

## Overview

<b>Programme Code</b>	35346
<b>Programme Title</b>	Civil Engineering
<b>Awarding Institution</b>	Liverpool John Moores University
<b>Programme Type</b>	Masters
<b>Language of Programme</b>	All LJMU programmes are delivered and assessed in English
<b>Programme Leader</b>	Edward Loffill
<b>Link Tutor(s)</b>	

## Awards

Award Type	Award Description	Award Learning Outcomes
Target Award	Master of Science - MS	See Learning Outcomes Below
Recruitable Target	Master of Science - MS240	See Learning Outcomes Below
Alternative Exit	Postgraduate Diploma - PD	Apply advanced theoretical concepts, analytical tools and empirical methods within the field of civil engineering. Develop a critical awareness of management principles, including professional, ethical, risk and safety responsibilities, and apply appropriate techniques to achieve, promote, and measure, sustainable construction. Critically evaluate design and operation within the context of both regulation and current developments in civil engineering. Apply appropriate mathematical models to both design and analysis. Integrate the civil engineer's professional, ethical and legal responsibilities, including global aspects, in design and construction. Communicate effectively with professionals working within fields related to civil engineering. Take responsibility for personal and professional career development. Manage civil engineering projects, and develop management strategies. Create and innovate both in design, and in the solution of problems. Work effectively both independently and in teams. Make effective use of reflective learning, CPD and metacognition to improve performance.
Alternative Exit	Postgraduate Certificate - PC	Engage with advanced levels of theory and practice in relation to the academic discipline of Civil Engineering. Demonstrate knowledge and an awareness of essential facts, concepts, theories and principles of civil engineering, and its underpinning science and mathematics. They must have an appreciation of the wider multidisciplinary engineering context and its underlying principles. Demonstrate appropriate levels of critical analysis, reflection and contextual awareness in focused areas of study and use engineering principles in the development of solutions to practical problems. Communicate effectively through the media of the written word, the spoken word, and through drawing with both specialist and non-specialist audiences

### Alternate Award Names

## External Benchmarks

### Subject Benchmark Statement

PGT-Engineering (2020)

## Accreditation

### Programme Accredited by

PSRB Name	Type of Accreditation	Valid From Date	Valid To Date	Additional Notes
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Institution of Civil Engineers (ICE)	Accredited by the Institution of Civil Engineers (ICE) on behalf of the Engineering Council for the purposes of partially meeting the academic requirement for registration as a Chartered Engineer.		
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## Programme Offering(s)

Mode of Study, Mode of Delivery	Intake Month	Teaching Institution	Programme Length
Full-Time, Face to Face	September	LJMU Taught	1 Years

## Aims and Outcomes

### Educational Aims of the Programme

The overall aim of the programme is to produce postgraduates who are able to develop into Chartered Engineers who are able to play a significant role as professional civil engineers. It aims to develop the skills needed by those who will take lead roles within the civil engineering profession. In particular it aims to provide a route for a student with a BEng in Civil or Structural Engineering to fulfil the learning requirements for Chartered Engineer status. The specific aims of the programme are: 1) To produce postgraduates who have a thorough understanding of civil engineering and a critical awareness of the current issues in the field, informed by the latest research. 2) To encourage students to develop their conceptual understanding of civil engineering to evaluate the latest research and design methodologies, and to develop their own methodologies. 3) To develop the students' awareness of the ethical issues of civil engineering and their responsibilities with regard to sustainable construction. 4) To offer experience in the planning and execution of an extended research project in the form of a dissertation. 5) To provide opportunities for students to develop subject specific skills, practical skills, cognitive skills and range of high level transferable skills

### Learning Outcomes

Code	Description
PLO1	Apply advanced theoretical concepts, analytical tools and empirical methods within the field of civil engineering.
PLO2	Apply appropriate techniques to achieve, and measure, sustainable construction.
PLO3	Develop appropriate research techniques, including the setting of research questions, an understanding of statistical analysis, and knowledge of measurement methods.
PLO4	Develop a critical awareness of management principles, including professional, ethical and safety responsibilities.

