School of Mathematics

Course 342 — Numerical Simulation of Physical Systems 1998-99
(JS Theoretical Physics
JS Natural Science
M.Sc. Theoretical Physics)

Lecturer: Dr. James Sexton

Requirements/prerequisites:
Some knowledge of Ordinary Differential Equations, and of Newton's Laws.

Duration: 9 Weeks

Number of lectures per week: 3 lectures per week

Assessment: Project counts 20%.

End-of-year Examination: One 3 hour exam, counts 80%

Description:

Mathematical preliminaries, molecular dynamics, symplectic integrators, Monte Carlo techniques in statistical mechanics, applications.

Textbooks: None required. Comprehensive Handouts.

June 10, 1998