MATHEMATICS 353
"CALCULUS IV"

Calendar Description: H(3-1T)
Applications of partial differentiation, multiple integrals, and vector calculus including Stokes' and the Divergence Theorems.
Prerequisite: Mathematics 349.
Note: Credit for more than one of Mathematics 353, 331 and 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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