

Liverpool John Moores University

Title: QUALITY & PROCESS IMPROVEMENT
Status: Definitive
Code: **4505NCCG** (129424)
Version Start Date: 01-08-2021

Owning School/Faculty: Engineering
Teaching School/Faculty: Nelson Campus

Team	Leader
Christian Matthews	Y

Academic Level: FHEQ4
Credit Value: 20
Total Delivered Hours: 60
Total Learning Hours: 200
Private Study: 140

Delivery Options

Course typically offered: S1, S2, Sum, NS2 (S2 for Jan)

Component	Contact Hours
Lecture	60

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Case Study	Case Study Analysis	50	
Report	Assignment	Assignment	50	

Aims

Consumers and society demand modern products and materials in the shortest of times to the highest of quality. This therefore has an impact on the production process and its ability to manufacture products and materials to a high quality with short lead times or face losing business to a competitor. This module introduces students to the importance of quality assurance, management and control processes in a manufacturing or industrial environment and the principles and theories that underpin them. On successful completion of this module students will be able to apply knowledge of the processes and applications

of statistical process within an industrial setting, explain the quality control tools used to apply costing techniques, identify the standards expected in the engineering environment to improve efficiency and examine how the concept of Total Quality Management and continuous improvement underpins modern manufacturing and service environments.

Learning Outcomes

After completing the module the student should be able to:

- 1 Illustrate the applications of statistical process control when applied in an industrial environment to improve efficiency
- 2 Analyse cost effective quality control tools.
- 3 Determine the role of standards in improving efficiency, meeting customer requirements and opening up new opportunities for trade.
- 4 Analyse the importance of Total Quality Management and continuous improvement in manufacturing environments.

Learning Outcomes of Assessments

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

Case Study Analysis	1	2
Assignment	3	4

Outline Syllabus

Topics included in this module are:

- *tools and techniques used to support quality control*
- *attributes and variables*
- *testing processes*
- *costing modules*
- *the importance of qualifying the costs related to quality*
- *international standards for management (ISO 9000, 14000, 18000)*
- *European Foundation for Quality Management (EFQM)*
- *principles, tools and techniques of Total Quality Management (TQM)*
- *implementation of Six Sigma.*

Learning Activities

Lectures

These will not normally be traditional didactic lectures in which the student plays little active part, but will be delivered in small groups of up to 20 students in which their interaction with their tutor is a key ingredient of their learning experience.

Students will receive approximately 30 hours of taught material, supported by in-class exercises and discussions designed to help student assimilate learning and to

provide early informal feedback on their progress.

Independent Study

Students are expected to undertake personal reading and research into topic areas that have been stimulated from the lectures and seminars. This reading will enhance their academic work and enable valid contribution to lectures and seminars.

VLE support

This will provide links to academic web-sites and on-line journals, facilitate group discussion outside of the classroom, access to outline lecture notes, and provide students with assessment details.

Notes

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