Programme Information		
Programme Title	Programme Code	HECoS Code
Civil Engineering	H201	For Registry Use Only

Award	Length of Study	Mode of Study	Entry Point(s)	Total Credits	
				ECTS	CATS
MEng	4 Calendar Years	Full-Time	Annually in October	240	480

Ownership			
Awarding Institution	Imperial College London	Faculty	Faculty of Engineering
Teaching Institution	Imperial College London	Department	Department of Civil and Environmental Engineering
Associateship	City and Guilds of London Institute	Main Location(s) of Study	South Kensington Campus
External Reference			
Relevant QAA Benchmark Statement(s) and/or other external reference points		Engineering	
FHEQ Level		Level 7	
EHEA Level		2nd cycle	
External Accreditor(s) (if applicable)			
External Accreditor:	Institution of Civil Engineers		
Accreditation received:	2016	Accreditation renewal:	2021
External Accreditor:	Institution of Structural Engineers		
Accreditation received:	2016	Accreditation renewal:	2021
External Accreditor:	Institute of Highway Engineers		
Accreditation received:	2016	Accreditation renewal:	2021
External Accreditor:	Chartered Institution of Highways & Transportation		
Accreditation received:	2016	Accreditation renewal:	2021

Collaborative Provision			
Collaborative partner	Collaboration type	Agreement effective date	Agreement expiry date
N/A	N/A	N/A	N/A

Specification Details	
Programme Lead	Professor Michael Templeton, Director of Undergraduate Studies
Student cohorts covered by specification	2021-22 entry
Date of introduction of programme	October 2019
Date of programme specification/revision	October 2021

Programme Overview

Civil engineering is about shaping the built and natural environments in which we live. It's about the structures around us and underneath us. It's about the how we move ourselves around, how we protect ourselves from the environment, and how we protect the environment from us. Civil engineers need to be technically capable people, but also creative, communicative, inclusive, and able to lead when necessary.

The programme is designed to provide you 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 programme, integrating core engineering science with practical application. It will enable you to acquire a mature appreciation of the context in which engineering projects are developed. It will also develop your excellence in oral, written and graphical communication. You 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 four years, more time for self-directed study as a better preparation for professional practice.

An especially attractive aspect of the programme, is that it covers all aspects of the very broad discipline of civil engineering, i.e. structural engineering, geotechnical engineering, environmental engineering, transport engineering, fluid dynamics, and systems engineering, aligning with the research sections of the Department. The staff in each research section are world-leading experts in their areas of civil engineering, and they have designed the vertical (year-to-year) teaching of the concepts in their specialist topic areas, assuring that there is a logical sequence of learning objectives and teaching of concepts as you progress through the programme and that the state-of-the art in each sub-area is captured. In each year the linkages and common themes across the different specialist topic areas will also be coordinated and emphasised 'horizontally', e.g. how dynamics of structures relates to dynamics of fluids. There is focus on establishing core foundational knowledge in the first two years and then moving on to more advanced, specialist knowledge in the latter two years. You will have a considerable amount of choice in the final two years, choosing three electives in your third year and all five of your taught modules in the final year. You will also choose your final year research project, which spreads over the Spring and Summer terms and is a unique opportunity to work on a specialist topic that interests you, under the supervision of a member of the academic staff in the Department.

You will learn through a range of inclusive teaching methods and in a range of places, not just lectures. This will include site visits and fieldtrips off-campus, for example the Surveying field trip in first year, and the Geology Field Trip and Constructionarium in second year, which allow you to put your knowledge into action in real conditions. Much of your work will be in teams, to prepare you for the typical mode of working in industry, though you will also have opportunities to demonstrate your own knowledge and creativity, for example through the individual research project which accounts for more than half of the final year of the programme.

You will be taught by the academic staff in the Department, whether they be lecturers, readers or professors, who have come to work at Imperial from around the world and each with active research groups in their chosen sub-areas of civil engineers. You will also be taught by teaching fellows who have a specific interests and expertise in civil engineering education. They will be assisted by PhD students, who will be there to help you with

questions you may have or to hear concepts explained from a different perspective. Additionally, you will have the opportunity to learn from leading practitioners drawn from industry; for example, our Civil Engineering Design modules in the first three years are co-taught by leading consultants, who will give you an impression of the expectations and modes of working in industry and develop in you the professionalism that will allow you to communicate your ideas with confidence to clients upon graduation.

