

Liverpool John Moores University

Title: STRUCTURAL DESIGN
Status: Definitive
Code: **5025BEUG** (102771)
Version Start Date: 01-08-2016

Owning School/Faculty: Civil Engineering
Teaching School/Faculty: Civil Engineering

Team	Leader
Hassan Al Nageim	Y

Academic Level: FHEQ5 **Credit Value:** 12 **Total Delivered Hours:** 51
Total Learning Hours: 120 **Private Study:** 69

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24
Tutorial	24

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	open book	70	3
Test	AS2	in class assessment	30	

Aims

To introduce students to the use of the British & EC codes of practice in the design of steel and concrete structures.

To design structural elements in reinforced concrete and structural steelwork.

Learning Outcomes

After completing the module the student should be able to:

- 1 Design and detail single span, simply supported, beams in reinforced concrete.
- 2 Design single span, simply supported, beams in structural steelwork .
- 3 Design short steel columns.
- 4 Design connections between steel beams and columns.

Learning Outcomes of Assessments

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

EXAM	1	2	3	4
IN CLASS	1			

Outline Syllabus

Reinforced concrete design to BS8110: Singly reinforced beams, doubly reinforced beams, T and L beams, beam-shear reinforcements, one-way reinforced concrete slabs, bonding between steel bars and concrete and serviceability check: deflection of beams.

Design of steel works to BS 5950 and EC : Beams with and with out full lateral restraints, short columns and connections.

Learning Activities

Lectures, tutorials, problem solving sessions and use of computer software.

Notes

The module is intended to develop the students' competence in the design of structural components of varied materials in accordance with British Standards.