

Summary Information

Module Code	6558USST
Formal Module Title	Engineering Design 3
Owning School	Engineering
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 6
Grading Schema	40

Module Contacts**Module Leader**

Contact Name	Applies to all offerings	Offerings
Dante Matellini	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
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Partner Module Team

Contact Name	Applies to all offerings	Offerings
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Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
University of Shanghai For Science and Technology

Learning Methods

Learning Method Type	Hours
Lecture	11
Tutorial	33

Module Offering(s)

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

Aims and Outcomes

Aims	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
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Portfolio	Design Portfolio	80	0	MLO1, MLO2, MLO3, MLO4, MLO5, MLO6
Reflection	Peer and Personal Reflection	20	0	MLO1, MLO2, MLO6