	A
CE 2216	Soils Properties	2	B
CE 2218	Contract Administration	2	A
CE 2219	Construction Science	2	B
CE 2221	Construction Cost Control & Management	2	B

CE2222	Mathematics for Civil Engineers	2	A
CE2223	Sustainable Construction Methods	2	A
CE2224	Experiential Project	2	B
CE 2225	Structural Form & Element Design	2	B
SV 1031	Plane Surveying	1	A
SV 1032	Quantative Methods	1	A
SV2031	Applied Information Technology	2	A
SV 2036	Survey Mathematics	2	A
SV 2038	Geodetic Surveying	2	B
SV 2040	Engineering Measurement	2	B

Civil Engineering & Construction Management at UEL

We have a vast experience in teaching these vocationally focused programmes which are current and will give you the opportunity to develop your understanding and skills. Our programmes have long been recognised in Industry as providing graduates with a wide range of practical and theoretical skills. The programme benefits from an excellent employability record for graduates as it directly links in with our work placement programme. With a large proportion of laboratory and practical work students will reinforce the theories and practices learnt in the classroom with 'hands on' experience, including regular site visits and exhibition tours. Our programmes offer the opportunity to study the fundamental knowledge and theories required by all Civil Engineers and Construction managers and apply these to the practical work environment.

Programme structure

Two years full time and three years part time where work based learning is integrated into both streams by discrete block release and day release modes. The programme has a common core first year followed by optional Level 2 modules enabling either a civil engineering , civil engineering surveying or construction management outcome and progression. The programme has been designed using the criteria from the QAA Benchmarks and is in line with the University programme design policy on Foundation degrees.

Depending on the outcome requested the following table outlines the recommend choice of modules to follow:

Core Modules	Modules recommended for progression onto the final level of the following BSc.(Hons) degree:		
	Civil Engineering	Construction Management	Civil Engineering Surveying & Mapping Sciences

CE1201			
SV1031			
SV1032			
CE1211			
CE1212			
	CE2208 *	CE2208	CE2208
	CE1210	CE1213	CE1213
	CE2211 *	CE2218	SV2031 *
	CE2215	CE2219	SV2036
	CE2216	CE2221	SV2038
	CE2222	CE2223 *	SV2040
	CE2225	CE2224 *	CE2224 *
CE2214			

Note that if CE2214 Work Based Project is undertaken then the modules marked * can be omitted – please seek guidance from Programme Leader before registering.

Learning environment

The programme benefits from access to purpose built labs, up-to-date drawing office and information technology facilities and modern surveying equipment. Teaching is delivered through formal lectures, tutorials, workshops, practical classes and laboratory sessions. Most lectures are supported by programme notes which allow students to concentrate on lectures and complete some independent studies of their own. Group work is also encouraged in many modules.

Assessment

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

Work experience/placement opportunities

We have an Industrial Placement Tutor who will assist in making job applications and an Industrial Liaison Officer who assists in the administration of the work placement parts of the course. The Civil Engineering & Surveying Field has an The Industrial Advisory Board (IAB) made up from industry representatives who advises the field on programme development and provides the very important industrial link. Students have a range of vocational work based learning activities integrated across their modules of study. The

Foundation Degree Programme involves a compulsory structured work based learning programme which is delivered and assessed via the 'Work Based Study' and 'Work Based Project' modules. These comprise 60 credits from the 240 credits required for the Award.

Work experience forms an integral part of completing the foundation degree. This may be gained within a student's existing employment situation or via a work placement. . The School will assist students in preparing and researching for placements and it has a number of employers who regularly recruit placements students from the course but it is a highly competitive situation. Students who cannot find a work placement will not achieve a Foundation Degree but can still achieve a 240 Credit UEL Diploma in Higher education by undertaking some alternative modules in their final year. This will enable onward progression to the final year of the BSc. (Hons) programmes

Project work

Project work is an important feature of this programme. Students will undertake a number of small projects as part of their studies and to complete a major project during the second year. This will involve using all the knowledge acquired to complete the design of a civil engineering project in consultation with employers work based practical application. The work based projects are in the form of a learning contract between the University, the student and the employer such that the projects are individual and the learning outcomes are individually related to the work the student is employed in.

Added value

The FdSc in Civil Engineering & Construction Management is designed to meet the requirements of the following professional institutions at foundation degree level:

- The Joint Board of Moderators and the Engineering Council UK for ICE Engineering Technician (Eng Tech)
- The Institution of Civil Engineering Surveying for Technician Membership
- The Chartered Institute of Building for Associate Membership (ACIOB)

Formal accreditation is currently being sought with all three institutions.

At the end of the course the students will have a working familiarity with the practical use of standard industry software such as AutoCAD and Microsoft Project. They will also have the opportunity to achieve the Industry standard for health & safety on site the Construction Safety Certification Scheme (CSCS) by registering & taking the national test. This is a particular requirement of the Group of Major Contractors (GMC).

IS THIS THE PROGRAMME FOR ME?

If you want...

A Foundation Degree with a real practical emphasis geared to meet the needs of employers that reflects current changing demands of the construction industry..

Your future career

Opportunities are available in engineering design, surveying and construction, and in a variety of specialist construction areas. Many graduates have successfully moved to careers in business, management, and finance.

How we support you

The School prides itself on its student support systems. Based on the practice of industry we operate an open door policy with students encouraged to consult with their tutors. 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 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. Professional bodies also visit the University regularly providing details on the qualification process, the benefits of membership and career development.

Bonus factors

The course is studied at the Docklands Campus at the heart of the East London. Transport links are available via bus or Docklands Light Railway linking with Central London and major airports.

