

Liverpool John Moores University

Title: DESIGN PROJECT
Status: Definitive
Code: **6027BEUG** (102807)
Version Start Date: 01-08-2016

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

Team	Leader
Felicite Ruddock	Y

Academic Level: FHEQ6
Credit Value: 24
Total Delivered Hours: 51
Total Learning Hours: 240
Private Study: 189

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	12
Seminar	6
Tutorial	12
Workshop	18

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	open book	50	3
Report	AS2	oral presentations and final report	42	
Portfolio	AS3	use of e-portfolio for PDP development exercise and mapping.	8	

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.

To encourage students to reflect on their level of competency regarding employability skills, and identify opportunities for developing these skills.

Learning Outcomes

After completing the module the student should be able to:

- 1 Apply imagination, engineering intuition and judgement, and technical knowledge to the creative design process.
- 2 Demonstrate oral, written and other presentation skills, both singly and as part of a team.
- 3 Gather relevant information on financial, environmental and planning issues, site conditions, material suppliers, collaborators, specialists and other contractors, and use this information to inform the design process.
- 4 Seek out required engineering knowledge not taught on the course and synthesise all information so that proposed solutions can be tested against the criteria identified in the brief
- 5 Work successfully in a team, sharing tasks between the team members and combining results into a single report.
- 6 Cope with the uncertainties associated with the multitude of factors that make up a design brief
- 7 Interact with the client to help both the client and other team members develop a better understanding and definition of the brief, demonstrating awareness of the complexity of engineering systems, and the need to listen to and interpret client needs, so as to be able to develop clear briefs.
- 8 Tackle engineering design problems with an appreciation of the factors involved in engineering design at the conceptual stage.
- 9 Critically assess their own, and other people's, designs
- 10 Map their employability skill competence to date and identify opportunities for further development.

Learning Outcomes of Assessments

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

EXAM	1	2	8	9					
REPORT	1	2	3	4	5	6	7	8	9
E PORTFOLIO	10								

Outline Syllabus

Conceptual design.

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

Client requirement and conceptual design for civil engineering works in connection with highways and railways, bridges, water supply, maritime structures and coastal

defence.

The relationship between architectural design and structural design. Conceptual design and structural materials. Conceptual design and cost. The relationship between the conceptual phase of design and the detail design phase.

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.

Learning Activities

Lectures, tutorials, 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 and skill acquisition. Additionally students will reflect on their employability skills, for which they have the assistance of the RAPID package.