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Title: SUSTAINABLE DESIGN AND CONSTRUCTION  
 Status: Definitive  
 Code: **5525BESG** (120567)  
 Version Start Date: 01-08-2018  
 Owing School/Faculty: Built Environment  
 Teaching School/Faculty: Built Environment

Team	Leader
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**Academic Level:** FHEQ5      **Credit Value:** 24      **Total Delivered Hours:** 63  
**Total Learning Hours:** 240      **Private Study:** 177

**Delivery Options**

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24
Practical	12
Tutorial	24

**Grading Basis:** 40 %

**Assessment Details**

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1		50	3
Report	AS2		50	

**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:

EXAMINATION	3	5	7	8
REPORT	1	2	4	6

## **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

## **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.