



MODULE SPECIFICATION

Part 1: Information			
Module Title	Quality Control Systems		
Module Code	UFMFXA-15-2	Level	Level 5
For implementation from	2021-22		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Engineering, Design and Mathematics
Department	FET Dept of Engin Design & Mathematics		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Overview: Quality assurance and improvement processes are an essential element of a modern manufacturing environment, designing and planning and ensuring that projects , goods and services meet required standards and are fit for purpose.</p> <p>In this module students are familiarised with the principles and use of quality control techniques, quality assurance issues and quality management methods such as QA/QC, strategic total quality management (STQM) and Design for Six Sigma (DFSS).</p> <p>Educational Aims: The aim of this module is to equip students with up-to-date methods for implementing quality control, quality assurance and quality management techniques within a modern manufacturing environment.</p> <p>Outline Syllabus: The importance of quality in design and planning, in the completed project and in the production of goods and services will be covered. These include:</p> <p>Introduction to quality basics, definition of quality and major contributors to quality</p> <p>Strategic Quality Management (STQM)</p> <p>Designing Quality Into Products and Services (QFD, DFSS, FMEA and FTA)</p> <p>Creativity in Quality</p> <p>Quality Systems and QS Auditing (ISO9000)</p>

STUDENT AND ACADEMIC SERVICES

Product, Process, and Materials Control

Quality Improvement Tools

Metrology, Inspection, Testing

Statistical Process Control and process capability

Design of Experiments, and analysis of variance using statistical software

Variable Control Charts and Control Charts for Attributes

Teaching and Learning Methods: Scheduled learning: material will be delivered in whole cohort sessions and via on-line resources. The majority of the learning activities will take place on a combination of lectorials, discussion groups, case studies and 'hands on' use of tools and techniques that provide the practical knowledge to undertake a manufacturing setup evaluation and present improvement solutions.

Independent learning: includes hours engaged with essential reading, assignment preparation and completion etc.

Part 3: Assessment

The main sit strategy will be as follows:

Component A: The individual presentation and Q and A session are summative and assesses the students' understanding of Quality Control concepts and techniques and the rationales they have applied in the industrial scenario.

Component B: The report is structured to verify students' competence and demonstrate understanding of the specific Quality Control tools and systems applied industrially. It also requires the students to demonstrate an ability to apply this to an industrial production scenario. The report will take the form of a Quality control audit and improvement document.

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Component A: The individual presentation and Q and A session are summative and assesses the students' understanding of Quality Control concepts and techniques and the rationales they have applied in the industrial scenario (scenario modified from first sit).

Component B: The report is structured to verify students' competence and demonstrate understanding of the specific Quality Control tools and systems applied industrially. It also requires the students to demonstrate an ability to apply this to an industrial production scenario. The report will take the form of a Quality control audit and improvement document (Previously completed coursework will not be included).

First Sit Components	Final Assessment	Element weighting	Description
Report - Component B	✓	60 %	Project report (3000 words)
Presentation - Component A		40 %	Presentation & oral examination (12 mins presentation + 8 minutes of questions)
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Report - Component B	✓	60 %	Project report (3000 words)
Presentation - Component A		40 %	Presentation & oral examination (12 mins presentation + 8 minutes of questions)

Part 4: Teaching and Learning Methods																	
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th style="text-align: left;">Module Learning Outcomes</th> <th style="text-align: left;">Reference</th> </tr> </thead> <tbody> <tr> <td>Define the fundamental concepts of statistical process control, and process capability in detail</td> <td>MO1</td> </tr> <tr> <td>Identify and implement "widely-used" quality analysis tools and quality management problem-solving techniques</td> <td>MO2</td> </tr> <tr> <td>Evaluate the complexities of statistical analysis, software and control-chart interpretation and their work-place application</td> <td>MO3</td> </tr> <tr> <td>Analyse and diagnose problems causing variation in manufacturing and service industry processes</td> <td>MO4</td> </tr> <tr> <td>Assess Quality Control concepts and philosophies to construct strategies and resolve issues arising in industries</td> <td>MO5</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Define the fundamental concepts of statistical process control, and process capability in detail	MO1	Identify and implement "widely-used" quality analysis tools and quality management problem-solving techniques	MO2	Evaluate the complexities of statistical analysis, software and control-chart interpretation and their work-place application	MO3	Analyse and diagnose problems causing variation in manufacturing and service industry processes	MO4	Assess Quality Control concepts and philosophies to construct strategies and resolve issues arising in industries	MO5				
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Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://rl.talis.com/3/uwe/lists/F2A648E2-4DCF-A5E4-8318-4D11F8E0BC71.html?lang=en-GB&login=1</p>																

Part 5: Contributes Towards
This module contributes towards the following programmes of study: