

**Civil Engineering Design 2**

Module Code	CIVE50002	FHEQ Level	Level 5
Pre-requisites	N/A	Co-requisites	N/A
Teaching Term	Autumn, Spring and Summer	Available for CPD (MSc only)	No
Primary Department	Civil & Environmental Engineering		
Module Leader	Popo-Ola Sunday		
Additional Teaching Departments	N/A		
Teaching Staff	Ahearn, Alison; Popo-Ola, Sunday; Cook, Michael; Phillips, Andrew; Broadbent, Oliver; Craske, John		
Programmes on which the Module is delivered			Core/Elective
MEng Civil Engineering (H201)			Core
MEng Civil Engineering with a Year Abroad (H202)			Core
Civil Engineering (H21E)			Core
Module Overview	<p>In this module you will have the opportunity to:</p> <ul style="list-style-type: none"> <li>• Work as a group on the development of conceptual designs at multiple scales.</li> <li>• Create, develop, challenge and augment design briefs.</li> <li>• Give and receive critical feedback on designs responses to the developed brief.</li> <li>• Generate ideas and carry out research to assess the feasibility of design concepts.</li> <li>• Experience hands-on working on a construction site.</li> <li>• Work as a group to plan and manage the construction of a design at a 1:1 scale.</li> <li>• Develop method statements and risk assessments as part of safe working.</li> <li>• Reflect on the role of Civil Engineers as designers and makers.</li> <li>• Consider the impact of the Global Climate Emergency and UN Sustainable Development Goals on the value of Civil Engineers and their approach to development projects.</li> </ul>		
Learning Outcomes	<ul style="list-style-type: none"> <li>• Work effectively, challenge, augment and develop a design brief in design and construction teams</li> <li>• Give and receive critical feedback, embracing diversity and managing conflict to achieve positive outcomes</li> </ul>		

	<ul style="list-style-type: none"> <li>• Research and critically assess information and techniques to develop design and construction responses</li> <li>• Generate ideas, present and defend your work individually and as part of a team</li> <li>• Apply technical knowledge and engineering understanding in the development of design solutions</li> <li>• Contextualise work within the construction industry and civil engineering profession</li> <li>• Recognise and respond to the wider ethical and socio-economic concerns in developing designs, including consideration of sustainability and develop method statements and risk assessments</li> <li>• Experience of civil engineering design across multiple scales from 1:100000 (1m to 100km) to 1:10</li> </ul>
<p>Description of Content</p>	<p>The module is delivered across 3.5 intensive weeks where no other teaching takes place. 2 x 1 weeks are Creative Design weeks in which you will work as groups to develop Civil Engineering designs across multiple design scales. 1.5 weeks are preparation and work on Constructionarium, where you will plan and manage, as well as getting hands-on experience of constructing a scale version of a well-known civil engineering project.</p> <p>Creative Design: Working in groups over one week, develop a project brief to deliver defined social/environmental benefits; research the context and outcomes needed and from these define a suitable engineering project; generate ideas within the team context to produce conceptual designs for the project; develop these ideas into a specific scheme design at masterplan scale and focus on elements of more detailed construction-level design. Work effectively within a team to support creativity and productive team working. Present work as a team to explain how the design proposal fulfil the defined social/environmental needs.</p> <p>Constructionarium: project briefings, team formation, practical planning of construction. Construction Health and Safety, risk recognition, risk amelioration, responsibility for safety on-site. Skills including setting out; power tools; reading drawings; construction sequencing; construction planning. Project-based learning by construction of a designated structure in concrete and/or steel up to 20m length. Contract negotiation and budget setting; daily reporting to client’s representative. Daily reflective learning through presentation and feedback sessions with practising engineers.</p>
<p>Assessment</p>	
<p>Assessment information will be provided separately.</p>	

Learning & Teaching Hours	Independent Study Hours	Placement Hours	Total Hours
120	67.5		187.5
ECTS Credit	7.5	CATS Credit	1156
Date of introduction	1/10/19	Date of Last Revision	2/9/20

## Reading Lists:

Category as defined by Central Library

C = Core, S = Supplementary
