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Vector Calculus

MATH-221*

Textbook: *Multivariable Calculus*

by W. McCallum, D. Hughes-Hallett, A. Gleason, et. al. (John Wiley & Sons)

Prerequisite: First-year Calculus *and* some knowledge of Linear Algebra.

Instructor: B. Coolen

Evaluation:	Homework	10%
	Two Midterm Tests	30%
	Final Examination	60%

Outline:

Math-221* is intended to be a natural continuation of Math 121. The goal of the course is to continue the study of multi-variable calculus up to and including the integral theorems of Green, Stokes, and Gauss.

The course covers most of the material in Chapters 16-20 of the text. This material includes: double and triple integrals, including polar and spherical co-ordinates; parameterized curves and their velocity and acceleration; vector fields; line integrals, path-independence and Green's theorem; flux integrals over graphs, cylinders, and spheres; curl and divergence of a vector field; and the theorems of Stokes and Gauss and some of their applications.

The term work consists of one midterm examination and six homework assignments.