

School of Mathematics

Course 231 — Methods 2

2005-06

(SF Mathematics, SF Theoretical Physics, optional JS & SS Two-subject Moderatorship)

Lecturer: Dr. C. Houghton

Requirements/prerequisites: 131

Duration: 24 weeks

Number of lectures per week: 2+1 problems class

Assessment:

End-of-year Examination: One three hour examination

Description: See <http://www.maths.tcd.ie/~houghton/231/05-06/> for further information.

Vector analysis

Theorems of Gauss and Stokes

Fourier series and Fourier integrals

Ordinary Differential Equations

Hermite polynomials, Bessel Functions

Sturm-Liouville theory

Partial Differential Equations

Boundary value problems

Harmonic functions

Separation of variables in cartesian and other coordinates.

Objectives:

Introduction to basic techniques of applied mathematics, with applications.

March 3, 2006