School of Mathematics

Course 231 1999-2000
(SF Mathematics, SF Theoretical Physics, optional JS & SS Two-subject Moderatorship)

Lecturer: Dr. N. H. Buttimore

Requirements/prerequisites: 131

Duration: 24 weeks

Number of lectures per week: 3

Assessment:

End-of-year Examination: One three hour examination

Description:
Curvilinear coordinates, Vector analysis
Theorems of Gauss and Stokes
Fourier series and transforms
Potential theory, Legendre polynomials
Associated Legendre function, Spherical harmonics, Bessel function
Wave equation and Diffusion equation, Green's function
Calculus of Variations

Computational methods
Numerical integration of Boundary Value Problems (ODEs)
Matrix methods for computing.

Objectives:
Introduction to basic techniques of applied mathematics, with application.

May 13, 1999