The University Of Sheffield.

Programme Specification

A statement of the knowledge, understanding and skills that underpin a taught programme of study leading to an award from The University of Sheffield

Programme Details

1. Programme title	Civil Engineering & Project Management
2. Programme code	CIVT186
3. QAA FHEQ level	7
4. Faculty	Engineering
5. Department	Civil & Structural Engineering
6. Other departments providing credit bearing modules for the programme	None
7. Accrediting Professional or Statutory Body	Joint Board of Moderators (JBM) of the Institution of Civil Engineers (ICE), Institution of Structural Engineers (IStructE), Chartered Institution of Highways & Transportation (CIHT) and Institute of Highway Engineers (IHE) Permanent Way Institution (PWI) http://www.jbm.org.uk
8. Date of production/revision	September 2019, September 2023, October 2024

Awards	Type of award	Duration
9. Final award	MSc	12 months
10. Intermediate awards	PGDip	12 months
	PGCert	12 months

Programme Codes

11. JACS code(s) *Select between one and three codes from the HESA website.*	H200	K220	
12. HECoS code(s) *Select between one and three codes from the HECoS vocabulary.*	100148	100151	

Programme Delivery

13. Mode of study	Full-time
14. Mode of delivery	Face to face (on campus)

15. Background to the programme and subject area

This programme will enable civil engineering graduates to become future leaders in the management of international construction projects, equipping participants with the knowledge, experience and skills to thrive in the complex environment of the modern construction industry. Management of civil engineering systems is a critical element within industrial practice. This MSc integrates a strong technical background with the fundamentals of management of construction. Importantly, the management aspects have a strong contextual grounding in the civil and structural engineering profession, with directly applicable examples.

The programme has been designed to develop students' communication and negotiation skills alongside management and business practices related to the design, delivery and maintenance of the built environment. The MSc addresses the sustainability challenges facing the built environment and the engineers' role in promoting sustainable development. Students will develop an awareness of the social, commercial and ethical context of their profession.

This course covers the fundamental principles of civil engineering and management, as well as highly relevant practical aspects. In addition, it provides the research skills necessary to formulate, study and solve civil engineering management problems independently. Thus, it is anticipated that graduates from this course will be highly sought after internationally, given the global shortage of professionals with a broad range of salient skills.

Teaching on the course includes lectures, seminars, project classes, and tutorials. Students will gain understanding, knowledge and skills at the forefront of rapidly developing research fields and will be able to interact with leading academics and construction management professionals, as well as a diverse student cohort who bring a rich variety of skills and perspectives to the course.

16. Programme aims

MSc Civil Engineering & Project Management aims to:	
A1	Provide access to Masters' level degree programmes to graduates or professionals seeking a higher-level engagement to become future leaders in a civil engineering discipline.
A2	To develop in students a knowledge of the multidisciplinary management experience and skills needed to thrive in the complex environment of the modern construction industry.
A3	Provide graduates with general, personal, professional and analytical skills, design experience and an advanced understanding of real-world application of these skills.
A4	Help fulfilment of student potential and engender a commitment to self-improvement and development of personal transferable skills.
A5	Prepare students for technical and/or managerial leadership in their chosen career.
A6	Produce graduates with enhanced employment prospects and to act as a preparatory programme for candidates wishing to carry out research in the subject area.

17. Programme learning outcomes

Knowledge and understanding

On successful completion of the programme, students will be able to demonstrate knowledge and understanding of:

		Links to Aim(s)
K1	Advanced analysis methods for the management of construction projects.	A1, A2, A3
K2	The sustainability challenges facing the built environment and the engineers' role in promoting sustainable development.	A1, A2, A3

K3	Understanding of related engineering disciplines and the ability to evaluate these in the context of civil engineering design and construction management.	A1, A2, A3, A6
K4	Management and business practices related to the design, delivery and maintenance of the built environment.	A1, A2, A5, A6
K5	Social, commercial and ethical context of their profession.	A1, A3, A4, A5, A6
Skills and other attributes On successful completion of the programme, students will be able to:		
S1	Apply engineering knowledge to solve complex problems in the management of construction.	A1, A2, A3, A6
S2	Apply a range of communication and negotiation skills relevant for future management and leadership in the complex environment of the modern construction industry.	A1, A2, A3 A4, A5, A6
S3	Collect and analyse data and information and use appropriate tools and methods to tackle unfamiliar problems.	A1, A4, A3
S4	Generate innovative design and management interventions for Civil Engineering projects.	A1, A2, A3, A6

18. Learning and teaching methods

Lectures by Civil & Structural Engineering academic staff, supplemented by external visiting lecturers, will be used to transmit information, explain theories and concepts, and illustrate methods of analysis or design. Lecture programmes will be supplemented by problem sheets and directed self-study to enable students to develop their understanding during private study.

Flipped classroom techniques (structured pre-reading) will be adopted in selected modules to maximise the use of staff contact time for discussion and exploration of concepts during scheduled lectures.

Where appropriate **practical classes** will afford students the opportunity to develop practical skills such as laboratory work, computing and use of software.

Coursework assignments will encourage independent learning by requiring students to seek additional information and work on their own or in small groups to develop understanding of subject matter.

Example classes will help students with their understanding of lecture material and also answer queries as they work through problem sheets.

