

MEng Civil Engineering

This document provides a definitive record of the main features of the programme and the learning outcomes that a typical student may reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities provided. This programme specification is intended as a reference point for prospective students, current students, external examiners and academic and support staff involved in delivering the programme and enabling student development and achievement.

Programme Information					
Programme Title		Civil Engineering			
Award(s)		MEng			
Programme Code(s)		H201			
Awarding Institution		Imperial College London			
Teaching Institution		Imperial College London			
Faculty		Faculty of Engineering			
Department		Department of Civil and Environmental Engineering			
Associateship		City and Guilds of London Institute			
Main Location of Study		South Kensington Campus			
Mode and Period of Study		4 academic years, full-time			
Cohort Entry Points		Annually in October			
Relevant QAA Benchmark Statement(s) and/or other external reference points		Engineering			
Total Credits	MEng	ECTS:	244	CATS:	488
FHEQ Level		Level 7			
EHEA Level		2 nd cycle			
External Accrerator(s)		Institution of Civil Engineers (ICE) Accreditation received: 2016 Accreditation renewal: 2021 Institution of Structural Engineers (IStructE) Accreditation received: 2016 Accreditation renewal: 2021			

Specification Details	
Student cohorts covered by specification	2016-17 entry
Person responsible for the specification	Louise Green, Undergraduate Office Manager
Date of introduction of programme	October 1992
Date of programme specification/revision	August 2017
Programme Overview	
<p>The course is designed to provide students with a solid technical basis in all the key areas of the modern Civil Engineering profession through delivery of a coherent, coordinated and balanced degree course, integrating core engineering science with practical application. It will enable students to acquire a mature appreciation of the context in which engineering projects are developed. We also aim to develop in our students' excellence in oral, written and graphical communication. Students will be given sufficient time to explore the subject, to carry out self-organised study, and to think about the issues and challenges of the material allowing progressively, over the 4 years, more time for self-directed study as a better preparation for professional practice.</p>	
Learning Outcomes	
<p>Knowledge and Understanding:</p> <ul style="list-style-type: none"> • Basic mathematics and physics that are relevant to engineering • The fundamental concepts, principles and the theories of civil engineering • Business and management techniques that are relevant to engineering and engineers • Detailed knowledge and understanding of the essential facts, concepts, principles and theories relevant to the student's chosen specialist area(s) • The role of the engineer in society and the constraints within which their engineering judgement will be exercised • The professional and ethical responsibilities of the engineer • The international role of the engineer and the impact of engineering solutions in a global context <p>Intellectual Skills:</p> <ul style="list-style-type: none"> • Plan, conduct and report a programme of original research • Analyse and solve engineering problems • Design a system, component or process to meet a need • Be creative in the solution of problems and in the development of designs • Formulate the test hypotheses • Evaluate designs, processes and products and make improvements • Integrate and evaluate information and data from a variety of sources • Take a holistic approach in solving problems and designing systems, applying professional judgements to balance risks, costs, benefits, safety, reliability, aesthetics and environmental impact <p>Practical Skills</p> <ul style="list-style-type: none"> • Plan and execute safely a series of experiments • Use laboratory and workshop equipment to generate data • Analyse experimental results and determine their strength and validity • Prepare technical sketches and drawings 	

- Prepare technical reports
- Give technical presentations
- Use scientific literature effectively
- Take notes effectively
- Write computer programmes
- Use computational tools and packages

Transferable Skills

- Communicate effectively (in writing, verbally and through drawings), also using more than one language
- Apply mathematical skills (algebra, geometry, modelling, analysis, quantify uncertainty)
- Work as a member of an interdisciplinary team
- Transfer techniques and solutions from one aspect of civil engineering to another
- Use information and communications technology
- Manage resources and time
- Learn independently in familiar and unfamiliar situations with open-mindedness and in the spirit of critical enquiry

Learn effectively for the purpose of continuing professional development and in a wider context throughout their career

