

Liverpool John Moores University

Title: FUNDAMENTALS OF COMPUTER AIDED MODELLING
Status: Definitive
Code: **4507ICBTQS** (126950)
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:** 77

Total Learning Hours: 150 **Private Study:** 73

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	45
Practical	15
Tutorial	15

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Assessment (1500 Words)	30	
Exam	AS2	Examination	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 manufacturing sectors and to apply CAD tools to produce various design information & modelling details of construction and manufacturing sectors which ensure the competitive effectiveness of Quantity surveying 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 apply 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 Quantity surveying practice

Learning Outcomes of Assessments

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

Coursework	1	2	3
Examination	1	2	3

Outline Syllabus

Introduction to construction CAD packages: AutoCAD, Naviswork, MS Project
2D drawing design of various civil engineering structures: Structural elements of buildings (sub structural & super structural), floor layouts, schedule of openings, structural detailing & service layouts of civil engineering designs
3D (Design) modelling of various building & civil engineering structures
4D (Scheduling) of BIM for planning & tracking construction activities
5D (Cost) of BIM for integration of design (3D) and schedule (4D) with the costs associated with the components of the model

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 QS 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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