

Liverpool John Moores University

Title: BUILDING SERVICES ENGINEERING AND TECHNOLOGY
Status: Definitive
Code: **5003BEHN** (102303)
Version Start Date: 01-08-2011

Owning School/Faculty: Built Environment
Teaching School/Faculty: Built Environment

Team	Leader
Laurence Brady	Y

Academic Level: FHEQ5
Credit Value: 12.00
Total Delivered Hours: 36.00

Total Learning Hours: 120
Private Study: 84

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	24.000
Tutorial	12.000

Grading Basis: BTEC

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	assignment 1	50.0	
Report	AS2	assignment 2	50.0	

Aims

To expand scientific principles to the practical aspects of building services planning and installation.

To provide an understanding of the principal applications of building services to domestic, commercial and industrial buildings.

To reinforce the need for co-ordination of the building services installations within the overall construction process.

Learning Outcomes

After completing the module the student should be able to:

- 1 Describe the principles and techniques used to provide hot and cold-water services to domestic buildings.
- 2 Analyse the provision of heating to domestic buildings and describe the installations.
- 3 Discuss the design and installation of waste disposal systems for domestic buildings.
- 4 Identify the systems used to distribute gas, electrical and telephonic services to domestic buildings.
- 5 Review the design and installations requirements for the distribution of hot and cold-water services to high-rise and non-domestic buildings.
- 6 Evaluate, and suggest solutions for, the problems specific to large buildings in respect of space heating, ventilation and air-conditioning.
- 7 Review the design and installation requirements for lifts and escalators in a range of buildings.
- 8 Evaluate the problems associated with the integration, accommodation and access for maintenance of mechanical and electrical services into a variety of buildings.

Learning Outcomes of Assessments

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

CW	1	2	3	4
CW	5	6	7	8

Outline Syllabus

Space heating:

The design and installation implications of providing space heating to a range of building types.

Ventilation and air-conditioning:

Consideration of the characteristics of ventilation and air conditioning systems and the factors that effect their performance in use.

Distribution services:

The requirements for the adequate and safe systems of piped, electrical and other utility services to meet the needs of a range of buildings.

Disposal systems:

The principles, provision and applications of sanitation, sewage and disposal systems to a range of building types.

Lifts and escalators:

The design and installation requirements for lifts and escalators in a range of buildings.

*Integration, accommodation and access:
The space and construction features associated with the accommodation of
mechanical and electrical services throughout and around buildings.*

Learning Activities

Lectures and seminars.

Assignment 1 focuses on low-rise domestic buildings and Assignment 2 extends assessment to consider larger buildings.

References

Course Material	Book
Author	Reid, E.
Publishing Year	1999
Title	Understanding Buildings: a multidisciplinary approach
Subtitle	
Edition	
Publisher	Pearson Higher Education
ISBN	0582009715

Course Material	Book
Author	Burberry, P.
Publishing Year	2006
Title	Mitchell's Environment & Services
Subtitle	
Edition	9th Edition
Publisher	Pearson Higher Education
ISBN	0582432324

Course Material	Book
Author	Chadderton, D.
Publishing Year	2004
Title	Building Services Engineering
Subtitle	
Edition	4th Edition
Publisher	Taylor & Francis Ltd
ISBN	0415315352

Course Material	Book
Author	Adler, D.
Publishing Year	2006
Title	Metric Handbook: Planning and Design Data
Subtitle	

Edition	3rd Edition
Publisher	Elsevier Science & Technology
ISBN	0750652810

Course Material	Book
Author	Treloar, R.D.
Publishing Year	2006
Title	Plumbing: Heating and Gas Installations
Subtitle	
Edition	3rd Edition
Publisher	Blackwell Publishers
ISBN	1405139625

Course Material	Book
Author	Greeno, R. & Hall, F.
Publishing Year	2005
Title	Building Services Handbook: incorporating current building and construction regulations
Subtitle	
Edition	3rd Edition
Publisher	Butterworth-Heinemann
ISBN	0750664606

Course Material	Book
Author	Simon, M.W. & Waters, J.R.
Publishing Year	2003
Title	The Building Regulations Explained & Illustrated
Subtitle	
Edition	12th Edition
Publisher	Blackwell Publishers
ISBN	0632058374

Notes

The module provides students with a good understanding of the design and installation considerations that construction professionals encounter in building services installations in a variety of project types and sizes.