The Imperial Graduate Attributes are a set of core competencies which we expect students to achieve through completion of any Imperial College degree programme. The Graduate Attributes are available at: www.imperial.ac.uk/students/academic-support/graduate-attributes

Entry Requirements

Academic Requirement	Grade Requirement	Normally a minimum A*A*A or equivalent
	Subject Requirements	A* in Mathematics and A*/A in Physics. (or a comparable qualification recognised by the College) Candidates must also obtain A grades in all Mathematics modules at the first attempt – Mechanics 1 (M1) is essential; Mechanics 2 (M2) is desirable.
	Excluded Subjects	Critical Thinking General Studies
International Baccalaureate (IB)	Grade Requirement	Minimum 39 overall
	Subject Requirements	7 in Mathematics at higher level 6 in Physics at higher level (or a comparable qualification recognised by the College).
English Language Requirement		Standard requirement IELTS score of 6.5 overall (minimum 6.0 in all elements)

Admissions Tests	Candidates may be asked to undertake an admissions test set by the College in order to provide additional information for the Admissions Tutor in support of an application.
Interview	No, but may be asked to attend Recruitment Day.
The programme's competency standards document can be found at: https://workspace.imperial.ac.uk/civilengineering/Public/UG/30_03_15%20Competence%20Standards%20Civil.pdf	
Learning & Teaching Strategy	
Scheduled Learning & Teaching Methods	<ul style="list-style-type: none"> • Lectures • Laboratory • Tutorial • Presentations
E-learning & Blended Learning Methods	<ul style="list-style-type: none"> • Group exercises
Project Learning Methods	<ul style="list-style-type: none"> • Individual research project • Group Design project • Field work • Constructionarium
Assessment Strategy	
Assessment Methods	<ul style="list-style-type: none"> • Written examination • Coursework • Laboratory experiment reports • Dissertation • Presentation • Design Project • Self-reflective writing
Academic Feedback Policy	
Students can expect to receive feedback within three weeks.	
<ul style="list-style-type: none"> • GTAS, specifically trained in the marking of coursework and minor project elements are used to ensure return of marked work within the 3 week specification. Defaults are reported to the Year Coordinator or Director of Undergraduate Studies for appropriate action. • Marked and annotated coursework is returned to students. • Some academic staff provide verbal feedback in class, others distribute written overviews. • We do not provide information to students on examination performance. 	
Re-sit Policy	
The College's Policy on Re-sits is available at: http://www.imperial.ac.uk/student-records-and-data/current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/	

Mitigating Circumstances Policy

The College's Policy on Mitigating Circumstances is available at: <http://www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/>

Programme Structure

Year One	Term One	Term Two	Term Three
Core Modules	8	9	3
Elective Modules	0	0	0
Projects	0	0	0
Year Two	Term One	Term Two	Term Three
Core Modules	8	9	1
Elective Modules	0	0	0
Projects	1	2	0
Year Three	Term One	Term Two	Term Three
Core Modules	4	4	0
Elective Modules	1	1	0
Projects	0	2	1
Year Four	Term One	Term Two	Term Three
Core Modules	0	0	0
Elective Modules	5	0	0
Projects	0	1	1

Assessment Dates & Deadlines

Year One

Written Examinations	May/June
Coursework Assessments	Continuous
Project Deadlines	Continuous
Practical Assessments	Continuous