Through the programme, you will not only acquire an understanding of civil engineering, but also skills (e.g. creative thinking skills; research skills; computational skills; risk management), attitudes (e.g. professionalism, sustainability-mindedness) and attributes (e.g. effective group-working, leadership, communication) that will make you an effective civil engineer. Upon graduation, you will be qualified to go on to work in a range of civil engineering jobs (like most of the graduates of the programme), including private or public consulting or contracting in any one of the sub-disciplines of civil engineering, although the transferable skills that you will acquire will allow you opportunities in other fields of employment as well.

Learning Outcomes

Upon successful completion of this programme, you will typically have:

Relevant Knowledge and Understanding, including:

- The fundamental concepts, principles and the theories in all the major sub-topics of civil engineering, including structural engineering, geotechnical engineering, fluid dynamics, environmental engineering, systems engineering and traffic engineering.
- The role of the civil engineer in society, the constraints within which their engineering judgement will be exercised, and the professional and ethical responsibilities of the civil engineer

Intellectual Skills, including being able to:

- Plan, conduct and report a programme of original research in civil engineering
- Analyse and solve civil engineering problems
- Be creative in the solution of problems and in the development of civil engineering designs

Practical Skills, including being able to**:**

- Prepare technical sketches and drawings
- Prepare technical reports and give technical presentations
- Use scientific literature effectively

Transferable Skills, including being able to:

- Communicate effectively (in writing, verbally and through drawings)
- Learn independently in familiar and unfamiliar situations with open-mindedness and in the spirit of critical enquiry

In addition, a graduate will have achieved the full list of intended learning outcomes required by the accreditors of the programme.

The learning outcomes for the unaccredited exit awards are the same as for the MEng but at the FHEQ levels shown in 'Programme Specific Regulations' below rather than FHEQ level 7, with the exception of *'Plan, conduct and report a programme of original research in civil engineering'*, which will not be covered in the exit awards. Exit awards are offered at the discretion of the Board of Examiners.

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	Normally a minimum **A*A*A, A*AAA,** or equivalent. **A*** in Mathematics and **A*/A** in Physics. (or a comparable qualification recognised by the College)

	Excluded subjects: Critical Thinking, General Studies International Baccalaureate Requirements: Minimum **39** overall **7** in Mathematics at higher level **6** in Physics at higher level (or a comparable qualification recognised by the College). For further information on entry requirements, please go to https://www.imperial.ac.uk/study/ug/apply/requirements/ugacademic/
Non-academic Requirements	N/A
English Language Requirement	Standard requirement Please check for other Accepted English Qualifications
Admissions Test/Interview	You will be interviewed, either face-to-face or by online interview.

The programme's competency standards documents can be found at:
https://workspace.imperial.ac.uk/civilengineering/Public/UG/30_03_15%20Competence%20Standards%20Civil.pdf

Learning & Teaching Approach

You will be taught through a range of sessions and activities:

- Lectures – typically delivered to the entire class as a group. In lectures you will not just listen though, as most lectures involve questions posed to the class and breaks for small-group exercises or discussions to re-enforce the recently covered lecture material.
- Laboratory activities – typically in groups of 4-8 students, to conduct experiments in our world-leading research laboratories. The experiments will complement and build on what you have learned in lectures and tutorials.
- Tutorials – these sessions often involve solving problems that apply the knowledge from lectures, with the assistance of graduate teaching assistants (GTAs), who are PhD students or final year undergraduate teaching assistants (UTAs) in the Department. In some modules you will be assigned a GTA per group of 8-10 students, whereas in others you will ask questions of a team of GTAs.
- Presentations – you will have the opportunity to give a number of presentations in each year of the programme, both individually and as part of a group. For example, each of the first three years of our programme involves design projects, which require daily or weekly presentations to 'clients' and typically a major presentation of the final design at the end. In the final year, you will do an individual research project and present your research to your peers and the academic staff in a research conference.
- Site visits and field trips (e.g. Surveying as part of Civil Engineering Design I in Year 1, Constructionarium as part of Civil Engineering Design II in Year 2, and the Geology Field Trip as part of Soil Mechanics and Engineering Geology in Year 2– you will not be based solely on the South Kensington campus, but will also be given the opportunity to travel for site visits and field trips throughout the programme. These provide invaluable opportunities to learn about what works (and what does not) 'at scale', putting your theoretical knowledge into practice in real conditions.
- Group exercises and design projects – civil engineers rarely work in isolation, so a major part of our programme is group working on pieces of coursework and design projects. This will provide you with opportunities to work with students from a range of backgrounds and to develop your skills in team-working and leadership which will be valuable in the work place upon graduation.
- Online exercises – in some modules you will have the opportunity to test your knowledge through short online exercises and quizzes, some for credit and others just for practice. These can be done on your own time and are useful to complement the knowledge gained in class, test your understanding, and help with revision for exams.
- Individual research project – Imperial is a world-leading research institution and our Department is a world-leading civil engineering research department, so in your final year you will have the opportunity to take

