

## MSc Advanced Structural Engineering Cluster

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	Concrete Structures Earthquake Engineering General Structural Engineering Structural Steel Design		
Award(s)	MSc		
Programme Code	<b>(1YFT)</b> H2A2 H2A3 H2A1 H2U5	<b>(2YPT)</b> H2A224 H2A324 H2A124 H2U524	<b>(3YPT)</b> H2A236 H2A336 H2A136 H2U536
Associateship	Not applicable		
Awarding Institution	Imperial College London		
Teaching Institution	Imperial College London		
Faculty	Faculty of Engineering		
Department	Department of Civil and Environmental Engineering		
Main Location of Study	South Kensington Campus		
Mode and Period of Study	1 academic year full-time or 2 or 3 academic years part-time		
Cohort Entry Points	Annually in October		
Relevant <a href="#">QAA Benchmark Statement(s)</a> and/or other external reference points	<a href="#">Master's Degrees in Engineering</a>		
Total Credits	ECTS:	90	CATS: 180
<a href="#">FHEQ Level</a>	Level 7		
<a href="#">EHEA Level</a>	2 <sup>nd</sup> cycle		

External Accrerator(s)	<a href="#">The Institution of Structural Engineers (IStructE)</a> Accreditation received: 2002 Accreditation renewal: 2020 <a href="#">Institution of Civil Engineers (ICE)</a> Accreditation received: 2002 Accreditation renewal: 2020 <a href="#">Institute of Highway Engineers (IHIE)</a> Accreditation received: 2016 Accreditation renewal: 2020 <a href="#">The Chartered Institute of Highways &amp; Transportation (CIHT)</a> Accreditation received: 2016 Accreditation renewal: 2020
<b>Specification Details</b>	
Student cohorts covered by specification	2018-19 entry
Person responsible for the specification	Fionnuala NiDhonnabhain, PGT Courses Manager
Date of introduction of programme	H2A2: 1946 H2A3: 2003 H2A1: 2003 H2U5: 1978
Date of programme specification/revision	September 2018
<b>Programme Overviews</b>	
<p><b>Concrete Structures:</b> MSc in Concrete Structures is recommended for those who wish either to establish or consolidate their career as a design engineer specialising in concrete structures. This programme provides advanced training in the design, analysis and assessment of concrete structures including bridges and buildings. These courses are career-oriented and cover both the theoretical background and practical design considerations. The courses are suitable for both practicing engineers with several years' experience and recent graduates. The programme aims to produce graduates equipped to pursue careers in concrete design and analysis in industry, the public sector and non-governmental organisations.</p> <p><b>Earthquake Engineering:</b> This programme provides advanced training in the seismic analysis and design of structures. The course is career-oriented and covers both the theoretical background and practical design considerations. The course is suitable for both practicing engineers with several years' experience and recent graduates. This programme aims to produce graduates equipped to pursue careers in seismic analysis and design in industry, the public sector and non-governmental organisations.</p> <p><b>General Structural Engineering:</b> This programme provides advanced training in the design, analysis, assessment and evaluation of concrete, steel and composite structures including bridges and buildings. These courses are career-oriented and cover both the theoretical background and practical design considerations. The courses are suitable for both practicing engineers with several years' experience and recent graduates. The programme aims to produce graduates equipped to pursue</p>	

careers in structural engineering design and analysis in industry, the public sector and non-governmental organisations.

**Structural Steel Design:** The MSc in Structural Steel Design is recommended for those who wish either to establish or consolidate their career as a design engineer specialising in steel structures. This programme provides advanced training in the design, analysis and assessment of steel structures including bridges and buildings. These courses are career-oriented and cover both the theoretical background and practical design considerations. The course is suitable for both practicing engineers with several years' experience and recent graduates. The programme aims to produce graduates equipped to pursue careers in structural design and analysis in industry, the public sector and non-governmental organisations.

### Learning Outcomes

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](http://www.imperial.ac.uk/students/academic-support/graduate-attributes)

#### Knowledge and Understanding of:

- A selection of the major topics in the subject, their recognition and underlying fundamental principles.
- Research techniques which might include information retrieval, experimental design and statistics, modelling and safety.
- The essential facts, concepts, principles and theories relevant to the students' chosen areas of research.
- Management and communication skills, including problem definition, project design, decision processes, teamwork, written and oral reports, and scientific publications.

