

Division: Academic

Department: Math

Department: Science and Math

New Course:

Revision of Course

Information Form: XI

Dated: January 1979

Scientific Differential Equations: I

3

Gr: Math 421

ID: Intro

Descriptive Title

Semester Credit

Subject: Course No.

Summary of Revision

Calendar Description

N. Textbooks and materials to be Purchased by Students:

G. A First Course in Differential Equations, PWS-KENT Publishing Company, 1993.

Zil, Dennis

Objectives:

O. Course

able to:

Upon completion of Math 421 the student should be able to:

1. determine whether or not a unique solution exists for a first-order or linear n th-order initial value problem

2. determine whether or not a unique solution exists for a first-order or linear n th-order initial value problem

3. solve separable and exact equations

4. solve homogeneous and inhomogeneous linear equations

5. solve systems of linear equations

6. solve applications of linear equations including growth and decay, series circuits, thermodynamics and mixture applications

7. solve applications of linear equations including growth and decay, series circuits, thermodynamics and mixture applications

5. Systems of Linear Differential Equations: operator and Laplace transform techniques, systems of linear

6. Non-linear systems and stability: solutions and trajectories of autonomous systems, stability of critical points

Solutions: Euler Methods

7. Numerical S

Q. Method of Instruction:

Lectures, problem sessions and assignments.

R. Course Evaluation:

in accordance with Douglas College policy. The instructor will present a course evaluation which will be carried out in accordance with Douglas College policy. The evaluation will be based on some of the following:

Weekly quizzes	10%	1
20-70%		2: Tests
0-15%		3: Assignments
0-5%		4: Attendance
0-1%		5: Class participation
		6: Final Examination
		30%