

School of Mathematics

MA1E02 — Engineering Mathematics II
(JF Engineers, MSISS & MEMS)

2011-12

Lecturer: Prof. D. McManus

Requirements/prerequisites: MA1E01

Duration: Hilary Term, 12 weeks

Number of lectures per week: 3 + 1 tutorial

Assessment:

ECTS credits: 5

End-of-year Examination:

Description:

Learning Outcomes: On successful completion of this module, students will be able to:

- apply the methods of integration by parts and partial fractions to evaluate a given integral;
- identify and evaluate improper integrals;
- solve a first order differential equation and their associated initial value problems via the methods of separation of variables and integrating factors;
- test a sequence or series for convergence;
- apply the Taylor series to approximate a given function with a polynomial;
- solve systems of linear equations via Gaussian and Gauss-Jordan elimination;
- compute the inverse of a given matrix.

November 11, 2011