

Liverpool John Moores University

Title: Quality Systems and Six Sigma
Status: Definitive
Code: **6106ENG** (116951)
Version Start Date: 01-08-2016

Owning School/Faculty: Electronics and Electrical Engineering
Teaching School/Faculty: Electronics and Electrical Engineering

Team	Leader
Ronan McMahon	Y

Academic Level: FHEQ6 **Credit Value:** 10 **Total Delivered Hours:** 38
Total Learning Hours: 100 **Private Study:** 62

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	24
Tutorial	12

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam		50	2
Essay	Essay		25	
Essay	Essay		25	

Aims

To apply the principles and techniques of quality management within a modern manufacturing environment.

Learning Outcomes

After completing the module the student should be able to:

- 1 Explain the concepts and principles of total quality management
- 2 Demonstrate a range of quality techniques to monitor, analyse and improve manufacturing processes.
- 3 Evaluate a range of business improvement techniques and their impact on business performance.
- 4 Discuss the six sigma methodologies and apply the DMAIC model to an improvements activity.

Learning Outcomes of Assessments

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

Exam	1	2	3	4
Quality Improvement	1	2	4	
Business Improvement	1	3	4	

Outline Syllabus

Background and evolution of the quality movement.

Quality gurus and the cost of quality.

Quality control procedures.

Process capability and statistical process control techniques.

The continuous improvement environment, quality tools and problem solving techniques.

Teamwork, working relationships and leadership.

Quality management systems - standards and models: ISO9000:2000, the EFQM business excellence model and European Quality Awards.

Business improvement techniques - FMEA, QFD and value management.

The six sigma approach, its methodologies.

The DMAIC project model and six sigma process mapping.

Learning Activities

This module is taught through a combination of lectures, tutorial, small group work, video case studies and workshops.

Notes

This year long module focuses on the practical application of quality management and project management techniques used in both service and manufacturing industry. It includes the effective management of people in projects and change.