Year Two

Written Examinations	May/June	
Coursework Assessments	Continuous	
Project Deadlines	Continuous	
Practical Assessments	Continuous	
Year Three		
Written Examinations	January and April	
Coursework Assessments	Continuous	
Project Deadlines	Continuous	
Practical Assessments	Continuous	
Year Four		
Written Examinations	January	
Coursework Assessments	Continuous	
Project Deadlines	June	
Practical Assessments	Continuous	
Assessment Structure		
Year of Study	ECTS	% Weighting
Year One - 13 Core Modules Professional Engineering Practice (3%) Drawing (3%) Surveying (9%) Creative Design I (9%) Mathematics (15%) Computational Methods I (9%) Mechanics (9%) Structural Mechanics (9%) Materials (9%) Fluid Mechanics (9%) Geotechnics (9%) Environmental Engineering Science (4.5%) Energy Systems (2.5%)	60	11.1%
Year Two - 12 Core Modules Creative Design II (10%) Constructionarium (6%) Structural Design (6%) Fluids Design (3%) Mathematics (10%) Computational Methods II (10%) Statistics (10%)	60	22.2%

Structural Mechanics (10%) Fluid Mechanics (10%) Environmental Engineering (10%) Soils and Engineering Geology (10%) Project and Business Management (5%)		
Year Three - 9 Core Modules* & 2 Elective Modules Group Design Project (17.5%) Computational Engineering Analysis Structural Mechanics (including Structures Project) Dynamics of Structures Fluid Mechanics Geotechnics (including Geotechnics Project) Environmental Engineering Transport Systems Module from Elective (A) Module from Elective (B) (all equally weighted)	64	33.3%
Year Four - 2 Core Module & 5 Elective Modules Individual Research Project (54.17%) 5 x Modules from Elective (C) (all equally weighted)	60	33.3%
Total	244	100%

*The module “Structures and Geotechnics Project” is included within the ‘Structural Mechanics’ and ‘Geotechnics’ modules respectively.

Marking Scheme

Year One

A student must:

- Achieve a mark of at least 40% in each individual examination
- Achieve an aggregate mark of at least 40% in each module
- Achieve an aggregate mark of at least 40% in the combined coursework assessments

Year Two

A student must:

- Achieve a mark of at least 40% in each individual examination
- Achieve an aggregate mark of at least 40% in each module
- Achieve an aggregate mark of at least 40% in the combined coursework assessments

Year Three

A student must:

- Achieve a mark of at least 40% in the following module:
 - Group Design Project (CI3-311)
- Achieve an aggregate mark of at least 40% in the combined coursework assessments
- Achieve an aggregate mark of at least 40% in the combined examination assessments

Year Four

A student must:

- Achieve a mark of at least 40% in the following module:
 - Individual Research Project (CI4-405)

- Achieve an aggregate mark of at least 40% in the combined coursework assessments
- Achieve an aggregate mark of at least 40% in the combined examination assessments

Classifications

Third – a student must achieve an aggregate mark of 40%

Lower Second – a student must achieve an aggregate mark of 50%

Upper Second – a student must achieve an aggregate mark of 60%

First - a student must achieve an aggregate mark of 70%

Indicative Module List												
Code	Title	Core/ Elective	Year	L&T Hours	Ind. Study Hours	Place- ment Hours	Total Hours	% Written Exam	% Course- work	% Practical	FHEQ Level	ECTS
CI1-100	Professional Engineering Practice (including Construction Week)	Core	1	35	15	0	50	0%	100%	0%	4	2.00
CI1-101	Drawing	Core	1	20	30	0	50	0%	100%	0%	4	2.00
CI1-102	Surveying	Core	1	40	85	0	125	0%	100%	0%	4	5.00
CI1-103	Introduction to Civil Engineering	Core	1	12	0	0	12	0%	0%	0%	4	N/A
CI1-111	Creative Design I	Core	1	80	120	0	200	0%	100%	0%	4	8.00
CI1-120	Mathematics	Core	1	80	120	0	200	90%	10%	0%	4	8.00
CI1-121	Computational Methods I	Core	1	40	85	0	125	90%	10%	0%	4	5.00
CI1-130	Mechanics	Core	1	40	85	0	125	100%	0%	0%	4	5.00
CI1-131	Structural Mechanics	Core	1	40	85	0	125	100%	0%	0%	4	5.00
CI1-132	Materials	Core	1	40	85	0	125	100%	0%	0%	4	5.00
CI1-140	Fluid Mechanics	Core	1	40	85	0	125	80%	20%	0%	4	5.00
CI1-150	Geotechnics	Core	1	40	85	0	125	80%	20%	0%	4	5.00
CI1-160	Environmental Engineering Science	Core	1	20	30	0	50	100%	0%	0%	4	2.00
CI1-182	Energy Systems	Core	1	30	45	0	75	100%	0%	0%	4	3.00

