

Summary Information

Module Code	7300CIV
Formal Module Title	Engineering Design Project
Owning School	Civil Engineering and Built Environment
Career	Postgraduate Taught
Credits	60
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
Civil Engineering and Built Environment

Learning Methods

Learning Method Type	Hours
Lecture	18
Practical	6
Seminar	8
Tutorial	22
Workshop	88

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-CTY	CTY	September	28 Weeks

Aims and Outcomes

Aims	To provide students with the opportunity to work in groups to conduct a complete holistic design of a realistic engineering project presented by a client with a focus on defining, managing and implementing an open-ended group task. To enable students to combine their theoretical knowledge of engineering analysis and design within the experience of a major task similar to those of working as a professional engineer.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Assess the social, economic, political, legislative, environmental, ethical, technical, and commercial aspects of the brief provided in order to develop a comprehensive project solution.
MLO2	2	Apply appropriate quantitative science and engineering tools to the analysis of unfamiliar problems, gather and synthesise data and contextualise the results.
MLO3	3	Critically appraise structural behaviour and alternative design solutions considering climate emergency and risk.
MLO4	4	Prepare detailed design calculations and working drawings to a prescribed standard format.
MLO5	5	Evaluate critically your strategy, processes and output and those of others.
MLO6	6	Establish a project plan that is efficient and recognises time frame and group strengths and reflect on group processes and own role in team work.

Module Content

Outline Syllabus	Conceptual design: The philosophy of engineering design supported by case studies and historical examples. The wider issues relating to sustainability and to the economic, financial, political, social and environmental aspects of design. Client requirement and conceptual design for Civil Engineering works. The structure and detail of the project calls for: <ul style="list-style-type: none"> Needs analysis: Interpretation and assimilation of the project brief, scope and requirements of the project. Risk evaluation: evaluation of the design, financial, environmental, social, economic and other relevant risks to the project. Feasibility: identification and analysis of possible solutions Detailed proposal: Development of detailed design Evaluation: Critical analysis of proposals Planning and task management: planning, task management, work allocation Individual research into an aspect related to the design. Place global challenges of the climate emergency, demonstrate 17 UNSDG in the material selection, design and construction thinking.
Module Overview	
Additional Information	This module brings together the students' learning throughout their study, and as such synthesises their learning, skill acquisition, and evaluative abilities, enabling them to integrate design and engineering science. Each student group will take on the role of a firm of consulting engineers answerable to the client brief and will gain experience of working as part of a project team with different knowledge and skills. The nature of the project will encourage students to meet both personal and group objectives, handle administration and organisation of the project and further develop their range of communication and presentation skills. It will instil awareness of the various activities involved in the planning, design and delivery of large-scale projects.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Portfolio	Portfolio	20	0	MLO1, MLO2, MLO3

Report	Report 1	40	0	MLO1, MLO2, MLO3, MLO4
Report	Report 2	40	0	MLO1, MLO2, MLO3, MLO4, MLO5, MLO6

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Denise Lee	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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