#### Intellectual/Thinking Skills:

- Analyse and solve problems using a multidisciplinary approach, applying professional judgements to balance costs, benefits, safety and social and environmental impact.
- Integrate and critically evaluate information.
- Formulate and apply appropriate solutions.
- Plan, conduct and write-up a programme of individual research.

#### Practical Skills:

- Plan and execute safely a series of experiments or computations.
- Use laboratory methods or computer-based tools to generate data.
- Analyse results, determine their strength and validity, and make recommendations.
- Prepare technical and design reports.
- Give technical presentations.
- Use the scientific literature effectively.

#### Transferable Skills:

- Communicate effectively through oral presentations, computer processing and presentations, and written reports.
- Apply knowledge and modelling skills.
- Management skills: decision processes, objective criteria, problem definition, project design and evaluation needs.
- Integrate and evaluate information from a variety of sources.

<ul style="list-style-type: none"> <li>• Transfer techniques and solutions from one discipline to another.</li> <li>• Use Information and Communications Technology.</li> <li>• Manage resources and time.</li> <li>• Learn independently with open-mindedness and critical enquiry.</li> <li>• Learn effectively for the purpose of continuing professional development.</li> </ul>	
<b>Entry Requirements</b>	
Academic Requirement	<ul style="list-style-type: none"> <li>• Normally a minimum requirement is at least a 2.1 UK Honour's degree in civil engineering, natural sciences, earth sciences or other numerate discipline (<i>or a comparable qualification recognised by the College</i>).</li> <li>• Additionally, an A-level in Mathematics at grade B is required.</li> <li>• Relevant industrial/professional experience may also be considered.</li> </ul>
Non-academic Requirements	<p>Relevant industrial/professional experience may also be considered.</p> <p>Special cases, based on relevant experience, may be considered in some circumstances.</p>
English Language Requirement	<p><a href="#">Standard requirement</a></p> <p>IELTS 6.5 with a minimum of 6.0 in each element or equivalent.</p>
<p>Applicants may be invited to interview with one or more members of staff, or to undertake additional entry assessments as appropriate.</p>	
<p>The programme's competency standards document can be found at:  <a href="http://www.imperial.ac.uk/media/imperial-college/faculty-of-engineering/civil/public/msc/Competency-Standards.pdf">http://www.imperial.ac.uk/media/imperial-college/faculty-of-engineering/civil/public/msc/Competency-Standards.pdf</a></p>	
<b>Learning &amp; Teaching Strategy</b>	
Scheduled Learning & Teaching Methods	<ul style="list-style-type: none"> <li>• Group and Individual Coursework Exercises</li> <li>• Individual research project</li> <li>• Lectures</li> <li>• Tutorials</li> <li>• Seminars and Workshops</li> <li>• Group design-project work</li> </ul>
E-learning & Blended Learning Methods	<ul style="list-style-type: none"> <li>• Blackboard Learn (VLE)</li> <li>• Online assignments and coursework</li> <li>• Peer assessment</li> <li>• Panopto</li> <li>• Mentimeter</li> </ul>
Project Learning Methods	<ul style="list-style-type: none"> <li>• Group coursework</li> <li>• Individual Coursework</li> <li>• Individual research project</li> </ul>

