

## Liverpool John Moores University

Title: ENGINEERING DESIGN PROJECT  
Status: Definitive  
Code: **6113BEUG** (118016)  
Version Start Date: 01-08-2019

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

Team	Leader
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**Academic Level:** FHEQ6      **Credit Value:** 24      **Total Delivered Hours:** 57  
**Total Learning Hours:** 240      **Private Study:** 183

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	12
Practical	6
Seminar	6
Tutorial	12
Workshop	18

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	50	3
Portfolio	AS2	Report	40	
Portfolio	AS3	E-Portfolio	10	

### Aims

*To develop the student's conceptual design skills and use these, in synthesis with*

*other skills such as detailed design, financial appraisal and Health and Safety to act as a consulting engineer in the solution of an engineering problem presented by a client.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Work as part of a team to produce, and critically evaluate, conceptual designs for engineering solutions to a client's brief, taking into account the key risks including sustainability, Health and Safety and economics.
- 2 Work as part of a team to produce a detailed design for an engineering solution to a client's brief, taking into account all design aspects including structural design, drawing, sustainability, Health and Safety and Costing
- 3 Critically evaluate their own, and other people's, designs
- 4 Map their employability skill competence to date and identify opportunities for further development.
- 5 Adapt an engineering design to suit changing requirements
- 6 Explain and critically evaluate the key drivers behind the Engineering Design process
- 7 Reflect constructively on the design process, teamwork and the design itself.

## **Learning Outcomes of Assessments**

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

EXAMINATION	3	5	6	7
REPORT	1	2		
E-PORTFOLIO	4			

## **Outline Syllabus**

*Conceptual design.*

*The philosophy of engineering design supported by case studies and historical examples not necessarily related to civil or building services engineering. The wider issues relating to the economic, financial, political, social and environmental aspects of design.*

*Health and Safety in Design and Construction*

*Client requirement and conceptual design for civil and/or building services engineering.*

*The interrelationships between architectural design, structural design, and engineering design for the built environment. Conceptual design and materials, cost, sustainability and efficiency. Relationships between the various phases of the design and construction processes.*

*Design Brief:- A suitable design brief will be given to each group, embodying most or all of the areas of engineering in the degree course.*

*Personal Development Planning*

## **Learning Activities**

Lectures, tutorials, practicals, seminars, and design studio sessions during which students will work in teams which will act as a firm of consulting engineers and will be given a design brief by a member of staff, who will act as client. Each group will be required to work to produce a conceptual and detailed design in response to its brief.

## **Notes**

This module brings together the students' learning throughout their study, and as such synthesises their learning, skill acquisition, and reflective abilities. Additionally students will reflect on their employability skills, for which they have the assistance of the e-portfolio.