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MAP 2302 – 022F Spring 2018

Time:MWF period 3Place:Little 201Phone:352-294-2339Office:438 Little HallEmail:avince@ufl.edu



Textbook: Fundamentals of Differential Equations (7th edition) by Nagle, Saff, Snider

Office Hours:

Monday, Wednesday, Friday period 4 (or by appointment)

Links

homework topics messages grades cell phone policy

Homework

Page 5 #1-16 odd Page 13 #3,9,15 Page 14 #23,25, 27 Page 21 #2,3 Page 28 #3,5 Page 46 #17-25 odd, 33,34 Page 54 #7-11 odd, 17-21 odd, 33 Page 64 #9-19 odd, 21-25 odd Page 76 #9,11,13,17,19,21,23 Page 100 #3,19,21,25 Page 107 #2 Page 164 #1,5,13,17,26,37 Page 173 #9,11,13,21,23,28,32,33 Page 220 #1,3,9 Page 180 #11,15,29,31 Page 185 #7,19,27 Page 191 #1,3,5 Page 337 #5,7 Page 360 #9,17,18,23,24,29bcd Page 365 #1-20 (as many as you want) Page 374 #7,8,21,23,24 Page 382 #3,4,7,8,12,25,35 Page 390 #3,9,21,23,27,29,30 Page 396 #5,7 Page 404 #1,2,8,9 Page 410 #4,10,14,29 Page 271 #1,5,7,13,28 Page 500 #1,6,9 Page 513 #4,21,23,27,31,35 Page 521 #3,4,9 Page 531 #11,12,17,31,32

Topics

Introduction

What is a differential equation Ordinary – partial; linear – nonlinear Order of a differential equation Exact vs numerical solutions to a differential equation Existence and uniqueness of first order ODEs Direction fields Euler's method

First Order Differential Equations

Separable DEs Linear DEs Exact DEs Bernoulli equation Substitution

Modeling with First Order Equations

Population models – logistic equation Mixing problems Newtonian mechanics Heating and cooling

Linear Second Order Equations

Spring problems Constant coefficients – homogeneous Constant coefficients – non-homogeneous Variation of parameters Undetermined coefficients

Laplace transform methods

Laplace transform and the inverse Solving initial value problems Laplace transform of discontinuous functions, periodic functions, Dirac Delta function Convolutions

Systems of Equations

Phase plane, equilibrium solutions, trajectories Classification of critical points Matrix methods for linear systems

Welcome to Differential Equations

Free tutoring at the Teaching Center, SW Broward Hall. Check Teaching Center for the time schedule.

Students with disabilities requesting accommodations should first register with the **Disability Resource Center** (352-392-8565) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

The course will be conducted in accordance with the academic honesty policy, and policy regarding the use of copyrighted material.

"Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: attendance policies.

Information on current UF grading policies for assigning grade points may be found at: grades.

Students are expected to provide feedback on the quality of instruction in this course by completing **online evaluations**. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufi.edu/results/.

Grades

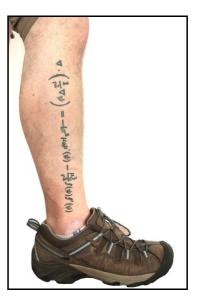
three exams, each of equal weight

Exam 1: February 7 Exam 2: March 19 Exam 3: April 23

(not the recommended method for remembering formulas)









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