Placement Learning Methods	<ul style="list-style-type: none"> <li>• Not applicable</li> </ul>
<b>Assessment Strategy</b>	
Assessment Methods	<p>To complete the requirements of the degree, all assessments must be undertaken to the appropriate level and include the following:</p> <ul style="list-style-type: none"> <li>• Individual and group coursework assignments</li> <li>• Written examinations</li> <li>• A research dissertation or detailed design project</li> <li>• Group conceptual design project</li> <li>• Group projects and presentations</li> </ul>
<b>Academic Feedback Policy</b>	
<p>The following are the mechanisms in place for providing prompt feedback to students on their performance in coursework and examinations and processes for monitoring:</p> <ol style="list-style-type: none"> <li>1. All coursework is summative as defined by the weighting attached to these assessments. Its primary function is to measure your learning and understanding of the module in question, while preparing your for the written examination to follow. As a result, coursework submission deadlines tend to be clustered towards the end of the teaching term, with the feedback following the examination period. In this way, we try to ensure that students focus on the learning the subject rather than simply looking at it from the perspective of marks achieved. Coursework is marked and annotated by academic staff, sometimes with the assistance of trained GTAs. Where possible, we aim to provide feedback to students with a three-week return schedule.</li> <li>2. Academic staff may also provide verbal feedback in class, or distribute written overviews.</li> <li>3. Provisional feedback, in grade format, on examination/assessment performance is given to students, within eight weeks, by the Examinations Officer.</li> </ol>	
<b>Re-sit Policy</b>	
<p>The College's Policy on Re-sits is available at: <a href="http://www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/">http://www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/</a></p>	
<b>Mitigating Circumstances Policy</b>	
<p>The College's Policy on Mitigating Circumstances is available at: <a href="http://www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/">http://www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/</a></p>	

<b>Programme Structure</b>				
<b>Concrete Structures</b>				
Full-time	Pre-session	Term One	Term Two	Term Three/Four
Core Modules	0	3	2	0
Elective Modules	0	3	4	0
Projects	0	0	0	2
<b>Earthquake Engineering</b>				
Full-time	Pre-session	Term One	Term Two	Term Three/Four
Core Modules	0	6	3	0
Elective Modules	0	0	3	0
Projects	0	0	0	2
<b>General Structures</b>				
Full-time	Pre-session	Term One	Term Two	Term Three/Four
Core Modules	0	3	2	0
Elective Modules	0	3	4	0
Projects	0	0	0	2
<b>Structural Steel Design</b>				
Full-time	Pre-session	Term One	Term Two	Term Three/Four
Core Modules	0	4	1	0
Elective Modules	0	2	5	0
Projects	0	0	0	2

The information provided in the following tables is indicative. Attendance may be tailored to meet the requirements of the student/employer.

### Part-Time Study

Part-time (Year One)	Students taking the MSc over two years typically take three modules in each of term 1 and term 2, giving an attendance commitment of 1.5 days per week, while their three-year counterparts take two modules in each of term 1 and term 2, with an attendance of two half-days per week. There is no commitment in the third term.
Part-time (Year Two)	Students taking the MSc over two years complete the remaining modules in each of terms 1 and 2, taking both the Group Conceptual and Individual Project/Dissertation in term 3 – completing the requirements of the degree. Students on the three-year programme take two modules in each of term 1 and term 2, with an attendance of two half-days per week, and may undertake the Group Conceptual project in the in third term.
Part-time (Year Three)	Students complete the remaining modules in each of terms 1 and 2, and Individual Project/Dissertation in term 3. Those who have deferred the Group Conceptual project take this in the final year, thus completing the requirements of the degree.

### Term Release

The Advanced Structural Engineering courses may be taken part-time, on a term-by-term basis, as follows: <http://www.imperial.ac.uk/civil-engineering/prospective-students/postgraduate-taught-admissions/advanced-structural-engineering-cluster/term-release/>

### Assessment Dates & Deadlines

Written Examinations	CI9-STR-34 Structural Analysis examined in mid-December, other taught modules examined in January and April/May
Coursework Assessments	Continuous
Project Deadlines	September
Practical Assessments	Not Applicable

### Assessment Structure

#### Marking Scheme

In line with the policy on assessment of advanced postgraduate courses provided by Imperial College London, no compensation will be given in assessments in which a candidate has achieved less than 40% in one or more of the individual module assessments.

**Award of a PASS degree**

A candidate must achieve:

1. An aggregate mark of 50% minimum over all examinations and associated coursework, AND
2. A mark of 50% minimum in the major project or dissertation, including the Conceptual Design Project.

**Award of a degree with MERIT**

A candidate must achieve:

1. An aggregate mark of 60% minimum over all examinations and associated coursework, AND
2. A mark of 60% minimum in the major project or dissertation, including the Conceptual Design Project.

