

Liverpool John Moores University

Title: ENGINEERING GRAPHICS AND DESIGN
Status: Definitive
Code: **4025ENG** (105212)
Version Start Date: 01-08-2016

Owning School/Faculty: Maritime and Mechanical Engineering
Teaching School/Faculty: Maritime and Mechanical Engineering

Team	Leader
Andy Pettit	Y

Academic Level: FHEQ4
Credit Value: 12
Total Delivered Hours: 60
Total Learning Hours: 120
Private Study: 60

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	12
Practical	48

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Assignment-1 Freehand sketching and Isometric representation	20	
Essay	AS2	Assignment-2 Manual component drawing and projections	30	
Essay	AS3	Assignment-3 CAD modelling	20	
Essay	AS4	Assignment-4 Computer Generated Modelling/Drawing	30	

Aims

To provide underpinning skills in interpretation, reading, and production of

engineering drawings in relations to the production and manufacture of components and assembly of mechanical items.

Learning Outcomes

After completing the module the student should be able to:

- 1 Read and interpret engineering drawings correctly and accurately
- 2 Produce freehand sketch of a 3-D component/assembly.
- 3 Produce simple 3D solid models of component assemblies using a modern CAD package.
- 4 Generate 2D engineering drawings from 3D solid models.

Learning Outcomes of Assessments

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

CW	1	2		
CW	2	3		
CW	1	2	3	4
CW	1	2	3	4

Outline Syllabus

Introduction to design process and engineering drawing.

Sketching techniques and artefact analysis.

Geometric construction technique.

Orthographic projections

Basics of ISO/BS8888 rules and conventions (line type, title-blocks, etc.).

Generating working drawings, (detail, assembly, layout, etc.).

Symbols and conventions (surface finish, tolerance limits, and fits, etc.).

Introduction to SolidWorks CAD solid modelling, component and assembly design and the development of 2-D drawings

Learning Activities

By a series of lectures and practical sessions in a drawing office and CAD office.

Notes

This module shall provide the fundamental skills in engineering drawing, utilizing both manual and computerized drafting techniques.