

PROGRAMME SPECIFICATION

KEY FACTS

Programme name	Civil Engineering with Foundation Year
Award	BEng (Hons)
School	School of Mathematics, Computer Science and Engineering
Department or equivalent	Civil Engineering
UCAS Code	H202
Programme code	USCIVF
Type of study	Full Time
Total UK credits	480
Total ECTS	240

PROGRAMME SUMMARY

This programme, which is only offered full time, starts with a Year 0 foundation year that provides the essential mathematical and scientific background necessary to progress to Part 1 of the BEng programme in Civil Engineering. The foundation year is studied at Westminster Kingsway College at their Gray's Inn Campus. The BEng programme is divided into three Parts (Parts 1, 2 and 3), each occupying a full academic year, which leads to a BEng degree that is accredited by the Joint Board of Moderators that includes the Institution of Civil Engineers and the Institution of Structural Engineers.

The entry point to the BEng programme with foundation year is at the start of the foundation year. If you reach the required level at the end of the foundation year you can transfer to Part 1 of the BEng Civil Engineering programme or any of the other BEng Civil Engineering programmes offered at City University London. If you obtain a Part 2 aggregate mark of 60%, or higher, you have the option of transferring to the MEng (Hons) degree.

The core topics studied in the foundation year are Mathematics, Mechanics and Physics. You also study Computing and IT and undertake a programme of laboratory tests at City University. In the BEng degree programme the core civil engineering subject areas, Structures, Geotechnical Engineering, and Hydraulics are studied in all years. Mathematics, Surveying and Management are the other key subject areas. Appreciation of the wider context in which engineering decisions are made and implemented is given through Design and Management studies.

Industrial involvement is a key feature of the programme. Lecturers from industry are invited to make presentations in all parts of the programme. In Parts 2 and 3 of the programme, design projects, which allow you to familiarise yourself with professional practice, are set and reviewed by practicing consulting engineers. You are encouraged to make site visits through the Open Door to Industry scheme.

Part 1

Upon successful completion of Part 1 or the Certificate in Civil Engineering you will be able to discuss underlying concepts and principles associated with Civil Engineering and interpret these within the context of your practice.

Part 2

For all of you completing Part 2 or the Diploma in Civil Engineering you will build on your previous knowledge and experience. You will develop skills of enquiry in your subject and develop different approaches to problem-solving as well as identify the limitations of your knowledge.

Part 3

For all of you completing Part Three or the degree you will further develop a coherent systematic, detailed knowledge of your discipline. You will be able to develop techniques for practice drawing on research and scholarship demonstrating your role as a reflective practitioner.

Aims

The programme aims to produce graduates who:

- are equipped to pursue effective careers in industry, the professions and public service
- are equipped to solve technical problems with confidence
- are able to apply problem solving skills to design problems
- are able to communicate effectively
- have a practical understanding of management in a professional environment
- are capable of taking into account wider issues relating to the practice of Civil Engineering

WHAT WILL I BE EXPECTED TO ACHIEVE?

On successful completion of this programme, you will be expected to be able to:

Knowledge and Understanding

- demonstrate comprehensive knowledge and understanding of analytical engineering subjects
- have a wide knowledge of civil engineering operations
- discuss your understanding of the design process and apply this to carry out a design task
- have a good understanding of management principles as applied to engineering
- evaluate the role of the professional engineer and wider issues relating to society, the environment and sustainability

Skills

- plan and carry out experimental work
- use a range of laboratory equipment to obtain data, carry out an analysis of it and

comment on the results

- prepare technical reports and drawings, and make technical presentations
- interrogate published scientific literature effectively
- use computer packages for analysis and design
- plan, conduct and report work of an investigative nature
- use analytical and experimental techniques to solve problems in engineering
- design a system or element to meet specifications taking a range of constraints into account
- synthesize and evaluate critically, information and data from various sources
- communicate effectively through writing, drawings and oral presentations
- solve problems using analytical and mathematical skills
- work effectively in teams
- make use of information technology tools
- manage resources and time

Values and Attitudes

- maintain a professional engineering attitude
- enhance the welfare, health and safety of the community through engineering solutions

This programme has been developed in accordance with the QAA Subject Benchmark for Engineering.

HOW WILL I LEARN?

The main components of the programme are lectures, tutorials, laboratory periods, design modules, field courses and private study. Lectures are the principal introduction to new material. They are relatively formal in style and are presented to the whole student group or sometimes to more than one group together. Each lecture is of 50 minutes duration with the timetable based on units of one hour to allow for short breaks. Full, prompt attendance is expected.

For tutorials, groups are much smaller and provide you with opportunities to work on problems and exercises connected with the lecture courses. This also provides an additional opportunity for staff to deal with any of your questions arising from the lectures. In the foundation year class sizes for lectures are much smaller than in the main degree programme giving more opportunity for interaction with the lecturer.