**Award of a degree with DISTINCTION**

A candidate must achieve:

1. An aggregate mark of 70% minimum over all examinations and associated coursework, AND
2. A mark of 70% minimum in the major project or dissertation, including the Conceptual Design Project.



## Module Weightings by ECTS

[Cross-reference with MSc curriculum on the following page]

Code	Module	Weighting	ECTS
<b>Autumn Term</b>			
CI9-STR-02	Reinforced Concrete I	5.56%	5
CI9-STR-03	Prestressed Concrete	5.56%	5
CI9-STR-06	Finite Element Analysis	5.56%	5
CI9-STR-08	Structural Dynamics	5.56%	5
CI9-STR-24	Structural Stability	5.56%	5
CI9-STR-27	Structural Steel Technology	5.56%	5
CI9-GEO-30	Geotechnical Hazards	5.56%	5
CI9-STR-34	Structural Analysis	5.56%	5
CI9-STR-40	Design of Timber and Masonry Structures	5.56%	5

Code	Module	Weighting	ECTS
<b>Spring Term</b>			
CI9-STR-01	Concrete Structures	5.56%	5
CI9-STR-09	Reinforced Concrete II	5.56%	5
CI9-STR-11	Nonlinear Structural Analysis	5.56%	5
CI9-STR-13	Seismic Design of Concrete Structures	5.56%	5
CI9-STR-21	Seismic Design of Steel Structures	5.56%	5
CI9-STR-35	Design of Bridges	5.56%	5
CI9-STR-36	Structural Reliability Theory	5.56%	5
CI9-STR-38	Geotechnical Earthquake Engineering	5.56%	5
CI9-STR-39	Theory of Shells	5.56%	5
CI9-STR-41	Structural Fire Engineering	5.56%	5

Code	Module	Weighting	ECTS
<b>Summer Term</b>			
CI9-STR-18	Design Project - Dissertation [incorporating the Conceptual Group project]	33.33%	30

<b>MSc Curriculum: Core/elective modules per programme</b> ( <b>Bold: core</b> )						
<b>Code</b>	<b>Module Name</b>	<b>ECTS</b>	<b>H2A2</b>	<b>H2A3</b>	<b>H2A1</b>	<b>H2U5</b>
C19-STR-01	Concrete Materials	5	<b>H2A2</b>	/	H2A1	/
C19-STR-02	Reinforced Concrete I	5	<b>H2A2</b>	<b>H2A3</b>	<b>H2A1</b>	/
C19-STR-03	Prestressed Concrete (CI4-435)	5	<b>H2A2</b>	/	H2A1	/
C19-STR-06	Finite Element Analysis	5	H2A2	<b>H2A3</b>	H2A1	H2U5
C19-STR-08	Structural Dynamics	5	H2A2	<b>H2A3</b>	H2A1	H2U5
C19-STR-09	Reinforced Concrete II	5	<b>H2A2</b>	H2A3	<b>H2A1</b>	/
C19-STR-11	Nonlinear Structural Analysis (CI3-333)	5	H2A2	<b>H2A3</b>	H2A1	H2U5
C19-STR-13	Seismic Design of Concrete Structures	5	H2A2	<b>H2A3</b>	/	/
C19-STR-18	Design Project / Dissertation	30	<b>H2A2</b>	<b>H2A3</b>	<b>H2A1</b>	<b>H2U5</b>
C19-STR-19	Steel Components	5	/	<b>H2A3</b>	<b>H2A1</b>	<b>H2U5</b>
C19-STR-21	Seismic Design of Steel Structures	5	/	<b>H2A3</b>	/	H2U5
C19-STR-24	Structural Stability	5	H2A2	/	H2A1	<b>H2U5</b>
C19-STR-25	Design of Steel Buildings	5	/	/	<b>H2A1</b>	<b>H2U5</b>
C19-STR-26	Plated Structures	5	/	/	H2A1	H2U5
C19-STR-27	Structural Steel Technology	5	/	/	/	<b>H2U5</b>
C19-STR-34	Structural Analysis	5	<b>H2A2</b>	<b>H2A3</b>	<b>H2A1</b>	<b>H2U5</b>
C19-STR-35	Design of Bridges	5	H2A2	H2A3	H2A1	H2U5
C19-STR-36	Structural Reliability Theory	5	H2A2	H2A3	H2A1	H2U5
C19-STR-37	Geotechnical Hazards (CI4-452, CI9-GEO-30)	5	/	<b>H2A3</b>	/	/
C19-STR-38	Geotechnical Earthquake Engineering (CI9-GEO-13)	5	/	H2A3	/	/
C19-STR-39	Theory of Shells (CI3-337)	5	H2A2	/	H2A1	H2U5
C19-STR-40	Design of Timber and Masonry Structures	5	H2A2	/	H2A1	H2U5
C19-STR-41	Structural Fire Engineering	5	H2A2	H2A3	H2A1	H2U5

