

Liverpool John Moores University

Title: SUSTAINABLE DESIGN AND CONSTRUCTION
Status: Definitive
Code: **5525UGIM** (118728)
Version Start Date: 01-08-2011

Owning School/Faculty: Built Environment
Teaching School/Faculty: Isle of Man College

Team	Leader
Mohd Nazali Mohd Noor	

Academic Level: FHEQ5
Credit Value: 24.00
Total Delivered Hours: 93.00
Total Learning Hours: 240
Private Study: 147

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	12.000
Online	60.000
Tutorial	18.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS2		50.0	
Exam	AS1		50.0	3.00

Aims

*To enable the student to fully appreciate the aspects of sustainability that apply to design, new build and refurbishment within the Construction Industry.
To look in detail at aspects of sustainable design and construction through material selection and thermal modeling of buildings.*

Learning Outcomes

After completing the module the student should be able to:

- 1 Develop a sustainable strategy for a new or refurbish construction projects and set realistic and measurable targets that, where applicable, would also involve other professional disciplines.
- 2 Specify environmental parameters for lighting, acoustics, temperature and humidity
- 3 Identify applicable statutory and non-statutory drivers for sustainability
- 4 Evaluate the implications of material specification and built form on indoor thermal conditions and building energy performance
- 5 Resolve particular energy/thermal condition problem for specific situations and provide contextual background to these situations
- 6 Use modeling software to examine energy performance of a room or building
- 7 Evaluate the effectiveness and suitability of low and zero carbon technologies
- 8 Resolve particular low and zero carbon problem for specific situations and provide contextual background to these situations

Learning Outcomes of Assessments

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

REPORT	1	2	3	4	6	7
EXAMINATION	5	8				

Outline Syllabus

Sustainability, BREEAM, Renewable energy technologies, sustainable building design, sustainable building materials, SAP2009 calculations, SBEM, commerciality of proposals, costings, added value, project brief development, sustainable buildings case studies, energy assessment,

Learning Activities

Lectures, Tutorials, IT workshops, practicals

References

Course Material	Book
Author	CIBSE
Publishing Year	2004
Title	Guide F: Energy Efficiency in Buildings
Subtitle	
Edition	
Publisher	CIBSE
ISBN	1903287340

Course Material	Book
Author	CIBSE
Publishing Year	2006
Title	TM38 Renewable Energy Sources for Buildings
Subtitle	
Edition	
Publisher	CIBSE
ISBN	1903287731

Course Material	Book
Author	CIBSE
Publishing Year	2000
Title	TM22 Understanding Photovoltaics
Subtitle	
Edition	
Publisher	CIBSE
ISBN	1903287731

Course Material	Book
Author	CIBSE
Publishing Year	1999
Title	AM12 Small Scale Combined Heat and Power
Subtitle	
Edition	
Publisher	CIBSE
ISBN	0900953926

Course Material	Book
Author	CIBSE
Publishing Year	2000
Title	TM36 Climate Change and the Indoor Environment: impacts and adaptation
Subtitle	
Edition	
Publisher	CIBSE
ISBN	1903287502

Notes

This module will give the students an understanding of the sustainable issues facing the construction industry and allow them to apply aspects of environmental practice and technology through the design and construction process.