Rochester COMMUNITY AND TECHNICAL College

COMMON COURSE OUTLINE: Course discipline/number/title: MATH 2238: Differential Equations and Linear Algebra

A. CATALOG DESCRIPTION

1. **Credits:** 5
2. **Hours/Week:** 5
3. **Prerequisites (Course discipline/number):** MATH 2237; college level reading.
4. **Co-requisites (Course discipline/number):** None
5. **MnTC Goals (if any):** NA

An in-depth look at topics such as mathematical models, first-order differential equations, applications of linear and non linear equations, and other topics. RECOMMENDED ENTRY SKILLS/KNOWLEDGE: Techniques of Integration, Partial Differentiation, Calculus of Several Variables, Vector Calculus, College level reading and writing.

B. DATE LAST REVISED (Month, year): September, 1998

C. OUTLINE OF MAJOR CONTENT AREAS:

1. Mathematical modeling
2. First order ordinary differenctial equations
3. Applications of linera and nonlinear equations
4. Laplace Transforms
5. Power solutions to differential equations
6. Matrix Algebra
7. Eigenvalue problems
8. Diagonalization

D. LEARNING OUTCOMES (GENERAL): The student will be able to:

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:

1. Tests
2. Quizzes
3. Homework
4. Comprehensive Final Exam

G. SPECIAL INFORMATION (if any):

A scientific calculator is required.