**Concrete Structures : Indicative Module List : Autumn Term**

**Six Modules to be taken**

Code	Title	Core/ Elective	L&T Hours	Ind. Study Hours	Placement Hours	Total Hours	% Practical	% Written Exam	%Course- work	FHEQ Level	ECTS
CI9-STR-02	Reinforced Concrete I	Core	30	95	0	125	0%	80%	20%	7	5
CI9-STR-03	Prestressed Concrete	Core	30	95	0	125	0%	75%	25%	7	5
CI9-STR-06	Finite Element Analysis	Elective	30	95	0	125	0%	80%	20%	7	5
CI9-STR-08	Structural Dynamics	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-24	Structural Stability	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-34	Structural Analysis	Core	30	95	0	125	0%	80%	20%	7	5
CI9-STR-40	Design of Timber and Masonry Structures	Elective	30	95	0	125	0%	80%	20%	7	5

**Concrete Structures : Indicative Module List : Spring Term**

**Six Modules to be taken**

Code	Title	Core/ Elective	L&T Hours	Ind. Study Hours	Placement Hours	Total Hours	% Practical	% Written Exam	%Course- work	FHEQ Level	ECTS
CI9-STR-01	Concrete Structures	Core	30	95	0	125	0%	80%	20%	7	5
CI9-STR-09	Reinforced Concrete II	Core	30	95	0	125	0%	80%	20%	7	5
CI9-STR-11	Nonlinear Structural Analysis	Elective	30	95	0	125	0%	70%	30%	7	5
CI9-STR-13	Seismic Design of Concrete Structures	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-35	Design of Bridges	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-36	Structural Reliability Theory	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-39	Theory of Shells	Elective	30	95	0	125	0%	70%	30%	7	5
CI9-STR-41	Structural Fire Engineering	Elective	30	95	0	125	0%	70%	30%	7	5

**Earthquake Engineering : Indicative Module List : Autumn Term**

**All Six Modules are core and must be taken**

Code	Title	Core/ Elective	L&T Hours	Ind. Study Hours	Placement Hours	Total Hours	% Practical	% Written Exam	%Course- work	FHEQ Level	ECTS
CI9-STR-02	Reinforced Concrete I	Core	30	95	0	125	0%	80%	20%	7	5
CI9-STR-06	Finite Element Analysis	Core	30	95	0	125	0%	80%	20%	7	5
CI9-STR-08	Structural Dynamics	Core	30	95	0	125	0%	100%	NA	7	5
CI9-STR-19	Steel Components	Core	30	95	0	125	0%	100%	NA	7	5
CI9-STR-34	Structural Analysis	Core	30	95	0	125	0%	80%	20%	7	5
CI9-STR-37	Geotechnical Hazards	Core	30	95	0	125	0%	100%	NA	7	5

**Earthquake Engineering : Indicative Module List : Spring Term**

**Six Modules to be taken**

Code	Title	Core/ Elective	L&T Hours	Ind. Study Hours	Placement Hours	Total Hours	% Practical	% Written Exam	%Course- work	FHEQ Level	ECTS
CI9-STR-09	Reinforced Concrete II	Elective	30	95	0	125	0%	80%	20%	7	5
CI9-STR-11	Nonlinear Structural Analysis	Core	30	95	0	125	0%	70%	30%	7	5
CI9-STR-13	Seismic Design of Concrete Structures	Core	30	95	0	125	0%	100%	NA	7	5
CI9-STR-21	Seismic Design of Steel Structures	Core	30	95	0	125	0%	90%	10%	7	5
CI9-STR-35	Design of Bridges	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-36	Structural Reliability Theory	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-38	Geotechnical Earthquake Engineering	Elective	30	95	0	125	0%	90%	10%	7	5
CI9-STR-41	Structural Fire Engineering	Elective	30	95	0	125	0%	70%	30%	7	5

