MATHEMATICS 1150 A3 Winter Semester 1996-97

TITLE: ELEMENTARY CALCULUS II

SCHEDULE: Class: Mon Wed Fri 9:00 am - 9:50 am J203

> Seminar: Tuesday 9:30 am -10:50 am J227

or Tuesday 1:30 pm - 2:50 pm J204

INSTRUCTOR: Dr. Subhash Karnik

> Office: J206 Extension: 2093

TEXT: i) Howard Anton; Calculus (Brief Edition)

5th Edition

ii) Albert Herr; Student's Solutions Manual to

accompany (i)

MARKING: Final Examination 35%

Mid-term Examination 25%

Ouizzes 25%

Review Quizzes 15%

SCHEDULE OF EXAMINATIONS:

Mid-term Examination : Wednesday, February 19, 1997

(Tentative)

Final Examination : As will be scheduled by Registrar's

Office in April 1997.

Quizzes, Mid-term Examination and Final Examination

must be written at scheduled times.

MATH 1150 - COURSE DESCRIPTION

MA 1150 Elementary Calculus II

3(3-1.5) Winter

Applications of integration to areas, volumes, work, force, arc lengths. Differentiation and integration of exponential, logarithmic and trigonometric functions. Techniques of integration. Indeterminate forms and improper integrals.

Prerequisites: MA 1130, MA 1140 or MA 1000

<u>Detailed Description</u>: Applications of integration such as areas, volumes by disks, washers, cylindrical shells and slices, length of plane curves, area of surface of revolution, work, fluid pressure and force.

Logarithmic and exponential functions, derivatives and integrals of logarithmic and exponential functions, graphs involving exponentials and logarithms, inverse functions, hyperbolic functions, derivatives and integrals involving hyperbolic functions. First order differential equations and applications.

Inverse trigonometric functions, derivatives and integrals involving inverse trigonometric functions, inverse hyperbolic functions, derivatives and integrals involving inverse hyperbolic functions.

Techniques of integration such as integration by parts, integrating powers of sine and cosine, integrating powers of secant and tangent, trigonometric substitutions, integrating rational functions (partial fractions), Numerical integration (Trapezoidal Rule and Simpson's Rule).

Improper integrals. L'Hopital's Rule for indeterminate forms.

Various types of indeterminate forms.