

School of Mathematics**Course 231 — Methods 2**

2008-09

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

Lecturer: Dr. S. Ryan**Requirements/prerequisites:****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/~ryan/231.html> 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.

October 8, 2008