**General Structural Engineering : Indicative Module List : Autumn Term**

**Six Modules to be taken**

Code	Title	Core/ Elective	L&T Hours	Ind. Study Hours	Placement Hours	Total Hours	% Practical	% Written Exam	%Course- work	FHEQ Level	ECTS
CI9-STR-02	Reinforced Concrete I	Core	30	95	0	125	0%	80%	20%	7	5
CI9-STR-03	Prestressed Concrete	Elective	30	95	0	125	0%	75%	25%	7	5
CI9-STR-06	Finite Element Analysis	Elective	30	95	0	125	0%	80%	20%	7	5
CI9-STR-08	Structural Dynamics	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-19	Steel Components	Core	30	95	0	125	0%	100%	NA	7	5
CI9-STR-24	Structural Stability	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-34	Structural Analysis	Core	30	95	0	125	0%	80%	20%	7	5
CI9-STR-40	Design of Timber and Masonry Structures	Elective	30	95	0	125	0%	80%	20%	7	5

**General Structural Engineering : Indicative Module List : Spring Term**

**Six Modules to be taken**

Code	Title	Core/ Elective	L&T Hours	Ind. Study Hours	Placement Hours	Total Hours	% Practical	% Written Exam	%Course- work	FHEQ Level	ECTS
CI9-STR-01	Concrete Structures	Elective	30	95	0	125	0%	80%	20%	7	5
CI9-STR-09	Reinforced Concrete II	Core	30	95	0	125	0%	80%	20%	7	5
CI9-STR-11	Nonlinear Structural Analysis	Elective	30	95	0	125	0%	70%	30%	7	5
CI9-STR-25	Design of Steel Buildings	Core	30	95	0	125	0%	70%	30%	7	5
CI9-STR-26	Plated Structures	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-35	Design of Bridges	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-36	Structural Reliability Theory	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-39	Theory of Shells	Elective	30	95	0	125	0%	70%	30%	7	5
CI9-STR-41	Structural Fire Engineering	Elective	30	95	0	125	0%	70%	30%	7	5

### Structural Steel Design : Indicative Module List : Autumn Term

#### Six Modules to be taken

Code	Title	Core/ Elective	L&T Hours	Ind. Study Hours	Placement Hours	Total Hours	% Practical	% Written Exam	%Course- work	FHEQ Level	ECTS
CI9-STR-06	Finite Element Analysis	Elective	30	95	0	125	0%	80%	20%	7	5
CI9-STR-08	Structural Dynamics	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-19	Steel Components	Core	30	95	0	125	0%	100%	NA	7	5
CI9-STR-24	Structural Stability	Core	30	95	0	125	0%	100%	NA	7	5
CI9-STR-27	Structural Steel Technology	Core	30	95	0	125	0%	100%	NA	7	5
CI9-STR-34	Structural Analysis	Core	30	95	0	125	0%	80%	20%	7	5
CI9-STR-40	Design of Timber and Masonry Structures	Elective	30	95	0	125	0%	80%	20%	7	5

### Structural Steel Design : Indicative Module List : Spring Term

#### Six Modules to be taken

Code	Title	Core/ Elective	L&T Hours	Ind. Study Hours	Placement Hours	Total Hours	% Practical	% Written Exam	%Course- work	FHEQ Level	ECTS
CI9-STR-11	Nonlinear Structural Analysis	Elective	30	95	0	125	0%	70%	30%	7	5
CI9-STR-21	Seismic Design of Steel Structures	Elective	30	95	0	125	0%	90%	10%	7	5
CI9-STR-25	Design of Steel Buildings	Core	30	95	0	125	0%	70%	30%	7	5
CI9-STR-26	Plated Structures	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-35	Design of Bridges	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-36	Structural Reliability Theory	Elective	30	95	0	125	0%	100%	NA	7	5
CI9-STR-39	Theory of Shells	Elective	30	95	0	125	0%	70%	30%	7	5
CI9-STR-41	Structural Fire Engineering	Elective	30	95	0	125	0%	70%	30%	7	5

