

## Liverpool John Moores University

Title: Design for Manufacture  
Status: Definitive  
Code: **6126ENG** (117175)  
Version Start Date: 01-08-2016

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

Team	Leader
Rob Darlington	Y

**Academic Level:** FHEQ6  
**Credit Value:** 24  
**Total Delivered Hours:** 72  
**Total Learning Hours:** 240  
**Private Study:** 168

### Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24
Practical	24
Tutorial	24

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Rpt		70	
Report	Rpt		30	

### Aims

*This module covers detail design activities. It considers design for manufacture and assembly issues. Students will also develop the technical graphics and communication skills required to clearly instruct production engineering, client, customer and end users of the products design intent.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Select suitable production processes for manufactured components
- 2 Evaluate and select suitable standard design elements.
- 3 Produce detail and assembly drawings, accurately dimensioned and toleranced.
- 4 Produce a range of technical support documentation.

## Learning Outcomes of Assessments

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

Report 1	1	2	3
Coursework	4		

## Outline Syllabus

*Design for Manufacture:*

*Process capability, surface finish, relative costs, design for machining, moulding, fabrication, casting, assembly, inspection and testing. Value engineering and analysis, failure mode effect and analysis, standard design elements, make or buy decisions.*

*Technical Documentation:*

*BS308 and BS8888 drawing standards part, assembly and layout drawings, dimensioning, conventional and geometric tolerancing, tolerance build up and dash detection. Surface finish and common conventions and symbols. Hydraulic, pneumatic, electric and electronic schematics. Technical illustrations, technical specifications maintenance, service and user manuals.*

## Learning Activities

This module will be taught through a structured delivery of lectures and computer aided design practical sessions.

## Notes

This module covers the technical and financial decisions a designer must consider during the final stages of the design process. It also covers the international standards and conventions that must be followed to produce accurate and clear technical drawings.