

School of Mathematics

Module MA22S1 — Multivariable calculus for science

2009-10

(SF Science

SF Human Genetics

SF Physics & Chemistry of Advanced Materials

SF Medicinal Chemistry

SF Chemistry with Molecular Modelling)

Lecturer: Dr. Derek Kitson

Requirements/prerequisites: prerequisite: MA11S2

Duration: Michaelmas term, 11 weeks

Number of lectures per week: 3 lectures plus 1 tutorial per week

Assessment:

End-of-year Examination: 2 hour examination in Trinity term.

Description:

- Vector-valued functions (including arc length, TNB-frame, curvature)
- Functions of several variables (including partial derivatives, maxima and minima, Lagrange multipliers)
- Line integrals (including conservative vector fields)
- Multiple integrals (including double and triple integrals, change of variable)

See also <http://www.maths.tcd.ie/~dk/MA22S1.html>

Recommended reading: Calculus, H. Anton, I. Bivens, S. Davis. (Chapters 13-16.3 of 8th ed.)

September 28, 2009