**All Advanced Structural Engineering MSc Programmes****Indicative Module List : Summer Term**

Code	Title	Core/ Elective	L&T Hours	Ind. Study Hours	Placement Hours	Total Hours	% Practical	% Written Exam	%Course- work	FHEQ Level	ECTS
CI9-STR-18	Design Project - Dissertation [incorporating the Conceptual Group project]	Core	0	750	NA	750	0%	0%	100%	7	30

## Supporting Information

The Programme Handbook is available at: <http://www.imperial.ac.uk/civil-engineering/prospective-students/postgraduate-taught-admissions/advanced-structural-engineering-cluster/msc-general-structures/>

The Module Handbook is available at: <http://www.imperial.ac.uk/civil-engineering/prospective-students/postgraduate-taught-admissions/advanced-structural-engineering-cluster/msc-general-structures/>

The College's entry requirements for postgraduate programmes can be found at: [www.imperial.ac.uk/study/pg/apply/requirements](http://www.imperial.ac.uk/study/pg/apply/requirements)

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

Imperial College London is regulated by the Office for Students (OfS)  
<https://www.officeforstudents.org.uk/>

## Changes for 2018-2019 - Structural Engineering cluster

**Suspension of Entry to Business Management and Sustainable Development options** The suspension of the Business Management [previously offered with Concrete Structures and Structural Steel Design] has been extended for a further year. Sustainable Development [which was also offered with Concrete Structures and Structural Steel Design] has been withdrawn.

## Changes for 2017-2018 - Structural Engineering cluster

**Suspension of Entry to Business Management and Sustainable Development options** The Core programmes with the addition of Business Management or Sustainable Development are suspended. This is an extension of the existing suspension of Sustainable Development resulting from staffing changes within the Department. The nature of these offerings is in a transitional phase and we prefer not to permit students to enter these courses until we have a better understanding of what their evolved content will be, and how this content ties into the rest of the material delivered within their degree. We believe that student career goals and objectives maybe better met with a focus centering on the core structural engineering teaching.



**Amendment to Weighting for CI9-STR-34 Design of Structural Analysis [Exam, coursework].**

Introduction of a coursework element to the assessment of this module, with the examination: coursework ratio to be 80:20. One single mark returned for the combined module assessment, as is the practice with all modules within the Advanced Structural Engineering MSc cluster. The coursework to be group-based with online submission. The modification is proposed to help improve student learning and experience, adopt blended and active learning technologies and to align with proposals for design of curriculum utilising E-learning, Blended and project learning methodologies.

**Removal of Coursework Element from CI9-STR-35 Design of Bridges.** This coursework has historically taken up a significant amount of time that, in our view, could be better used for private study of the material covered in class, and for tutorial questions. The removal of the coursework will reduce the density of the module, where many topics are covered at a fast pace in order to allow students to make better informed personal judgements in the selection of their summer term conceptual and detailed design projects. This also helps relieve the coursework load on students, which tends to peak towards the end of term. Students retain the option to take a conceptual design project on bridges. With the increasing student numbers, and with optimum group sizes fixed, the Design of Bridges coursework did not allow sufficient time to focus on the preliminary design of a bridge because of the scale of work incurred.

**Changes for 2016-2017- Structural Engineering cluster**

**Amendment to Weighting for CI9-STR-25 Design of Steel Buildings [Exam, coursework]**

Amendment in the coursework/examination weightings from 20%:80% to 30%:70% to reflect the level of effort involved in the work, the learning process and its contribution to the final mark in the assessment for this module.

**Amendment to Weighting for CI9-STR-39 Theory of Shells [Exam, coursework]** Amendment in the coursework/examination weightings from 20%:80% to 30%:70% to reflect the level of effort involved in the work, the learning process and its contribution to the final mark in the assessment for this module.