In laboratories there is the chance for you to study experimentally some of the theory dealt with in the lecture courses. Group size here is usually 4 or 5. In Geology and Surveying longer practical sessions are required outside in the field. There are two residential field courses of about one week's duration each and which occur as follows:

Part 1 Geology:	End of spring term / Easter vacation
Part 2 Surveying:	End of spring term / Easter vacation

Attendance at laboratory classes and field courses is compulsory.

Design is at the core of the programme and runs through from Part 1 to Part 3. The projects in each year link with the previous year and build upon the knowledge and practical experience gained. The programme starts in Part 1 with fundamental concepts of design and proceeds to a major design project in Part 3. The programme draws together the theory studied in each part of the programme with practical experience gained in laboratories, from site visits and from field courses. In addition the course provides you with experience in planning a project, team membership and co-ordination and communication.

Industrial involvement is a key feature of the programme and consulting engineers set design projects. The projects familiarise you with professional design practice and consider the inter-relationships between design, construction and the constraints of economy, safety, serviceability and appearance.

In addition to these taught elements of the programme, which for the BEng programme are on average around 20 contact hours per week, there will be the need for private study. This time will be spent working on background reading, revision of notes, work on tutorial problems, coursework including writing reports on laboratory experiments and individual or group work on design projects including the major project in Part 3. During the BEng programme you are expected to undertake around 30 hours per week of private study spread over a rather longer period than the contact hours, to account for reflective learning weeks, revision and the Intensive Design Project in Part 3 that follows the examinations. In the foundation year, you are required to spend approximately the same number of hours in private study as you have contact hours, however the ratio of private study to contact hours across each year in the BEng programme increases from approximately 1.6:1 in Parts 1 & 2 to 2.3:1 in Part 3. The number of self directed study hours for each module is specified in each module specification.

All modules are supported by an online learning environment "Moodle". Moodle contains information specific to the modules you are studying on your programme and additional modules that provide support for your studies in a variety of ways. Moodle is used by different modules in different ways, but you will generally find module material, such as course schemes, supplementary study material, tutorial sheets etc, which you can download or look at online. Each module also contains a "Grades" application where you can view your coursework marks.

There are also two modules which are designed to support your studies in a more general way: "Civil Engineering Focal Point" which contains information relevant to the administration of the programme and "SEMS Placement & Internships Resource Centre", which helps you find placements and internships

WHAT TYPES OF ASSESSMENT AND FEEDBACK CAN I EXPECT?

Assessment and Assessment Criteria

A variety of assessment methods are used in the programme. The rationale for this is to assess a range of different skills as well as expose you to different approaches. The

assessments link as closely as possible to relevant activities you would undertake in practice.

Most modules are principally assessed by regular coursework, seen and unseen tests, and unseen written examinations. Design studies, laboratories and field courses are assessed through individual or group reports, presentations and/or poster displays, whilst computational and CAD coursework is used to assess IT skills. Modules that include field courses have a high coursework weighting within the module assessment. The Major Project in Part 3 and is assessed through written reports and oral examination.

In the foundation year you will be assessed continuously throughout the year, whereas in the BEng programme all examination take place at the end of the year. The importance of design modules and the Major Project in Part 3 mean that assessed coursework provides just over half the marks available during the BEng programme, however in core theoretical modules unseen written examinations are weighted more heavily, usually contributing between 75% and 80% of the overall module mark.

Assessment Criteria are descriptions, based on the intended learning outcomes, of the skills, knowledge or attitudes that you need to demonstrate in order to complete an assessment successfully, providing a mechanism by which the quality of an assessment can be measured. Grade- Related Criteria are descriptions of the level of skills, knowledge or attributes that you need to demonstrate in order achieve a certain grade or mark in an assessment, providing a mechanism by which the quality of an assessment can be measured and placed within the overall set of marks. Assessment Criteria and Grade-Related Criteria will be made available to you to support you in completing assessments. These may be provided in programme handbooks, module specifications, on the virtual learning environment or attached to a specific assessment task.

Feedback on assessment

Feedback will be provided in line with our Assessment and Feedback Policy. In particular, you will normally be provided with feedback within three weeks of the submission deadline or assessment date. This may be written or oral, specific to you or generally applicable, and would normally include a provisional grade or mark. If the coursework submitted is a laboratory report your work will not be returned until three weeks after the last report has been submitted. Laboratories are undertaken by groups of students in rotation over periods of many weeks and consequently the last group of students may complete the laboratory and submit the report many weeks after the first group.

Generic feedback on examinations is provided within four weeks of the end of the examination period. Feedback on the Major Project in Part 3 may require longer time periods. Assessment during the foundation year may be subject to different policies on feedback.

