

## Liverpool John Moores University

Title: CONSTRUCTION TECHNOLOGY AND SERVICES 2  
Status: Definitive  
Code: **5032BEUG** (107238)  
Version Start Date: 01-08-2011

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

Team	Leader
Martin Turley	Y

**Academic Level:** FHEQ5  
**Credit Value:** 24.00  
**Total Delivered Hours:** 75.00  
**Total Learning Hours:** 240  
**Private Study:** 165

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	48.000
Tutorial	24.000

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Closed book	50.0	3.00
Artefacts	AS2	Drawing based assignment	25.0	
Portfolio	AS3	Drawing based assignment	25.0	

### Aims

*To develop understanding of construction techniques associated with the production of high and low rise framed buildings, both new build and refurbishment.  
To introduce the technology of building services installations for commercial and industrial buildings.*

### Learning Outcomes

After completing the module the student should be able to:

- 1 Analyse and illustrate the various construction solutions available for low and high rise building structural frames.
- 2 Evaluate the restrictions that are imposed on building design by the need to comply with legislation concerning occupant safety, built form and sustainability.
- 3 Compare and contrast different design solutions and methods of construction used for high-rise and low-rise framed buildings.
- 4 Evaluate the most suitable technologies for the maintenance, conversion and refurbishment of buildings in given scenarios.
- 5 Analyse the importance of sustainability in the context of the design and construction of buildings.
- 6 Evaluate the impact of new technologies on current construction processes for industrial and commercial buildings.
- 7 Compare and contrast alternative solutions for mechanical and electrical services and utilities services in industrial and commercial buildings.

### **Learning Outcomes of Assessments**

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

EXAM	5	6	7
ARTEFACT	1	2	5
PORTFOLIO	3	4	5

### **Outline Syllabus**

*High and low rise framed building solutions with particular emphasis on:*

*Substructure, foundations and basements.*

*Structural frame types.*

*Wall claddings.*

*Roof structures and coverings.*

*Internal access provision including mechanical access provision.*

*Fire alarm, detection and fighting systems and passive measures used for protecting buildings from fire.*

*Integration of services using structural and non-structural methods.*

*Potential site problems and contaminated land remediation.*

*Issues associated with moderation and control of the internal environment.*

*Intelligent and sustainable building design, use and management.*

*The technology of refurbishment, conversion, maintenance and demolition.*

*Building services; HVAC, utilities and environmental services to large commercial buildings.*

## Learning Activities

Lectures and tutorials.

## References

<b>Course Material</b>	Book
<b>Author</b>	Riley M., Cotgrave A.
<b>Publishing Year</b>	2004
<b>Title</b>	Construction Technology 2:
<b>Subtitle</b>	Industrial and Commercial Building
<b>Edition</b>	
<b>Publisher</b>	Palgrave
<b>ISBN</b>	0-333-80482-1

<b>Course Material</b>	Book
<b>Author</b>	Riley M., Cotgrave A.
<b>Publishing Year</b>	2005
<b>Title</b>	Construction Technology 3
<b>Subtitle</b>	The Technology of Maintenance and Refurbishment
<b>Edition</b>	
<b>Publisher</b>	Palgrave
<b>ISBN</b>	1-4039-4095-9

<b>Course Material</b>	Book
<b>Author</b>	Chudley R., Greeno R
<b>Publishing Year</b>	2004
<b>Title</b>	Building Construction Handbook
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Butterworth Heinemann
<b>ISBN</b>	0-750-661-968

<b>Course Material</b>	Book
<b>Author</b>	Hall F., Greeno R.
<b>Publishing Year</b>	2005
<b>Title</b>	Building Services Handbook

<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Butterworth-Heinemann
<b>ISBN</b>	0750664606

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### **Notes**

The module provides the student with a broad understanding of the construction and services solutions applied for high and low rise framed buildings. It is reflective of the issues that need to be considered with respect to building performance and efficiency. Energy efficiency, and other environmental aspects of construction are examined. User efficiency and matters affecting productivity are addressed. Buildings in use and refurbishment of buildings are also covered.