

Module Title Mathematics 1B	Reference CM1902 SCQF Level SCQF 7 SCQF Points 15 ECTS Points 7.5 Created May 2002 Approved June 2002 Amended April 2005 Version No. 2
Keywords Matrices, Integration, Statistics, Computer Mathematics Packages	

This Version is No Longer Current

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

Prerequisites for Module

Mathematics 1A (CM1901) or equivalent.

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To provide the student with the ability to apply further introductory level mathematics to engineering problems.

Learning Outcomes for Module

On completion of this module,

Integration: Use of tables of antiderivatives. The properties and applications of definite integrals. The rules of integration: integration by substitution, integration by parts, the use of partial fractions.

Power series for elementary functions.

Statistics: Simple descriptive statistics. Probability and reliability. Elementary probability distributions. Applications to problems in engineering.

Indicative Student Workload

<i>Contact Hours</i>	Full Time
Lectures	24
Tutorials	24
Computing	10
Laboratories	
Assessment	6

students are expected to be able to:

1. Apply matrix techniques to the solution of simultaneous linear equations.
2. Calculate and understand simple descriptive and summary statistics, and apply elementary probability theory to problems in engineering.
3. Use standard techniques to integrate elementary functions with application to problems in engineering.
4. Use a computer mathematics package to carry out the operations, where appropriate, in 1 -3 above.

Indicative Module Content

The syllabus will include:

Introduction to the use of a computer mathematics package for problems in engineering mathematics.

Matrices: Simple matrix algebra. Determinants. Applications to the solution of simultaneous linear equations.

Directed Study

Directed Study 30

Private Study

Private Study 56

Mode of Delivery

The course is lecture and tutorial based.

Assessment Plan

	Learning Outcomes Assessed
Component 1	1,2,3
Component 2	4

Component 2 - Coursework

Component 1 - This is a closed book examination.

Indicative Bibliography

1. STROUD, K.A. AND BOOTH, D.J., 2013. Engineering Mathematics, 7th ed. Palgrave.