Students will work to solve **design problems** related to real engineering situations in order to learn design methods and to practise associated analytical techniques.

Group design projects will enable students to work in teams (typically of 4 or 5 students) to tackle realistic engineering design briefs by working through conceptual and detailed design stages. These projects develop a wide range of skills, including team-working and communication skills.

A major **research study** carried out over the summer will require students to produce a **dissertation**. This work, although supervised by a member of the academic staff, allows the student ample scope to display initiative, originality, creativity and is largely self-directed.

University **learning spaces and facilitie**s will be used with specialist laboratory work, where appropriate, using departmental facilities.

Blackboard (MOLE) will be used as a repository for lecture material and lecture capture, submission of assignments, on-line formative feedback tests, and module-related communication.

19. Assessment and feedback methods

Formative assessments

A range of activities will be used across the taught modules including:

Class discussions

Group feedback during class discussions.

Oral presentations

Peer and staff feedback following oral presentations on both technical content and communication skills.

Tutorial sheets and feedback.

Immediate feedback through digital platforms, or feedback in tutorial sessions.

Modules will provide some formative feedback prior to summative assessment.

Summative assessment

The form of assessment will be selected based on the most appropriate means for assessing the particular module learning outcomes. A variety of methods will be used, for example:

Written examinations – typically of 2 or 3 hours duration depending upon the nature of the questions (essays, calculations, designs) and the amount of content in the questions.

Coursework submissions - these include design studies, laboratory reports, computational assignments and research reports.

Oral presentations and interviews – students make individual presentations in group design work to an audience including academic staff and fellow students. An individual interview with two academic staff is held as part of the assessment of the Dissertation.

Group design project reports – written reports assembled by teams of students with shared authorship.

Individual dissertation report – students prepare an 80-page dissertation which is assessed by the supervisor and independently by a second academic member of staff both of whom together also interview the student.

Feedback

The modules in the programme will employ a range of feedback approaches designed to support students' learning. Tutorials, problem and design classes will enable students to receive verbal feedback i.e. discuss their work and progress with an academic or Graduate Teaching Assistant.

Some modules may use Blackboard (MOLE) quizzes or class tests to enable students to gauge their own level of understanding and performance, but these will not be credit bearing activities. Our assessment and feedback strategy is designed to support students' learning but not drive engagement by rewarding with credit.

Coursework assignments will have written or verbal feedback given individually or to the class. The departmental target is that this will be within 3 weeks of submission. Students will be advised by the module leader of the type of feedback that they can expect to receive, and this may not in all cases be annotation of their submitted work. A student handbook provides information on when to expect feedback and how it should be used.

Students will receive regular feedback on their dissertation work through review of a preliminary or intermediate report and supervisory meetings.

20. Programme structure and student development

The programme is designed to be taken over one-year full time. As a coherent programme all modules are core covering advanced analytical skills, alongside an awareness and understanding of the wider context of their profession.

The first semester is designed to embed key skills and knowledge with Semester 2 containing advanced technical content and application of the skills that have been learnt to real world scenarios.

The 60-credit dissertation undertaken over the final semester enables students to demonstrate independently the advanced skills and knowledge they have learnt in a challenging research project.

Progress is reviewed at the end of each semester following the exam boards and students advised through personal tutorial sessions.

A degree is obtained by passing to an appropriate standard the taught modules and the individual research dissertation. For those students who do not satisfy the examiners in part of their assessed work, or by choice, there is the opportunity to be awarded a Postgraduate Certificate or Postgraduate Diploma.

The programme has referenced The Engineering Council's Accreditation of Higher Education Programmes 3rd Edition in its design, to ensure its suitability as Further Learning to become a Chartered Engineer (although accreditation has not yet been sought).

Student development

An induction week is provided during which the students register, are introduced to the University, the Department and the Programme Leader.

Further departmental activities are run through semester 1 to assist students to settle into the University of Sheffield and the city e.g. team exercises and language and library support.

Each student is assigned an academic tutor who they will meet in small groups as well as one to one to discuss their transition into postgraduate study and progress throughout the year.

Employability support is provided through the Department and the University with dedicated careers sessions, opportunities to meet employers and bespoke engineering careers information through a departmental careers' 'wiki'.

Detailed information about the structure of programmes, regulations concerning assessment and progression, and descriptions of individual modules are published in the University Calendar available online at http://www.sheffield.ac.uk/calendar/.

21. Criteria for admission to the programme

Detailed information regarding admission to programmes is available from the University's On-Line Prospectus at http://www.shef.ac.uk/courses/.

22. Reference points

The learning outcomes have been developed to reflect the following points of reference:

Subject Benchmark Statements
https://www.qaa.ac.uk/quality-code/subject-benchmark-statements

Framework for Higher Education Qualifications (2024)
https://www.qaa.ac.uk/the-quality-code/qualifications-frameworks#

University Vision and Strategic Plan
https://www.sheffield.ac.uk/vision

Education Strategy Learning and Teaching Strategy (2020-27)
https://www.sheffield.ac.uk/vision/our-pillars/education

23. Additional information

None

This specification represents a concise statement about the main features of the programme and should be considered alongside other sources of information provided by the teaching department(s) and the University. In addition to programme specific information, further information about studying at The University of Sheffield can be accessed via our Student Services web site at http://www.shef.ac.uk/ssid.