advantage of this, by working for two terms on a research project of your choosing, supervised by one or more members of our academic staff. This will allow you to delve deeply into a technical subject that interests you, be exposed to the state-of-the-art knowledge in the field, and develop your analytical and communication skills to express your findings clearly.

- Personal tutorials – you will be assigned an academic member of staff who will serve as your personal tutor throughout your four years on the programme. Their role is not to be academic tutors, but rather to provide useful guidance in case you require pastoral support and to discuss your extracurricular achievements with you. Personal tutors often serve as useful referees for job applications at the conclusion of your degree.

Each ECTS credit equates to an expected total study time of 25 hours. The expected total study time is 1500 hours per year (60 credits). The distribution of timetabled versus independent study hours will be: Year 1 (579/921), Year 2 (524/976), Year 3 (343/1157), and Year 4 (185/1315). These time distributions are indicative only and may be subject to minor changes, which we will communicate to you at the start of each year if applicable. The Year 3 and Year 4 time distributions will vary slightly depending on the choice of electives.

Assessment Strategy

Assessment Methods

Your learning will be assessed via a range of assessment methods appropriate to the intended learning outcomes of the modules, including:

- Written examinations
- Coursework
- Laboratory experiment reports
- Computer-based exercises
- Dissertation
- Presentations
- Design projects
- Self-reflective writing

The programme allows you to test your understanding of the subjects informally through formative assessments, such as in-class group problem solving activities or online exercises which are not worth marks, before you complete the formal summative assessments that count towards your final mark. These summative assessments allow you to demonstrate that you have met the intended learning outcomes of each module and contribute towards your programme-level intended learning outcomes, detailed above. There is formal summative assessment during and/or at the end of each module. At the beginning of each academic year you will be provided with a spreadsheet showing when your coursework will be set and due and when feedback will be returned to you, always within three weeks of the submission deadline and often sooner.

The coursework/examination percentage split of marks will be: Year 1 (32/68), Year 2 (51/49), Year 3 (37/63), and Year 4 (66/33). The Year 3 and 4 splits are indicative only and may vary slightly depending on the choice of electives. If any changes are made to these mark splits, then the procedures described at the following link will be followed and we will ensure that the changes are communicated to you: https://www.imperial.ac.uk/study/ug/apply/our-degrees/potential-course-changes/.

Academic Feedback Policy

The assessment on our programme is designed to include a wide range of assessment types, including examinations, group and individual coursework, essays, presentations, online tests/quizzes, design projects, and a final-year dissertation and student conference presentation. Feedback will be provided to you formally via a number of methods appropriate to the assessment. Some module coordinators schedule special coursework feedback sessions to communicate feedback verbally to the whole class. All major pieces of coursework and projects are blind double-marked. Peer assessment is included as a percentage of the mark for some pieces of coursework. Solutions of the past exam papers for the previous three years are provided in October each year. Informal feedback is also provided through small group exercises, GTAs, and staff office hours in most modules.

A coursework schedule for the entire year will normally be made available to you in October, with the coursework set date, deadline for submission, and feedback return date shown for each piece of coursework. Feedback is returned within three weeks of submission.

