

Liverpool John Moores University

Title: QUALITY SYSTEMS AND SIX SIGMA
Status: Definitive
Code: **6041ENG** (105531)
Version Start Date: 01-08-2016

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

Team	Leader
Jun Ren	Y

Academic Level: FHEQ6
Credit Value: 12
Total Delivered Hours: 26
Total Learning Hours: 120
Private Study: 94

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	18
Tutorial	6

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	50	2
Essay	AS2	Assignment (Quality Improvement)	25	
Essay	AS3	Assignment (Business Improvement)	25	

Aims

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

Learning Outcomes

After completing the module the student should be able to:

- 1 Discuss the concepts and principles of total quality management.
- 2 Apply 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 Understand 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
CW	1	2	4	
CW	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 and video case studies.

Notes

This 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.