

Liverpool John Moores University

Title: DIGITAL ENGINEERING DESIGN PROJECT
Status: Definitive
Code: **6250BEUG** (125677)
Version Start Date: 01-08-2020

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

Team	Leader
Raj Shah	Y

Academic Level: FHEQ6
Credit Value: 20
Total Delivered Hours: 24
Total Learning Hours: 200
Private Study: 176

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Workshop	24

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Presentation	Group	Group Presentation	30	
Report	Individual	Individual Report	70	

Aims

To develop the student's conceptual design skills and apply them in conjunction with other skills such as detailed design, project management and Health and Safety to act as an engineer in the solution of a digital engineering problem.

Learning Outcomes

After completing the module the student should be able to:

- 1 Work as part of a team to produce and critically evaluate, designs for engineering solutions to a client's brief, taking into account the key risks including health and safety, economics and the use of industry standard software
- 2 Work as part of a team to critically analyse and apply construction principles and techniques to a complex project.
- 3 Adapt the engineering project to suit changing requirements considering all factors and using the industry standard software.
- 4 Explain and critically evaluate the key drivers behind the design and construction process.
- 5 Reflect constructively on the collaborative aspects within the assignment project and industry.

Learning Outcomes of Assessments

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

Group Based	2	1			
Individual Based	2	4	5	1	3

Outline Syllabus

Conceptual design.

The philosophy of engineering design supported by case studies and historical examples. 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.

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.

IT workshops will cover the relevant software applications to tie in with the relevant subject area.

Learning Activities

Workshops will be used as the vehicle to deliver this module and can involve design studio sessions, seminars, guest lectures and IT sessions using the various industry standard software to develop greater understanding and skills within digital engineering. Students will work in teams and act as a consultancy and be given a design brief by a member of staff, who will act as client.

Notes

This module brings together the students' learning throughout their study, and as such synthesises their learning, skill acquisition, and develops further their digital engineering understanding and skills.