The College's Policy on Academic Feedback and guidance on issuing provisional marks to students is available at: www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/
Re-sit Policy
The College's Policy on Re-sits is available at: www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/
Mitigating Circumstances Policy
The College's Policy on Mitigating Circumstances is available at: www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/

Additional Programme Costs		
This section should outline any additional costs relevant to this programme which are not included in students' tuition fees.		
Description	Mandatory/Optional	Approximate cost
N/A	N/A	N/A

Programme Structure[1]					
Year 1 – FHEQ Level 4					
Code	Module Title	Core/ Elective	Group*	Term	Credits
CIVE40001	Professional Engineering Practice	Core	N/A	1, 2, 3	7.5
CIVE40002	Civil Engineering Design 1	Core	N/A	2, 3	7.5
CIVE40003	Mathematics 1	Core	N/A	1, 2	10
CIVE40004	Computational Methods 1	Core	N/A	1, 2	5
CIVE40005	Mechanics	Core	N/A	1, 2	5
CIVE40006	Structural Mechanics 1	Core	N/A	1, 2	5
CIVE40007	Materials	Core	N/A	1, 2	5
CIVE40008	Fluid Mechanics 1	Core	N/A	1, 2	5
CIVE40009	Geotechnics	Core	N/A	1, 2	5
CIVE40010	Energy and Environmental Engineering	Core	N/A	1, 2	5
				Credit Total	60
Year 2 – FHEQ Level 5					
Code	Module Title	Core/ Elective	Group*	Term	Credits
CIVE50002	Civil Engineering Design 2	Core	N/A	1, 2, 3	7.5
CIVE50006	Mathematics 2	Core	N/A	1	5
CIVE50003	Computational Methods 2	Core	N/A	1, 2	5
CIVE50008	Statistics	Core	N/A	2	5
CIVE50010	Structural Mechanics 2	Core	N/A	1, 2	5
CIVE50009	Structural Design	Core	N/A	1, 2	5
CIVE50005	Fluid Mechanics 2	Core	N/A	1, 2	7.5
CIVE50007	Soils Mechanics and Engineering Geology	Core	N/A	1, 2, 3	10
CIVE50004	Environmental Engineering: Water Resource and Supply Engineering	Core	N/A	1, 2	5

[1] **Core** modules are those which serve a fundamental role within the curriculum, and for which achievement of the credits for that module is essential for the achievement of the target award. Core modules must therefore be taken and passed in order to achieve that named award. **Compulsory** modules are those which are designated as necessary to be taken as part of the programme syllabus. Compulsory modules can be compensated. **Elective** modules are those which are in the same subject area as the field of study and are offered to students in order to offer an element of choice in the curriculum and from which students are able to select. Elective modules can be compensated.

CIVE50001	Business and Project Management	Core	N/A	2	5
				Credit Total	60

Year 3 – FHEQ Level 6 *(unless indicated as Level 7)*

Code	Module Title	Core/ Compulsory/ Elective	Group*	Term	Credits
CIVE60001	Civil Engineering Design 3	Core	N/A	3	10
CIVE60002	Computational Engineering Analysis	Core	N/A	2	5
CIVE60007	Structural Mechanics 3	Core	N/A	1, 2	5
CIVE60003	Dynamics of Structures	Core	N/A	2	5
CIVE60005	Fluid Mechanics 3	Core	N/A	1	5
CIVE60006	Geotechnical Engineering	Core	N/A	2	5
CIVE60004	Environmental Engineering: Water and Wastewater Treatment, Waste and Resource Management	Core	N/A	1	5
CIVE60008	Transport Systems	Core	N/A	1	5
	i-Explore	Compulsory	N/A	1, 2	5
CIVE70010	Nonlinear Structural Analysis *(Level 7)*	Elective	A	2	5
CIVE70005	Concrete Structures *(Level 7)*	Elective	B	1	5
CIVE70014	Theory of Shells *(Level 7)*	Elective	A	2	5
CIVE70004	Coastal Engineering *(Level 7)*	Elective	A	2	5
CIVE70006	Design of Timber and Masonry Structures *(Level 7)*	Elective	B	1	5
CIVE70008	Highway Engineering *(Level 7)*	Elective	A	2	5
CIVE70015	Traffic Engineering *(Level 7)*	Elective	B	1	5
				Credit Total	60

Year 4 – FHEQ Level 7

Code	Module Title	Core/ Elective	Group*	Term	Credits
CIVE97003	Individual Research Project	Core	N/A	2, 3	35
CIVE97004	Operational Research and Systems Analysis	Elective	C	1	5
CIVE97005	Steel Structures and Design	Elective	C	1	5
CIVE97154	Concrete Structures	Elective	C	1	5
CIVE97006	Prestressed Concrete	Elective	C	1	5

