



Mathematics 353

Calculus IV

(see Course Descriptions for the applicable academic year: <http://www.ucalgary.ca/pubs/calendar/>)

*Syllabus*

**Topics**

**Number of  
Hours**

Differentiation

10

Extrema of functions of several variables, Lagrange multipliers,  
Applications

Multiple Integrals

12

Double integrals, Iterated integrals, Double integrals in polar  
coordinates, Area, volume, Triple integrals, Triple integrals in cylindrical  
and spherical coordinates, Change of variables, Jacobians

Vector Calculus

14

Vector fields, Line integrals, Independence of path, Green's theorem,  
Curl and divergence, Surface integrals, Divergence Theorem,  
Stokes' Theorem

**TOTAL HOURS**

**36**

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