

Liverpool John Moores University

Title: Advanced Manufacturing Technology
Status: Definitive
Code: **6503MTC** (125794)
Version Start Date: 01-08-2019

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

Team	Leader
Russell English	Y

Academic Level: FHEQ6
Credit Value: 20
Total Delivered Hours: 40
Total Learning Hours: 200
Private Study: 160

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Online	30
Tutorial	10

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Written Report	80	
Presentation	AS2	Oral Presentation	20	

Aims

To enable the student to apply and evaluate the potential of an advanced manufacturing technology to add value to a manufacturing process or operation.

Learning Outcomes

After completing the module the student should be able to:

- 1 Select an appropriate advanced manufacturing technology that will add value to a manufacturing process or operation.
- 2 Design a process for the introduction of an advanced manufacturing technology.
- 3 Critically evaluate the impact of introducing a new advanced manufacturing technology to a manufacturing process or operation
- 4 Present a case for the introduction of an advanced manufacturing technology.

Learning Outcomes of Assessments

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

Written Report	1	2	3	4
Oral Presentation	1	2	3	4

Outline Syllabus

An overview of current developments in advanced manufacturing technology and their application, introduction and benefits.

A consideration of the commercial benefits and how they contribute to the concept of 'high value manufacturing'.

The advanced manufacturing themes covered will be updated to reflect current developments in technology and processes and their application. Typically they could include :

Component Manufacturing:

Additive manufacture

High integrity manufacture

Non-conventional machining

Assembly Systems

Robotics and autonomous systems

Tooling and fixing

Electronics manufacturing

Special purpose machines

Data Systems

Metrology and NDT

Informatics

Design and simulation

Learning Activities

The module delivery will incorporate lectures, access to advanced manufacturing technology facilities, tutorials (face to face and on-line as appropriate), practical work in a live manufacturing environment and a presentation to peers.

Notes

The module is designed to allow students to gain a broad knowledge of current advanced manufacture technologies and the opportunity to develop a deeper knowledge and understanding of a specific technology through its application in a live manufacturing environment.