

APPLIED MATHEMATICS 219 "MULTIVARIABLE CALCULUS FOR ENGINEERS"

Calendar Description: H(3-1T-1.5)

Techniques of integration, double and triple integrals, partial derivatives, applications.

Prerequisite: Applied Mathematics 217; or Math 249 or 251 and consent of the Applied Mathematics Division.

Note: Credit for more than one of Applied Mathematics 219, and either Mathematics 253 or 263 will not be allowed.

Syllabus

<u>Topics</u>	<u>Number of Hours</u>
Techniques of Integration (parts, partial fractions, inverse substitutions)	6
Improper Integrals	1
Numerical Integration (Trapezoidal and Simpson's Rules)	1
Double Integrals (including Polar Coordinates)	5
Centres of Mass with Double Integrals	3
Vector Basics, Determinants	3
Vector Derivatives	2
Triple Integrals (including Spherical Coordinates, Centres of Mass)	5
Parametric Curves	3
Partial Derivatives, the Chain Rule	6
Extreme Values	1
TOTAL:	36

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