Code	Title	Core/ Elective	Year	L&T Hours	Ind. Study Hours	Place- ment Hours	Total Hours	% Written Exam	% Course- work	% Practical	FHEQ Level	ECTS
CI2-211	Creative Design II	Core	2	80	170	0	250	0%	100%	0%	5	10.00
CI2-212	Constructionarium	Core	2	40	85	0	125	0%	100%	0%	5	5.00
CI2-213	Structural Design	Core	2	72	28	0	100	0%	100%	0%	5	4.00
CI2-214	Fluids Design	Core	2	16	59	0	75	0%	100%	0%	5	3.00
CI2-220	Mathematics	Core	2	40	85	0	125	95%	5%	0%	5	5.00
CI2-221	Computational Methods II	Core	2	40	85	0	125	0%	100%	0%	5	5.00
CI2-222	Statistics	Core	2	40	85	0	125	70%	30%	0%	5	5.00
CI2-231	Structural Mechanics	Core	2	72	53	0	125	80%	20%	0%	5	5.00
CI2-240	Fluid Mechanics	Core	2	40	85	0	125	70%	30%	0%	5	5.00
CI2-250	Soils and Engineering Geology	Core	2	72	53	0	125	80%	20%	0%	5	5.00
CI2-260	Environmental Engineering: Water Resource and Supply Engineering	Core	2	40	85	0	125	80%	20%	0%	5	5.00
CI2-282	Project and Business Management	Core	2	20	55	0	75	0%	100%	0%	5	3.00
CI3-311	Group Design Project	Core	3	200	50	0	250	0%	100%	0%	6	10.00
CI3-321	Computational Engineering Analysis	Core	3	30	120	0	150	45%	55%	0%	6	6.00
CI3-331	Structural Mechanics	Core	3	45	105	0	150	60%	40%	0%	6	6.00

Code	Title	Core/ Elective	Year	L&T Hours	Ind. Study Hours	Place- ment Hours	Total Hours	% Written Exam	% Course- work	% Practical	FHEQ Level	ECTS
	(including Structures Project)											
CI3-333	Nonlinear Structural Analysis	Elective (A)	3	30	120	0	150	70%	30%	0%	6	6.00
CI3-334	Concrete Structures	Elective (B)	3	30	120	0	150	60%	40%	0%	6	6.00
CI3-339	Dynamics of Structures	Core	3	30	120	0	150	80%	20%	0%	6	6.00
CI3-337	Theory of Shells	Elective (A)	3	30	120	0	150	50%	50%	0%	6	6.00
CI3-340	Fluid Mechanics	Core	3	30	120	0	150	100%	0%	0%	6	6.00
CI3-341	Coastal Engineering	Elective (A)	3	30	120	0	150	70%	30%	0%	6	6.00
CI3-350	Geotechnics (including Geotechnics Project)	Core	3	45	105	0	150	75%	25%	0%	6	6.00
CI3-338	Design of Timber and Masonry Structures	Elective (B)	3	30	120	0	150	80%	20%	0%	7	6.00
CI3-360	Environmental Engineering	Core	3	30	120	0	150	100%	0%	0%	6	6.00
CI3-370	Transport Systems	Core	3	30	120	0	150	80%	20%	0%	6	6.00
CI3-371	Highway Engineering	Elective (A)	3	30	120	0	150	70%	30%	0%	6	6.00
CI3-372	Traffic Engineering	Elective (B)	3	30	120	0	150	80%	20%	0%	7	6.00
BS0806	Entrepreneurship Business Plan Competition	Elective (A)	3	21	129	0	150	30%	50%	20%	6	6.00