<b>Code</b>	<b>Description</b>
PLO5	Promote sustainable development and critically evaluate the sustainability of both design and operation.
PLO6	Critically evaluate design and operation within the context of both regulation and current developments in civil engineering.
PLO7	Apply appropriate mathematical models to both design and analysis.
PLO8	Integrate the civil engineer's professional, ethical and legal responsibilities, including global aspects, in design and construction.
PLO9	Select and apply appropriate analytical tools for solving and/or modelling relevant problems.
PLO10	Use engineering principles in the development of solutions to practical problems.
PLO11	Undertake risk evaluation.
PLO12	Set clear objectives, assemble information from a variety of sources, analyse such data and form logical conclusions.
PLO13	Collect and analyse data; selecting and using appropriate methodologies.
PLO14	Critically evaluate research, published work and other evidence.
PLO15	Communicate effectively with professionals working within fields related to civil engineering.
PLO16	Undertake design and practical testing of research and design ideas in a laboratory or in the field to develop valuable data for analysis and critical evaluation and the evaluation of novel ideas.
PLO17	Take responsibility for personal and professional career development.
PLO18	Manage civil engineering projects, and develop management strategies.
PLO19	Use scientific evidence-based and risk assessed methods in the solution of problems.
PLO20	Communicate effectively through the media of the written word, the spoken word, and through drawing with both specialist and non-specialist audiences.
PLO21	Work effectively both independently and in teams.
PLO22	Create and innovate both in design, and in the solution of problems.
PLO23	Appreciate own limitations and have the ability to discern when help is required.
PLO24	Make effective use of reflective learning, CPD and metacognition to improve performance.

## Programme Structure

### Programme Structure Description

The programme is offered in full-time mode. The course of study will normally be completed in one calendar year (full-time).

The Postgraduate Diploma and Postgraduate Certificate are alternative exit awards and do not recruit directly.

A total of 60 credits is required for a PG Certificate and 120 credits for a PG Diploma (excluding the dissertation).

7101CIVPG Research Methodology must be passed prior to the submission of the project dissertation (7002CIVPG Research Project).

If the 240 credit mode is selected as the route of study this has an additional 60 credit 'Group Project' module (7001FETGDP)

#### Programme Structure - 180 credit points

##### Level 7 - 180 credit points

##### Level 7 Core - 180 credit points

CORE

[MODULE] 7002CIVPG Research Project Approved 2022.01 - 60 credit points

[MODULE] 7101CIVPG Research Methodology Approved 2022.01 - 10 credit points

[MODULE] 7160CIVPG Advanced Materials Approved 2022.01 - 10 credit points

[MODULE] 7301CIV Sustainable Infrastructure Approved 2022.01 - 20 credit points

[MODULE] 7302CIV Energy and Carbon Management Approved 2022.02 - 20 credit points

[MODULE] 7304CIV Applied Finite Element Analysis Approved 2022.01 - 20 credit points

[MODULE] 7306CIV Advanced Structural Design and Bridge Engineering Approved 2022.01 - 20 credit points

[MODULE] 7457BEPG Collaborative BIM Project Approved 2022.01 - 20 credit points

Module specifications may be accessed at <https://proformas.ljmu.ac.uk/Default.aspx>

## Teaching, Learning and Assessment

Acquisition of knowledge is achieved mainly through lectures, seminars and problem solving sessions. Students are expected and encouraged to take an active role in their learning through debates, discussions and student led presentations. Site visits and laboratory sessions supplement these. Students are encouraged to attend professional body talks and visits. The assessments are designed as part of the learning process, and both individual and group feedback on the assignments adds to their knowledge base. Assessment of the knowledge base is through a combination of written examinations, assignments, presentations and the dissertation. Intellectual skills are developed through interactive seminars and lectures of the taught modules, and through case studies and assignments. These skills are further developed in the dissertation module, which is supplemented by the teaching of these skills in the Research Methodology module. The skills of critical evaluation are an integral part of most assessments, and feedback on these assessments is an integral part of the learning process. Intellectual skills are assessed through a combination of written examinations, assignments, and the dissertation report. Professional skills are developed throughout the programme mainly through class discussion, interactive seminars, the dissertation, and professional body activities. The assessment of professional skills is mainly through assignments and presentations, but it is also assessed to a lesser degree in the written examinations. Transferable skills are taught throughout the programme, in all learning activities. Transferable skills are assessed throughout the range of assessment methods (written examinations, assignments, oral presentations and the dissertation).

## Opportunities for work related learning

To put the students' learning into appropriate vocational contexts project modules are based on real challenges faced by industry. Research modules are often centred around particular industrial challenges and looks at appropriate solutions and mitigations.

## Entry Requirements

Type	Description
Alternative qualifications considered	An Honours degree in a relevant subject with a minimum 2:2 classification or a professional qualification of equivalent standing and/or such relevant professional experience as deemed appropriate by the Department.
Other international requirements	International applicants: Equivalent qualifications plus minimum IELTS score of 6.5. Applicants who have studied and successfully achieved a UK degree within 24 months of the start of the MSc are exempt from this requirement.

## Extra Entry Requirements