

Liverpool John Moores University

Title: MANUFACTURING SYSTEMS AND AUTOMATION
Status: Definitive
Code: **6070ENG** (106362)
Version Start Date: 01-04-2012

Owning School/Faculty: Engineering
Teaching School/Faculty: Engineering

Team	Leader
Stephen Ebbrell	Y

Academic Level: FHEQ6
Credit Value: 24.00
Total Delivered Hours: 62.00
Total Learning Hours: 240
Private Study: 178

Delivery Options

Course typically offered: Summer

Component	Contact Hours
Lecture	24.000
Practical	12.000
Tutorial	24.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Rpt	Coursework	50.0	
Exam	Exam	Exam	50.0	2.00

Aims

To develop an understanding of current approaches to manufacturing systems and automation and to be aware of the use of modern materials and their influence in terms of manufacturing.

Learning Outcomes

After completing the module the student should be able to:

- LO1 Understand basic manufacturing processes and automation
- LO2 Develop quality systems using fundamental statistical principles
- LO3 Select appropriate materials in the context of manufacturing requirements

Learning Outcomes of Assessments

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

CW	LO	
	3	
EXAM	LO	LO
	1	2

Outline Syllabus

Manufacturing processes and automation: conventional, CNC, non-traditional, automation and robotics.

Quality systems and management, the application of statistics to the management of quality.

Modern materials and materials processing: properties, moulding, machining and joining.

Learning Activities

Lectures, tutorials and computer based case studies

References

Course Material	Book
Author	Vollmann, T.B., Berry,W.L., Whybark,D.
Publishing Year	2003
Title	Manufacturing Planning and Control Systems
Subtitle	
Edition	
Publisher	McGraw-Hill
ISBN	

Course Material	Book
Author	Groover, M.P.
Publishing Year	2002
Title	Fundamentals of Modern Manufacturing:Materials,

	Processes and Systems
Subtitle	
Edition	
Publisher	Wiley
ISBN	

Course Material	Book
Author	Kalpakjian, S.
Publishing Year	1997
Title	Manufacturing processes for engineering materials
Subtitle	
Edition	
Publisher	Addison-Wesley
ISBN	

Course Material	Book
Author	Oakland, J.S.
Publishing Year	2003
Title	Total Quality Management
Subtitle	
Edition	3rd
Publisher	Butterworth-Heinemann
ISBN	0750657405

Course Material	Book
Author	Amsden, R
Publishing Year	2002
Title	SPC Simplified: Practical Steps to Quality
Subtitle	
Edition	
Publisher	McGraw Hill
ISBN	0071433856

Notes

The module explores modern manufacturing principles and provides an understanding of material flow, lean manufacturing, quality systems and the use of modern materials in manufacturing.