UNIVERSITY OF CALGARY

FACULTY OF SCIENCE
Department of Mathematics and Statistics

Mathematics 353	Calculus IV

Applications of partial differentiation, multiple integrals, vector calculus including Stokes' and the Divergence Theorems.
Course Hours: H(3-1T)
Prerequisite(s): Mathematics 349.
Antirequisite(s): Credit for more than one of Mathematics 353, 331, 381 or Applied Mathematics 309 will not be allowed.

Syllabus

Topics	**Number of Hours**
Differentiation Extrema of functions of several variables, Lagrange multipliers, Applications	10
Multiple Integrals Double integrals, Iterated integrals, Double integrals in polar coordinates, Area, volume, Triple integrals, Triple integrals in cylindrical and spherical coordinates, Change of variables, Jacobians	12
Vector Calculus Vector fields, Line integrals, Independence of path, Green's theorem, Curl and divergence, Surface integrals, Divergence Theorem, Stokes' Theorem	14
TOTAL HOURS	**36**

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