

## Liverpool John Moores University

Title: STRUCTURAL DESIGN AND DETAILING  
Status: Definitive  
Code: **5251BEUG** (125661)  
Version Start Date: 01-08-2020

Owning School/Faculty: Civil Engineering and Built Environment  
Teaching School/Faculty: Civil Engineering and Built Environment

Team	Leader
John McLoughlin	Y

**Academic Level:** FHEQ5      **Credit Value:** 20      **Total Delivered Hours:** 57  
**Total Learning Hours:** 200      **Private Study:** 143

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	22
Tutorial	11
Workshop	22

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	EXAMINATION	50	2
Report	AS2	REPORT ON DESIGN AND DETAILING USING SOFTWARE	50	

### Aims

*To introduce the use of Eurocodes in the design of timber, structural steel and reinforced concrete structures.*

*To design and detail structural elements in timber, reinforced concrete and structural steelwork using Eurocode 2, 3 and 5.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Design flexural elements in reinforced concrete and structural steel.
- 2 Design short compression elements in reinforced concrete and structural steel.
- 3 Design timber joists and studwork.
- 4 Detail structural elements using computer aided design and draughting applications.

## Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

EXAMINATION	1	2	3	
DESIGN & DETAILING REPORT	1	2	3	4

## Outline Syllabus

*Reinforced concrete design and detailing to EC2 of rectangular beams, slabs, pad foundations and short columns.*

*Structural steelwork design and detailing to EC3 of laterally restrained beams, columns and connections.*

*Timber design and detailing to EC5 of joists and studwork.*

*Temporary works and Structural Design Risk Assessments.*

## Learning Activities

Lectures, tutorials, problem-solving sessions within workshops and tutorials. use of specialist computer software in IT workshops.

## Notes

Students will develop an understanding of design and detailing with a particular emphasis towards on-site construction processes.