The full policy can be found at:

https://www.city.ac.uk/data/assets/pdf_file/0008/68921/assessment_and_feedback_policy.pdf

Assessment Regulations

In order to pass your Programme, you should complete successfully or be exempted from the relevant modules and assessments and will therefore acquire the required number of credits. You also need to pass each Part of your Programme in order to progress to the following Part and achieve the appropriate level in the foundation year to proceed to Part 1

Your overall aggregate mark will be calculated by combining the aggregate marks from Parts 1, 2 and 3 in the ratio 1:3:6.

The Pass mark for each module in the BEng programme is 40%. In most modules there is also a requirement to pass individual components of the module. The Pass mark for these individual components is also 40%. The details of which assessment components need to be passed individually is given in the module specifications.

In the BEng programme, if you fail an assessment component or a module, the following will apply:

1. Compensation: where you fail up to a total of 20 credits of a Part at first or resit attempt, you may be allowed compensation if:
 - Compensation is permitted for the module involved (see the module specification), and
 - It can be demonstrated that you have satisfied all the Learning Outcomes of the modules in the Part, and
 - A minimum overall mark of 30% has been achieved in the module to be compensated, and
 - An aggregate mark of 40% has been achieved for the Part.

If you receive a compensated pass in a module you shall be awarded the credit for that module. The original component marks shall be retained in the record of marks and the greater of the original module mark and the minimum pass mark for the module shall be used for the purpose of calculation towards the Award.

Compensation is only permitted for modules in Part 3 of the programme

2. Resit: you will normally be offered one resit attempt. However, if you did not participate in the first assessment and have no extenuating circumstances, you may not be offered a resit.

If you are successful in the resit, you shall be awarded the credit for that module. The mark used for the purpose of calculation towards your Award shall be calculated from the original marks for the component(s) that you passed at first attempt and the minimum pass mark for the component(s) for which you took a resit.

If you do not satisfy your resit by the date specified you will not progress to the next Part and the Assessment Board shall require that you withdraw from the Programme.

If you fail to meet the requirements for a particular Part, but satisfy the requirements for the previous Part, then a lower qualification may be awarded as per the table below. If you fail to meet the requirements for a particular Part and are not eligible for the award of a lower level qualification, the Assessment Board shall require that you withdraw from the Programme.

If you would like to know more about the way in which assessment works at City, please see the full version of the Assessment Regulations at:
http://www.city.ac.uk/_data/assets/word_doc/0003/69249/s19.doc

WHAT AWARD CAN I GET?

Bachelor's Degree with Honours:

Part	HE Level	Credits	Weighting (%)
1	4	120	10
2	5	120	30
3	6	120	60

Class	% required
I	70
II upper division	60
II lower division	50
III	40

Ordinary Degree:

Part	HE Level	Credits	Weighting (%)
1	4	120	10
2	5	120	30
3	6	60	60

Class	% required
With Distinction	70
With Merit	60
With Pass	40

Diploma of Higher Education:

Part	HE Level	Credits	Weighting (%)
1	4	120	25
2	5	120	75

Class	% required
With Distinction	70
With Merit	60
With Pass	40

Certificate of Higher Education:

Part	HE Level	Credits	Weighting (%)
1	4	120	100

Class	% required
With Distinction	70
With Merit	60
With Pass	40

WHAT WILL I STUDY?

Foundation Year 0

To proceed to Part 1 you must have achieved the appropriate level in the foundation year. The foundation year consists of one compulsory module worth 120 credits.

Module Title	SITS Code	Module Credits	Core/ Elective	Can be compensated?	Level
Foundation year module	CV0001	120	C	N	3

Part 1

To pass Part 1, you must have acquired 120 credits as specified in Part 1 of the Programme Scheme.

Part 1 consists of 8 compulsory Level 4 modules, totalling 120 credits. You are required to take all modules at this level.

The Geology for Engineers module includes a compulsory residential field course. Seen and unseen tests are carried out at the start of the second term and unseen examinations take place in the third term.

Module Title	SITS Code	Module Credits	Core/ Elective	Can be compensated?	Level
Geology for Engineers	CV1301	20	C	N	4
Hydraulics	CV1302	10	C	N	4
Design & Graphics	CV1305	15	C	N	4
Materials	CV1306	15	C	N	4
Structural Mechanics	CV1403	15	C	N	4
IT Skills, Communication & CAD	CV1407	15	C	N	4
Civil Engineering Practice & Surveying	CV1408	15	C	N	4
Engineering Mathematics 1	EX1401	15	C	N	4

Part 2

To pass Part 2, you must have acquired 120 credits as specified in Part 2 of the Programme Scheme.

Part 2 consists of 8 compulsory Level 5 modules, totalling 120 credits. You are required to take all modules at this level.

