

**Summary Information**

<b>Module Code</b>	6303MECH
<b>Formal Module Title</b>	Engineering Design 3
<b>Owning School</b>	Engineering
<b>Career</b>	Undergraduate
<b>Credits</b>	20
<b>Academic level</b>	FHEQ Level 6
<b>Grading Schema</b>	40

**Module Contacts****Module Leader**

<b>Contact Name</b>	<b>Applies to all offerings</b>	<b>Offerings</b>
Robert Darlington	Yes	N/A

**Module Team Member**

<b>Contact Name</b>	<b>Applies to all offerings</b>	<b>Offerings</b>
Ava Shahrokhi	Yes	N/A

**Partner Module Team**

<b>Contact Name</b>	<b>Applies to all offerings</b>	<b>Offerings</b>
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**Teaching Responsibility**

<b>LJMU Schools involved in Delivery</b>
Engineering

**Learning Methods**

Learning Method Type	Hours
Lecture	11
Tutorial	33

### Module Offering(s)

Offering Code	Location	Start Month	Duration
JAN-CTY	CTY	January	12 Weeks

### Aims and Outcomes

<b>Aims</b>	This module will deliver a project based learning experience in Engineering Design. It is intended to present a practical focal point for knowledge and techniques learned in other modules as well as to continue to build on the engineering design curriculum. Its participants will follow a systematic approach to generate detailed designs addressing both component and system level requirements.
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### Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Actively manage the design process, working as an individual and as part of a team.
MLO2	Communicate engineering information effectively to technical and non-technical audiences.
MLO3	Select and apply appropriate analytical tools and techniques, in a design context.
MLO4	Analyse complex engineering problems and apply engineering processes to find solutions.
MLO5	Determine which engineering standards are relevant to a particular design and assess the engineering requirements for compliance.
MLO6	Analyse a design in its broader contexts including safety, sustainability, accessibility and financial viability.

### Module Content

Outline Syllabus
Coordination of the design process according to good project management principles. Coordination of design teams. Functioning effectively as an individual, and as a member or leader of a team. Evaluating effectiveness of own and team performance Design project management, BS7000 Design Management. Principles of systems design including systems integration. Ensuring compliance with standards and laws. Intellectual Property, Copyright, Patents. Further applications of ISO/BS8887:2009 Design for Manufacture, Assembly, Disassembly and End-of-life processing. Assessment of designs to consider financial viability, security, risks and hazards, sustainability and environmental impacts.

## Module Overview

### Additional Information

This module includes content which relates to the following UN Sustainable Development Goals: SDG12 – This module considers the issues of waste and recycling when designing engineering solutions. SDG10 – This module will consider how engineering designers can consider accessibility when developing new products. SDG14 – This module will consider environmental impacts of design options that are developed.

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Portfolio	Design Portfolio	80	0	MLO3, MLO2, MLO1, MLO6, MLO4, MLO5
Reflection	Peer and Personal Reflection	20	0	MLO2, MLO1, MLO6