Local civil engineering and construction 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. Course structure has been developed with employer consultation using practical work-based structured modules and assessment methods.

Outcomes

Programme aims and learning outcomes

What is this programme designed to achieve?

The aim of the course is to provide a good grounding in a broad area of study covering the following three disciplines:

- Civil engineering;
- Construction management;
- Civil engineering surveying & mapping sciences;

Which should, on graduation provide the technical knowledge, communication skills and ability to operate within the civil engineering and construction industry. The skills that have been identified in consultation with industry will be taught to allow you to work effectively in a design office or on site, with employers such as government agencies, contractors or consultants.

Throughout the programme there are overlapping objectives:

- To train technician engineers /surveyors / construction managers 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 / surveying or construction management
- To enhance their understanding of the design and management processes relevant to civil engineering / surveying or construction management
- To encourage critical awareness and understanding of other professionals in the construction and civil engineering industries
- To contribute to the development of the technician into membership of his or her relevant professional body at Incorporated or Technician level and to play their part in as an important professional in society and the built environment

- To allow progression in career and educational development giving opportunities to study for an accredited civil engineering / surveying or construction management degree

What will you learn?

The overall learning outcomes are broad to cover both the civil engineering and construction management aspects of the course:

To train and educate technicians to be competent professionals in the civil engineering and construction environment

To provide the opportunities to further their careers and develop a wider understanding of the civil engineering and construction process.

To understand the importance of professionalism, management, and problem solving techniques for construction works

Knowledge & Understanding

Civil Engineering and construction processes

Soil mechanics, geotechnics and material science

Principles of analysis & design of civil engineering structures

Cost management & contractual procedures

Building science and sustainable building technologies

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

Self discipline

Developing networking skills

Subject-Based Practical skills

Building Information Modelling (BIM)

Tendering, costing, planning & management

Field surveying skills

Laboratory testing and analysis

Structural analysis & design

Dealing with work pressures & deadlines

Managing work load

Skills for life and work (general skills)

Communication skills

Problem-solving skills

Analytical skills

Management skills

Knowledge application

Structure

For the modules and recommended options regarding the programme structure – See ‘About The Programme’ above.

Credit Structure

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 240 credits.

Typical duration

The expected duration of this programme is two years when attended in full-time mode or three years in part-time mode. It is possible to move from a full-time mode of study to a part-time mode of 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.

How the teaching year is divided

The teaching year begins in September and ends in June but some programmes also allow students to join at the start of Semester B, in February. A student, normally registering for 6 modules in one year (3 modules in each Semester) would do so in a full-time attendance mode of study and a student registering for up to 4 modules in one year (2 modules in each Semester) would do so in part-time attendance mode of study.

Part time students in permanent vocational employment spend four days in Industry per week, whilst full time students commence their work based learning between June – September after their first year, and for up to four days a week in their final year.

What you will study when

This programme is part of a modular degree scheme. A student registered in a full-time attendance mode will take a minimum of six 20 credit modules per year. A Foundation degree student will complete six modules at level one and, five at level two including the compulsory 40 credit work placement module CE2214 Work Based Project – See ‘Work experience/placement opportunities’ above.

Requirements for gaining an award

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

You will also need to undertake a structured work placement and pass the linked 40 credit 'Work Based Project' module. A foundation degree is linked to a named Honours degree onto which a student may progress after successful completion of the Foundation degree.

Foundation degree classification

Where a student is eligible for a Foundation degree, the award classification is determined by calculating the arithmetic mean of all marks obtained for modules at level 1 or higher contributing to the programme 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
55% - 69%	Merit
40% - 54%	Pass
0% - 39%	Not passed

Assessment

Teaching, learning and assessment

Teaching and learning

Knowledge is developed through

Lectures and Seminars

Assignments

Student Centred Projects

Use of a variety of industry based software packages

Attending industry / trade exhibitions

Receiving feedback from the work based learning employer/ client.

Thinking skills are developed through

- Analytical assessment of data
- Critical assessment of information
- Problem-solving practical applications
- Attending, professional institute & guest speaker presentation

Practical skills are developed through

- Laboratory and experimental work
- Drawing and design
- Field programmes and site visits
- Observing site operations / construction works
- Developing a critical awareness to health & safety procedures in practice.

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

- Interactive communication exercises
- Individual and group working sessions
- Attending careers events and industry recruitment days

Assessment

Knowledge is assessed by

- Time constrained examinations
- Laboratory and field work exercises
- Assignments and project work
- One-to-one interviews

Thinking skills are assessed by

- Approaches to solving problems
- Analysis of alternative solutions
- Practical solutions to complex tasks
- Producing a work based reflective diary

Practical skills are assessed by

- Laboratory reports and experimental assessment
- Group survey work
- Application to practical problem-solving
- Presenting information by formal presentations
- Production of a working product, design or 'temporary work'

Skills for life and work (general skills) are assessed by

- Oral Presentations
- Written communication exercises
- Drawing, sketching and design work
- Undertaking mock / real placement interviews

Quality

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 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 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

Staff and student representation on programme committees

Subject area feedback information analysis for programme and module evaluation

Students are notified of the action taken through:

Publication of minutes from the Programme Subject Area Committee

Providing details on the programme notice board and UELPlus

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

CPD Events attended by teaching staff

Construction and liaison visits to employers

Attendance at vocationally specific recruitment fairs & careers events

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 programme handbook

Module study guides

UEL Manual of General 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>

UEL Guide to Undergraduate Programmes

[Current External examiners](#)

External examiner reports (available from UEL virtual learning environment (UELPlus or Moodle))