The Surveying module includes a compulsory residential field trip. Seen and unseen tests are carried out at the start of the second term and unseen examinations take place in the third term.

If you wish to gain practical experience you have the option of spending a year on a

paid industrial placement, usually between Parts 2 and 3 (Module ET2013).

Module Title	SITS Code	Module Credits	Core/ Elective	Can be compensated?	Level
Engineering and Construction Management	CV2318	15	C	N	5
Soil Mechanics	CV2401	15	C	N	5
Fluid Mechanics	CV2402	15	C	N	5
Structural Analysis	CV2403	15	C	N	5
Surveying	CV2404	15	C	N	5
Design & Construction	CV2405	15	C	N	5
Structural Design	CV2406	15	C	N	5
Engineering Mathematics & Numerical Methods	CV2407	15	C	N	5

Part 3

To pass Part 3, you must have acquired 120 credits as specified in Part 3 of the Programme Scheme and have successfully completed the professional placement, if applicable.

Part 3 consists of 6 compulsory modules and two electives from a choice of 4. All modules are at level 6, totalling 120 credits.

For the Major Project you are required to choose a project title and supervisor at the start of the year. This module, which is assessed through written reports, presentations and oral examination, is not compensatable.

Unseen examinations take place in the third term.

Module Title	SITS Code	Module Credits	Core/ Elective	Can be compensated?	Level
Intensive Design Project	CV3305	10	C	Y	6
Geotechnical Engineering	CV3401	15	C	Y	6
Hydraulic Engineering	CV3402	15	C	Y	6
Structural Engineering	CV3403	15	C	Y	6
Engineering Management & Civil Engineering Paper	CV3408	15	C	Y	6
Major project	CV3409	30	C	N	6
Transportation & Highways	CV3311	10	E	Y	6
Environmental Control & Public Health	CV3312	10	E	Y	6
Building Engineering	CV3313	10	E	Y	6
Architectural Surveying and Geomatics	CV3414	10	E	Y	6

TO WHAT KIND OF CAREER MIGHT I GO ON?

Most graduates choose to enter the civil engineering profession either with consultants or contractors.

The Centre for Career & Skills Development provides a service to current full-time and part-time undergraduates and postgraduates and to recent graduates of the University. Their aim is to give you advice, information and skills you need to make a smooth transition into the world of work.

If you would like more information on the Careers support available at City, please go to: <http://www.city.ac.uk/careers/for-students-and-recent-graduates>.

WHAT PLACEMENT OPPORTUNITIES ARE AVAILABLE?

You could transfer to a civil engineering with placement programme in which case you would take module ET2013 Professional Placement during your year's placement and your experience is graded on the outcomes specified in this module. However, although the grade obtained is reported on the degree transcript it does not contribute to the final degree result.

Placement guidelines are issued to you and your employer at the commencement of training, and these include a placement health and safety booklet. The guidelines include a section on workplace learning that contains information about the ICE Core Objectives. Early in the placement year, you are required to produce a placement plan in conjunction with your Workplace Supervisor and the Visiting Tutor (a member of academic staff). Training is monitored through two formal visits by the Visiting Tutor, and written reports. Informal contact is maintained throughout the year as necessary.

If you wish to take a professional placement you are advised to register accordingly at the beginning of Part 2. The School of Engineering & Mathematical Sciences Professional Liaison Unit Work Based Learning Advisor collaborates with the University Career and Skills Development Service to deliver a series of Professional Development workshops during Period 1 of Part 2 to prepare you for searching for and applying for a work placement. The Professional Liaison Unit is in regular contact with companies and other organisations concerning the availability of training placements and will advise you on making applications.

You are welcome to make your own applications at any time but are strongly advised to discuss these with the Work Based Learning Advisor. Support is provided in the SEMS Placement & Internships Resource Centre module on Moodle.

WILL I GET ANY PROFESSIONAL RECOGNITION?

Accrediting Body: Joint Board of Moderators (Institution of Civil Engineers, Institution of Structural Engineers, Institute of Highway Engineers, The Chartered Institution of Highways and Transportation)

Nature of Accreditation

This degree is accredited 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.

HOW DO I ENTER THE PROGRAMME?

Typical offers:

A/AS level: 200 UCAS tariff points including mathematics A-level grade D or AS-level grade B

BTEC: Offers dependent on individual applicant

IB: Offers dependent on individual applicant

AP(E)L:

The only entry point is via the foundation year.

Scholarship:

City University London is offering a Scholarship of up to £3,000 per year to UK and EU undergraduate students achieving grades AAB or above at A-level (or equivalent) starting an undergraduate course at City in September 2012. Further details can be found on the University's website at <http://www.city.ac.uk/study/why-study-at-city/fees-and-finance/scholarships>.

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