

Module Title Quality Management for Engineers	Reference ENM612 SCQF SCQF Level 11 SCQF Points 15 ECTS Points 7.5 Created May 2002 Approved March 2004 Amended August 2011 Version No. 2
Keywords Statistical Process Control, Sampling regimes, Taguchi experiments, Deming's System Of Profound Knowledge, Systems thinking	

This Version is No Longer Current

The latest version of this module is available [here](#)

Prerequisites for Module

CM2901 Mathematics 2A or equivalent

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To introduce the student to the use of statistical measurements to assess system performance and to provide the student with the ability to evaluate the scientific basis of management ideas and techniques, particularly in relation to the use of statistics and the

Indicative Student Workload

	Full Time	Part Time
<i>Contact Hours</i>		
Assessment	2	2
Computer	2	2
Laboratory work		
Lectures/Tutorials	30	30
<i>Directed Study</i>		
	26	26
<i>Private Study</i>		
	90	90

Mode of Delivery

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

Assessment Plan

Learning Outcomes Assessed

teaching of W. Edwards
Deming.

Component 1	1,2,3
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Learning Outcomes for Module

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

1. Identify and critically
discuss the theoretical basis
of current management
thinking and the need for a
scientific approach to
management theory.
2. Discuss, evaluate and assess
the contribution of W.
Edwards Deming's System
of Profound Knowledge to
the future development of
management thinking.
3. Apply an understanding of
variation and statistical
process control techniques to
the improvement of
processes.

Component 1 is a closed book exam
covering all learning outcomes.
(100% examination weighting)

Indicative Bibliography

1. DEMING, W.E., 1996. The New
Economics. 2nd ed. Cambridge:
MIT Press.
2. WETHERILL, G., 1991. Statistical
Process Control: Theory and
Practice. London: Chapman and
Hall.

Indicative Module Content

Study of statistical techniques:
Introduction to Taguchi
experiments, sampling
regimes, run charting and
statistical process control.
Identification of process
improvement strategies.
Introduction to the theories
that underpin current
management thinking. The
need for conceptual thought as

well as the application of techniques. The work of W Edwards Deming. The System of Profound Knowledge: Systems thinking, some knowledge of psychology and variation, theory of knowledge. The need to continually learn. Deming's 14 points.