

## Liverpool John Moores University

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Title: Environment and Technology 1: Introduction to structural and environmental design  
Status: Definitive  
Code: **4131ASA** (129266)  
Version Start Date: 01-08-2021

Owning School/Faculty: Liverpool School of Art & Design  
Teaching School/Faculty: Liverpool School of Art & Design

Team	Leader
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**Academic Level:** FHEQ4      **Credit Value:** 20      **Total Delivered Hours:** 83  
**Total Learning Hours:** 200      **Private Study:** 117

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	23
Seminar	7
Tutorial	14
Workshop	39

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Artefacts	AS1	Structures submission	50	
Artefacts	AS2	Lighting submission	50	

### Aims

*This module aims to introduce the role of technology in the process of architectural*

*design from commencement to realisation, as it has existed historically as well as in recent buildings of note. Accent is placed on innovatory thinking and on the present technical and practical horizons possible within the profession of architecture viewed internationally. The module will give students grounding in the challenges of building high quality architecture.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Investigate and integrate alternative structural, constructional and material strategies in the context of a building project.
- 2 Apply and evaluate principles associated with designing optimum internal environments in the context of a building project
- 3 Summarise the results of investigation and evaluation using appropriate visual and written communication.

## **Learning Outcomes of Assessments**

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

Artefact 1	1	3
Artefact 2	2	3

## **Outline Syllabus**

*A course of illustrated lectures in construction, environmental design and lighting is presented, that introduce the role of the architect and the making of long-lasting buildings. A series of workshops on CAD is also included in this module.*

*Building examples are analysed in the lectures and accent placed on innovatory thinking and on the technical and practical horizons at work within the profession of architecture as evidenced in these constructions. The lectures and workshops are also intended to aid the technical realisation of work being produced in the design studio.*

*A lecture series introduces basic concepts and practices in the sustainable and environmental design of buildings. An introduction to building physics and the exploration of environmental elements that influence design development leads into lectures exploring more detailed sustainable and environmental design issues relating to heating, lighting, ventilation and associated systems.*

*Lectures on construction include the main constructional systems widely used for domestic buildings in the UK.*

*A series of CAD Workshops give students the key IT skills needed to communicate effectively in a design environment, such as information gathering, image organisation and manipulation in the context of design. During this year students are also introduced to the principles of 2d and 3d design in an IT rich environment.*

## **Learning Activities**

Lectures and regular CAD workshops support learning.  
The assessment tasks of this module relate directly to design work undertaken in module 4124ASA.

### **Notes**

This module will give the student a grounding in the challenges of building high quality architecture and begins to make connections between the technical and the design aspects of the subject. There are two assignments for this module: an investigation and drawn and written presentation on technical aspects of the current design project, one on the lighting of the building and one on its structure and construction. The module provides a sound theoretical and practical foundation to build on during Years 2 and 3.