

Liverpool John Moores University

Title: ENGINEERING DRAWING AND COMPUTER AIDED
ENGINEERING
Status: Definitive
Code: **4502ICBTME** (127029)
Version Start Date: 01-08-2021
Owning School/Faculty: Engineering
Teaching School/Faculty: ICBT, Colombo

Team	Leader
Alison Cotgrave	Y

Academic Level: FHEQ4
Credit Value: 15
Total Delivered Hours: 86
Total Learning Hours: 150
Private Study: 64

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	45
Practical	12
Seminar	6
Tutorial	15
Workshop	6

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Coursework (1500 words)	30	
Exam	AS2	Examination	70	2

Aims

This unit aims to introduce students to the principles of engineering design, enhance their abilities to generate new ideas and provide applications through design projects of different levels of complexity. The aim of this unit is to enhance learners' skills in

the use of computer-aided design and 3D modelling systems to solve a design problem. This unit will enhance competencies in AutoCAD, Solid works, SolidCAM and FEM simulation technique

Learning Outcomes

After completing the module the student should be able to:

- 1 Develop visual thinking skills associated with common graphics projections.
- 2 Demonstrate an in depth understanding of the principles of engineering free hand drawing and instrument drawings. (Sketching, Orthographic, Normal Surface, Cylindrical Surface, Inclined Surface, Sectional View).
- 3 Ability to interpret a complex engineering drawing and develop an engineering drawing for given scenario/product.
- 4 Use latest computer aided drawing software in engineering 2D and 3D designs.

Learning Outcomes of Assessments

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

Coursework	1	2
Examination	3	4

Outline Syllabus

Standardization and common engineering drawing symbols
Engineering projections and methods
Geometric Tolerance
Curve and surface design using Cubics
Principles of Computer Aided Design and Manufacturing
Principles of Computer Numerically Controlled machines
Principles of Computer aided process planning
Application areas of finite element method

Learning Activities

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

Engineering drawing related theories, concepts and formulas will be acquired through lectures, seminars, tutorials and in class group work

Notes

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