SYLLABUS

MATH 320-01 Elem. Diff. Equations

Spring 2019

Instructor Information

Instructor:	Debendra Banjade, Ph.D
Office:	[redacted]
Telephone:	
E-mail:	
Office Hours:	MWF 10:00 – 10:50 AM *and by appointment*

Course Description

Course Schedule:	MWF 11:00 – 11:50AM, SCI 206
Textbook:	None

References:	*Elementary Differential Equations* by William F. Trench
	`http://ramanujan.math.trinity.edu/wtrench/texts/index.shtml`
	
	Paul's Online Math Notes
	`http://tutorial.math.lamar.edu/Classes/DE/DE.aspx`

Prerequisite:	Math 161 with a minimum grade of 'C' or equivalent

Course Objectives: *This course represents a systematic introduction to ordinary differential equations. Topics we study include first order equations, linear equations with constant coefficients, Laplace transforms, series solutions, variation of parameters, systems of equations, and numerical solutions. As the course progresses, we will develop a conceptual understanding of differential equations and general critical thinking skills which will allow us to understand, analyze, solve and interpret many new types of problems with confidence.*

Student Learning Outcomes: By the end of the semester, the successful student in Math 161 will have obtained facility in solving a variety of problems involving integrals, infinite series, and differential equations. More specifically, students will be able to:

1. Use definite integrals in applications;
2. Evaluate integrals using a variety of techniques;
3. Set up and solve integrals arising from geometrical problems;
4. Find limits of convergent infinite sequences;
5. Determine the convergence or divergence of infinite series;
6. Determine the radius of convergence of a power series;
7. Represent functions as power series;
8. Verify solutions of differential equations;
9. Set up and solve separable differential equations;

Tests: There will be three tests, and a cumulative final exam. The exam dates will be announced in class (Expected: Test 1: Wednesday, February 20, Test 2: Friday, March 22, Test 3: Friday, April 26). The final will be given on Friday, May 3 at 11:00 AM.

Quizzes: I will give short quizzes regularly throughout the semester. You should be able to answer the quiz questions

if you attended class the previous day, reviewed the corresponding section in the textbook, and got started on the assigned homework from that section. At the end of the semester, I will drop one of your lowest quiz grades.

Homework: You are encouraged to form study groups to work on the problems. However, you need to write your own homework. Homework questions will be provided in class.

Calculator: No calculator of level TI 89 or higher is allowed for any exams or quizzes. If you have questions about your calculator please let me know. Absolutely no cell phones are allowed in class at any time.

Grade Guidelines: Quizzes = 10%, Homework = 10%, 3 Tests = 51%, Final Exam = 29%

Grade Scale:

A:	90–100	B+:	87–89	B:	80–86	C+:	77–79
C:	70–76	D+:	67–69	D:	60–66	F:	below 60

Math 320 - Student Learning Outcomes: When a student successfully completes MATH 320, he/she should be able to do the following:

- Know how to solve first order differential equations for the following types and by the following methods:
  (a) Separable equations, separation of variables
  (b) Homogeneous equations
  (c) Exact equations
  (d) Linear equations by integrating factor
- Know how to solve the following applications of first order ODEs
  (a) Growth and Decay
  i. bacteria growth/decay
  ii. population growth/decay
  iii. radioactive substance decay (half-life)
  (b) Newtons Law of Cooling
  (c) Free-Falling Bodies
- Know how to solve n^{th}-order linear differential equations with constant coefficients by the following methods:
  (a) Method of Undetermined Coefficients
  (b) Variation of Parameters
  (c) Laplace Transforms
- Be able to set up, read, and solve Mass-Spring System problems. Additionally, know how to categorize a system as harmonic, under damped, critically damped, over damped or none of the above.

Important Dates:

Saturday, January 19	Last day for late registration, drop/add with no academic record
Monday, January 21	Martin Luther King, Jr. holiday - No classes
Monday, March 11 - Saturday, March 19	Spring Break - No classes
Wednesday, March 27	Last day to drop with grade of "W"
Friday, April 19	Student holiday - No classes

Students with Disabilities: Coastal Carolina University is committed to equitable access and inclusion of individuals with disabilities in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Individuals seeking reasonable accommodations should contact Accessibility & Disability Services (843 - 349-2503 or https://www.coastal.edu/disabilityservices/).

Statement of Student Conduct: Coastal Carolina University is an academic community that expects the highest standards of honesty, integrity and personal responsibility. Members of this community are accountable for their actions and reporting the inappropriate action of others and are committed to creating an atmosphere of mutual respect and trust.

Attendance Policy: Students are obligated to attend class regularly. Absences, excused or not, do not absolve students from the responsibility of completing all assigned work promptly. Read in the following page for details:http://www.coastal.edu/policies/pdf/acad-125classattendance.pdf.

The syllabus is for planning purpose only and is subject to change anytime.