

Summary Information

Module Code	6312MECH
Formal Module Title	Manufacturing Systems
Owning School	Engineering
Career	Undergraduate
Credits	10
Academic level	FHEQ Level 6
Grading Schema	40

Module Contacts
Module Leader

Contact Name	Applies to all offerings	Offerings
Xun Chen	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
Engineering

Learning Methods

Learning Method Type	Hours
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Lecture	11
Practical	3
Tutorial	11

Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

Aims	This module will deliver a broad course in manufacturing systems, and cover policy and logistical considerations that drive process solutions. The participants will work on the manufacturing systems and assembly problems and cultivate a deep understanding of the systematic practice for current challenges in modern manufacturing environment.
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Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Explain the characteristics of the automation of manufacturing systems including material planning and control policies.
MLO2	Discuss the social and economic impact of industrial automation.
MLO3	Critically analyse manufacturing system automation problems and design suitable assembly processes solutions.
MLO4	Apply production automation strategy to various manufacturing systems for a better competitiveness.

Module Content

Outline Syllabus
Manufacturing systems and control strategies. Principles of production layout, operations planning, inventory control and scheduling, lean manufacturing, cellular manufacturing. The systematic evaluation of product suitability for flexible assembly operations. Material handling and assembly systems automation. Quality systems and inspection technologies.

Module Overview

Additional Information

This module includes content which relates to the following UN Sustainable Development Goals: SDG3 – This module will consider the creation of better manufacturing environment for the health and well-being of the work force in manufacturing industry. SDG4 – This module will consider lifelong learning opportunities in manufacturing industrial environment. SDG8 – This module will consider how manufacturing engineers can consider the improvement of sustainable productive and the provision of decent work for all when considering manufacturing solutions. SDG9 – This module will consider how to promote sustainable industrialization and innovation. SDG12 – This module considers the issues of waste and recycling when considering manufacturing solutions.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Centralised Exam	Examination	100	2	MLO3, MLO4, MLO2, MLO1