

## Liverpool John Moores University

Title: Sustainable Design  
Status: Definitive  
Code: **7114BEUG** (120613)  
Version Start Date: 01-08-2017

Owning School/Faculty: Engineering and Technology  
Teaching School/Faculty: Engineering and Technology

Team	Leader
Laurence Brady	Y

**Academic Level:** FHEQ7  
**Credit Value:** 20  
**Total Delivered Hours:** 28  
**Total Learning Hours:** 200  
**Private Study:** 172

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	20
Seminar	5
Workshop	3

**Grading Basis:** 50 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	AS1	Portfolio	100	

### Aims

*To evaluate the implications of design decisions on the environmental performance of buildings.*

### Learning Outcomes

After completing the module the student should be able to:

- 1 Examine the practicalities and implications of zero carbon building design and analyse current practice for commercial, industrial and residential development.
- 2 Investigate the current statutory and non statutory regulations, environmental assessment methods, and examine environmental and other associated drivers for change.
- 3 Evaluate the role of building simulation modelling in development of design and implication for the internal environmental conditions and building energy performance.

## **Learning Outcomes of Assessments**

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

Portfolio	1	2	3
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## **Outline Syllabus**

*The design development process and integrated working.*

*Client briefing*

*Building requirements and constraints, building performance ambitions.*

*Statutory regulations: Building Regulations*

*Environmental Assessment Methods: BREEAM, LEED, Code for Sustainable Homes,*

*Passivhaus*

*Building Design: Layout, structure, envelope construction and performance, orientation and glazing.*

*Internal and external environmental design conditions: heating, lighting ventilation.*

*Building simulation modeling of design proposals.*

*Sustainable and renewable material specifications.*

*Low and zero carbon technologies.*

*Building energy monitoring.*

## **Learning Activities**

Lectures, seminar & workshop.

## **Notes**

This module allows the student to discuss evaluate the implications of design decisions on the environmental performance of buildings. Case studies will be used to ensure that learning is grounded in practical application.