Registrar's Office

1990-91

GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE
COURSE OUTLINE

MATHEMATICS 303 A3
WINTER SEMESTER 1990-91

TITLE: Intermediate Calculus II

SCHEDULE: Monday, Wednesday, Friday
Tuesday 3:00 - 3:50 p.m

INSTRUCTOR: Dr. Subhash Karnik
Office: J 206
Phone Extension 2093

TEXT: i) STEWART, James: Calculus with Analytic Geometry

MARKING:

Final	39%
1st Mid-term	20%
2nd Mid-term	20%
Quizzes & Assignments	21%

MATHEMATICS 303

MA 303: Intermediate Calculus II
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Curves, tangent vectors, arc length, line integral, integration in two and three dimensions; polar, cylindrical and spherical co-ordinates; surface integral, Green's Theorem; elements of linear differential equations.

Prerequisite: Math 302 or equivalent. This course may not be taken for credit if credit has already been obtained in Math 308 or 315.

Detailed Description

Vector-valued functions. Limits, derivatives and integrals. Curvature. Tangential and Normal Components of Acceleration. Kepler's Laws.

Double integrals, areas, volumes, moments and center of mass, double integrals in Polar co-ordinates.

Triple integrals, applications of triple integrals, triple integrals in cylindrical and spherical co-ordinates, surface area. Vector fields, line integrals, independence of path, Green's Theorem, Surface integrals, The Divergence Theorem, Stoke's Theorem, Transformation of co-ordinates, change of variables in multiple integrals.

Separable and first-order linear differential equations, exact differential equations, homogeneous differential equations, second-order linear differential equations, Non-homogeneous linear differential equations, series solutions of differential equations.