CIVE97007	Applied Dynamics	Elective	C	1	5
CIVE97009	Applied Hydrodynamics	Elective	C	1	5
CIVE97011	Geotechnical Hazards	Elective	C	1	5
CIVE97012	Advanced Soil Mechanics	Elective	C	1	5
CIVE97001	Design of Timber and Masonry Structures	Elective	C	1	5
CIVE97013	Water and Wastewater Engineering	Elective	C	1	5
CIVE97014	Water Resources Engineering	Elective	C	1	5
CIVE70018	Waste Management Engineering	Elective	C	1	5
CIVE97016	Traffic Engineering	Elective	C	1	5
CIVE97017	Transport Demand and Economics	Elective	C	1	5
CIVE97018	Transport, Environmental Impacts & Safety	Elective	C	1	5
				Credit Total	60

*In Year 3 students choose one elective from Group A and one from Group B. In Year 4, student choose five electives from Group C, pending timetable constraints. The above list of elective modules is indicative. In the event that an elective module is suspended or discontinued, we will communicate the changes to you. Further information can be found at: https://www.imperial.ac.uk/study/ug/apply/our-degrees/potential-course-changes/.

Programme and classification

Progression

In order to progress to the next level of study, you must have passed all modules (equivalent to 60 ECTS) in the current level of study at first attempt, at resit or by a compensated pass.

The overall weighted average for each year must be 40.00%, including where a module(s) has been compensated, in order for you to progress to the next year of the programme.

Classification

The marks from modules in each year contribute towards the final degree classification.

In order to be considered for an award, you must have achieved the minimum number of credits at the required levels prescribed for that award and met any programme specific requirements as set out in the Programme Specification.

Your classification will be determined through:

i) Aggregate Module marks for all modules
ii) Year Weightings

For this award, Year One is weighted at 7.50%, Year Two at 20.00%, and Years Three and Four at 36.25% each.

The College sets the class of undergraduate degree that may be awarded as follows:

i)	First	70.00% or above for the average weighted module results
ii)	Upper Second	60.00% or above for the average weighted module results
iii)	Lower Second	50.00% or above for the average weighted module results
iv)	Third	40.00% or above for the average weighted module results

Please find the full Academic Regulations at https://www.imperial.ac.uk/about/governance/academic-governance/regulations/. Please follow the prompts to find the set of regulations relevant to your programme of study.

Programme Specific Regulations

As an accredited degree, students on the MEng programme are subject to the standards set by the Engineering Council in relation to compensation: a maximum of 15 ECTS credits can be compensated across the entire programme.

A student may be allowed the opportunity to sit reassessments on failed core modules in Years 1, 2, and 3 or on failures below the acceptable compensation range on electives in Year 3 and 4, at the discretion of the Board of Examiners. A maximum of two reassessments will be allowed in Year 1, one in Year 2, one in Year 3, and one in Year 4.

Students who complete Years 1, 2 or 3 of the programme but who withdraw before completing their target award, may be offered an exit award provided that they have met the requirements for that award. Students cannot enrol on the BEng on entry. The CertHE, DipHE and BEng are exit awards only and not accredited by any professional body.

CertHe - 60 ECTS, with minimum 45 at level 4

DipHe - 120 ECTS, with minimum 45 at level 4, and minimum of 45 at level 5
BEng (Ordinary)- 150 ECTS, with minimum 45 at level 4, minimum of 45 at level 5 and minimum of 30 at level 6.

Supporting Information
The Programme Handbook is available at: https://www.imperial.ac.uk/study/ug/courses/civil-environmental-engineering-department/civil-engineering/
The Module Handbook is available at: https://www.imperial.ac.uk/civil-engineering/prospective-students/undergraduate-admissions/syllabus/
The College's entry requirements for postgraduate programmes can be found at: www.imperial.ac.uk/study/pg/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: 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". www.imperial.ac.uk/admin-services/secretariat/college-governance/charters/
Imperial College London is regulated by the Office for Students (OfS) www.officeforstudents.org.uk/advice-and-guidance/the-register/
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 primarily intended as a reference point for academic and support staff involved in delivering the programme and enabling student development and achievement, for its assessment by internal and external examiners, and in subsequent monitoring and review.

Modifications			
Description	**Approved**	**Date**	**Paper Reference**
N/A	N/A	N/A	N/A