

Liverpool John Moores University

Title: BUILDING SERVICES DRAWING (CAD)
Status: Definitive
Code: **4505ICBTBS** (126982)
Version Start Date: 01-08-2021

Owning School/Faculty: Civil Engineering and Built Environment
Teaching School/Faculty: ICBT, Colombo

Team	Leader
Alison Cotgrave	Y

Academic Level: FHEQ4
Credit Value: 15
Total Delivered Hours: 62
Total Learning Hours: 150
Private Study: 88

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	45
Tutorial	15

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Scenario based report (Part 01) (1500 words)	30	
Exam	AS2	Written Examination(Closed Book)	70	2

Aims

Aim(s) of the module is to demonstrate an understanding of various aspects of information technology & model based approaches required for construction and building services sectors and to apply CAD tools to produce various design information & modelling details of construction and building services sectors which ensure the competitive effectiveness of Building Services practice.

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate an understanding about various industry standard drafting tools & packages for construction and manufacturing sectors of building, service & civil engineering structures.
- 2 Demonstrate understanding and application of various tools & packages to produce detailed drawings & building information in construction and manufacturing sectors of buildings, services & civil engineering structures.
- 3 Evaluate the requirement of advance information technology, Information Communication Technology (ICT) & Building Information Modelling (BIM) and skills to ensure the competitive effectiveness of the future of Building Service Engineering practice.

Learning Outcomes of Assessments

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

Scenario based report	1	2	3
Written Examination	1	2	3

Outline Syllabus

*Introduction to construction CAD packages: AutoCAD, BIM, MS Project.
CAD software packages, its variants & Building Information Modelling (BIM) packages used in building, service, civil engineering & manufacturing sectors.
2D drawing design of various building, service & civil engineering structures: Structural elements of buildings (sub structural & super structural), floor layouts, schedule of openings, structural detailing of civil engineering designs (Bridges & roadways) & cross sectional drawings and service engineering related drawings (mechanical, electrical & plumbing).
3D (Design) modelling of various building, service & civil engineering structures.
4D (Scheduling) of BIM for planning & tracking construction and building services activities.
5D (Cost) of BIM for integration of design (3D) and schedule (4D) with the costs associated with the components of the model.
Future of BIM and dimensions & Building Service Engineering Practice: 6D (Life cycle management) and 7D (Sustainable design).*

Learning Activities

Students will be supported in their learning, to achieve the above learning outcomes, in the following ways:

By a series of lectures and practical approach to apply various tools & packages to produce detailed drawings & building information in construction and manufacturing sectors of buildings, service & civil engineering structures.

Self-managed studies to understand various industry standard tools & packages for construction and manufacturing sectors of building, service & civil engineering structures and Building Information Modelling (BIM) and skills requirements to ensure the competitive effectiveness of the future of Quantity surveying practice. Computer Aided Designing, Building Information Modelling & Competitive effectiveness of Building services engineering Practice & application ICT are some key features of this module.

A recommended resource list - indicating key reading, virtual and physical learning assistance, is provided to help enable students to undertake self-directed study.

Notes

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