Code	Title	Core/ Elective	Year	L&T Hours	Ind. Study Hours	Place- ment Hours	Total Hours	% Written Exam	% Course- work	% Practical	FHEQ Level	ECTS
BS0808	Finance and Financial Management	Elective (B)	3	32	118	0	150	70%	30%	0%	6	6.00
N/A	Horizons (for Credit)	Elective (A/B)	3	<i>Variable</i>			150	<i>Variable</i>				6.00
CI4-405	Individual Research Project	Core	4	520	155	0	675	0%	100%	0%	7	30.00
CI4-423	Operational Research and Systems Analysis	Elective (C)	4	30	120	0	150	70%	30%	0%	7	6.00
CI4-432	Steel Structures and Design	Elective (C)	4	30	120	0	150	80%	20%	0%	7	6.00
CI4-434	Concrete Structures	Elective (C)	4	30	120	0	150	60%	40%	0%	7	6.00
CI4-435	Pre-Stressed Concrete	Elective (C)	4	30	120	0	150	100%	0%	0%	7	6.00
CI4-436	Applied Dynamics	Elective (C)	4	30	120	0	150	100%	0%	0%	7	6.00
CI4-441	Applied Hydrodynamics	Elective (C)	4	30	120	0	150	70%	30%	0%	7	6.00
CI4-444	Buoyancy-Driven Flows	Elective ©	4	30	120	0	150	70%	30%	0%	7	6.00
CI4-452	Geotechnical Hazards	Elective (C)	4	30	120	0	150	100%	0%	0%	7	6.00
CI4-454	Advanced Soil Mechanics	Elective (C)	4	30	120	0	150	100%	0%	0%	7	6.00
CI4-438	Design of Timber and Masonry Structures	Elective (C)	4	30	120	0	150	80%	20%	0%	7	6.00
CI4-461	Water and Wastewater Engineering	Elective (C)	4	30	120	0	150	80%	20%	0%	7	6.00

Code	Title	Core/ Elective	Year	L&T Hours	Ind. Study Hours	Place- ment Hours	Total Hours	% Written Exam	% Course- work	% Practical	FHEQ Level	ECTS
CI4-462	Water Resources Engineering	Elective (C)	4	30	120	0	150	75%	25%	0%	7	6.00
CI4-463	Waste Management Engineering	Elective (C)	4	30	120	0	150	100%	0%	0%	7	6.00
CI4-472	Traffic Engineering	Elective (C)	4	30	120	0	150	80%	20%	0%	7	6.00
CI4-473	Transport Demand and Economics	Elective (C)	4	30	120	0	150	70%	30%	0%	7	6.00
CI4-474	Transport, Environmental Impacts & Safety	Elective (C)	4	30	120	0	150	70%	30%	0%	7	6.00

Supporting Information

The Programme Handbook is available at: **TBC**

The Module Handbook is available at: **TBC**

The College's entry requirements for postgraduate programmes can be found at:
<http://www.imperial.ac.uk/study/ug/apply/requirements>

The College's Quality & Enhancement Framework is available at:
www.imperial.ac.uk/registry/proceduresandregulations/qualityassurance

The College's Academic and Examination Regulations can be found at:
<https://www.imperial.ac.uk/about/governance/academic-governance/regulations>

Imperial College is an independent corporation whose legal status derives from a Royal Charter granted under Letters Patent in 1907. In 2007 a Supplemental Charter and Statutes was granted by HM Queen Elizabeth II. This Supplemental Charter, which came into force on the date of the College's Centenary, 8th July 2007, established the College as a University with the name and style of "The Imperial College of Science, Technology and Medicine".
<http://www.imperial.ac.uk/admin-services/secretariat/college-governance/charters-statutes-ordinances-and-regulations>

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