

## Liverpool John Moores University

Title: Advanced Manufacturing Technology 1 - Design and Selection  
Status: Definitive  
Code: **6001AMCPD** (126501)  
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:** 10      **Total Delivered Hours:** 20

**Total Learning Hours:** 100      **Private Study:** 80

### Delivery Options

Course typically offered: S1 & S2 & Summer

Component	Contact Hours
Online	15
Tutorial	5

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Written Report	100	

### Aims

*To enable the student to design and select 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.

## **Learning Outcomes of Assessments**

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

Written Report	1	2
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## **Outline Syllabus**

*The unit will focus on the design and selection aspects of advanced manufacturing technology by providing the following:-*

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

*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 , practical work in a live manufacturing environment and a presentation to peers.

## **Notes**

This is a single-module CPD programme code 36241.

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.

Candidates applying for the module must hold the prerequisite relevant engineering qualifications at Level 3 totalling at least 90 credits. In addition, many will already have a HE level qualification and may use this CPD module to extend or update their existing skill set.

Intake entry point for study onto the CPD module will occur in Semester 1, Semester 2 and during the summer.

The CPD module will not have any formal PSRB accreditation.

Subject benchmark statement - Aligns to Engineering Council UK SPEC

The module is a CPD version based on part of 6503MTC, which is part of the Advanced Manufacturing BEng.

The module will be delivered by remote study of on-line lecture content. Delivery of the module is intended to last approximately 12 weeks.

Learners are allocated a personal tutor, who may be drawn on to deal with any support requirements they may have. This support is delivered virtually using online virtual tutorial sessions.

Formative assessment will be facilitated through tutorial feedback, plus through engagement with online study material and assessment tasks.

The programme is assessed and run in line with the Academic Framework (<https://www.ljmu.ac.uk/about-us/public-information/academic-qualityandregulations/academic-framework>).

The methods for improving the quality and standards of learning are as follows:

- Continuous Monitoring and Enhancement
- Liaison and feedback from the students
- Reports from the External Examiner
- Programme team ensuring the module reflects the values of the current teaching and learning strategy
- Module/Programme Leader updating knowledge and skills to ensure these remain current and relevant.

As the content of this CPD is derived from the Advanced Manufacturing BEng, it will share the same external examiner as that programme.