Liverpool John Moores University

Title:	DESIGN AND STRUCTURAL PRINCIPLES
Status:	Definitive
Code:	**4016BEUG** (102738)
Version Start Date:	01-08-2016
Owning School/Faculty:	Civil Engineering
Teaching School/Faculty:	Civil Engineering

Team	Leader
Felicite Ruddock	Y

Academic Level:	FHEQ4	**Credit Value:**	12	**Total Delivered Hours:**	48
Total Learning Hours:	120	**Private Study:**	72		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24
Tutorial	20
Workshop	4

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	AS1	project	50	
Report	AS2	structural coursework	25	
Test	AS3	structural in class test	25	

Aims

To provide the student with a fundamental concept of the design of buildings in respect of function modelling and structural design processes.
To enable the student to study elements of structural design along with the properties of materials and behaviour of structures commonly used in the construction industry.

Learning Outcomes

After completing the module the student should be able to:

1 Explain and apply the processes of building design.
2 Describe how user needs for buildings and building spaces are translated into functional requirements and spatial plans
3 Discuss the social and aesthetic considerations of architecture and building design.
4 Describe and apply knowledge to the design of a residence from first principles.
5 Apply the concept of structure, loading on structures and the interaction of structural elements with the loading environments.
6 Explain the structural behaviour concepts to the design of a house.
7 Describe the properties of structural elements/materials justifying the reasons for their selection.
8 Apply standard methods to predict the structural behaviour of materials.

Learning Outcomes of Assessments

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

PORTFOLIO	1	2	3	4
REPORT	5	6	7	8
TEST	5	6	7	8

Outline Syllabus

For the first part of the module, students are given a project based on the design and construction of a new residential building. The student must solve problems relating to the design of their scheme.The second part of the module covers the following topics: loads on buildings and structures, Loads actions on structural elements, Framed structures, Portal frames, Masonry cavity and solid walls.

Learning Activities

Lectures, tutorials and workshops.

Notes

An integrative project syllabus intended to introduce the student to the concepts and applications of functional, aesthetic, and structural design principles.