

MA 2300 MATHEMATICS FOR MANAGEMENT SYLLABUS

This is a one-quarter course designed for students in the Administrative Science department. The course is divided into three segments: Functions and Algebra, Calculus of Single-variable Functions, and Calculus of Multi-variable Functions.

Text: *Brief Calculus and Its Applications* by Goldstein, Lay, and Schneider, seventh edition, Prentice-Hall.

1. Functions and Algebra.

In the text: Chapter 0, all sections, and Chapter 1, section 1.

Topics include: Functions and their graphs; linear and quadratic functions; the algebra of functions; solving equations (including factoring and the quadratic formula); exponents and powers of functions; graphing functions, in particular a description of the graph of a straight line; application of functions and their graphs; and, the slope of a straight line. Basic algebra skills are emphasized as needed.

Students who need additional help in algebra may wish to purchase an algebra text book. Among the following would provide a good review of basic algebra skills: **Forgotten Algebra** by Barbara Lee Blea, Batten Educational Service, Inc.; **Practical Algebra** by Peter Selb and Seena Slavin, Second Edition, John Wiley and Son, Inc.; or, in the Schaum's Outline Series, **College Algebra**.

2. Calculus of Single-variable Functions.

In the text: Chapter 1, sections 2 - 8; Chapter 2, all sections; Chapter 3, sections 1 and 2; Chapter 4, all sections; Chapter 5, sections 1 and 2; and, Chapter 6, sections 1-3.

Topics include: The definition of the derivative and related topics (limits and con-

A few data are allocated for a quick look at integration. The emphasis is on basic differentiation (no special integration technique) and the interpretation of the definite integral as the net change in the value of a function over an interval.

3. Calculus of Multi-variable Functions

In the course: Chapter 7, sections 1 - 4.

Topics include: An introduction to multivariable functions; level sets; finding partial derivatives, including second-order and mixed partial derivatives; interpretation of a partial derivative as a rate of change; the differential of a function of two variables; and