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MODULE DESCRIPTOR

Module Title

Quality Improvement and Statistical Process Control

Reference	ENM619	Version	2
Created	August 2021	SCQF Level	SCQF 11
Approved	March 2018	SCQF Points	15
Amended	September 2021	ECTS Points	7.5

Aims of Module

To enable the student to use statistical techniques for improving the quality of products and processes, and to provide the student with the ability to critically apply quality management theory.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Apply statistical sampling and process control techniques.
2	Apply methods of experimental design and analysis in the context of quality improvement.
3	Identify and critically apply theoretical concepts of quality management to organisational development and performance excellence.

Indicative Module Content

Study of statistical techniques: design and analysis of (Taguchi) experiments, acceptance sampling regimes, control charts for variables and attributes, process capability and other statistical process control techniques. Use of relevant statistical software. Identification of process improvement strategies. Theoretical concepts of quality management, including contributions of, for example, Deming and Juran, and applications to organisational development and performance excellence.

Module Delivery

This is a lecture-based course supplemented with tutorials, computer labs and student-centred learning.

Indicative Student Workload	Full Time	Part Time
Contact Hours	35	35
Non-Contact Hours	115	115
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	150
Actual Placement hours for professional, statutory or regulatory body		

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ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Examination	Weighting:	100%	Outcomes Assessed:	1, 2, 3
Description:	Closed book examination.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

Component 1 comprises 100% of the module grade. A minimum of Grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	A
B	B
C	C
D	D
E	E
F	F
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

1 MONTGOMERY, D.C,. 2019. Introduction to Statistical Quality Control. 8th ed. Wiley.

2 KIRAN, D. R., 2016. Total Quality Management: Key Concepts and Case Studies. Elsevier.