SYLLABUS
MATH 242: Modeling for Scientists
Section 01
Spring 2016

Instructor:
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Office Hours:
Wall 101J
M/W/F: 9:00 AM–10:00 AM
T: 2:00 PM – 3:00 PM + by appointment

Days, Time, Location: M/W/F 10:00 AM-10:50AM, WALL 110

Prerequisites: A grade of C or better in Calculus I (MATH 160).

Textbooks: There is no required textbook for this course. Handouts will be used on a regular basis to supplement your notes.

Course Objectives: This course will introduce students to mathematical modeling and scientific computing. Computer software will be used extensively to implement models, solve problems, and visualize results. Topics include counting by enumeration, population dynamics, Newton's method for finding roots of equations and compartment modeling.

Student Learning Outcomes: When a student successfully completes MATH 242, he/she should be able to do the following.

1. Apply mathematical modeling and problem solving skills to open-ended, "real-life" problems.
2. Use difference equations to describe natural phenomena or systems.
3. Apply Newton's method and Euler's method as problem solving techniques.
4. Draw conclusions from a model within the context of the model's limitations.
5. Discuss the strengths and weaknesses of the model including simplifying assumptions that were made.
6. Effectively communicate the entire modeling process, particularly as outlined in items 1, 4, and 5 above, to an outside audience.

Attendance Policy: Class participation is vital in this course, and it is especially important that you attend every class session. Regular class attendance will be expected throughout the semester. If at any point a student misses over 25% of class meetings he/she may receive an F as their final grade. This includes only unexcused absences from class. If there are any more questions pertaining to the attendance policy please review the Students Handbook.

Homework: Homework problems will be assigned periodically. Problems will be typed up and available on Moodle.

Reports and Projects: Throughout the semester, you will be assigned various individual and group reports and projects. During the first half of the semester, these assignments will be shorter

in duration and occur more frequently. One of the goals of these assignments is for you to practice communicating your ideas effectively to others. In the second half of the semester, you will work on a more extensive group project that will include an oral presentation.

Exams: There will be one Midterm exam and a Final exam. The Midterm date will be determined as the semester progresses (expected in the 1^{st} week of March). The Final exam will be on Wednesday, May 04 at 11:00 AM. Make-up exams will be made solely at my discretion. If you know ahead of time that you must miss an exam, you must let me know at least two class periods in advance. If you miss an exam due to some unexpected reason and fail to let me know in advance either via email, in person, or by phone, then you will not be allowed to make up the exam.

Important Dates:

Monday, January 18	MLK Day Holiday
March 7–11	Spring Break
Wednesday, March 23	Last day to drop with grade of "W"
Friday, March 25	Student Holiday
Wednesday, April 27	Last day of classes

Student Code of 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.

Cheating: You are referred to the University policy on plagiarism and cheating. I have zero tolerance for cheating. If you are caught violating the policies on original work, you could receive an F on the assignment(s) in question, and/or an F in the course, and/or may be referred to the Vice-chancellor of Academic Affairs for possible suspension. If there is any possible ambiguity or question, please talk to me, and make an appointment if necessary.

Students with Disabilities: If you have a disability that requires accommodation in this course, please see me as soon as possible. I am happy to make appropriate accommodations, provided timely notice is received.

Grading Procedures: Your final grade will be the same for both lecture and lab and will be calculated as follows:

Lab Assignments	17%
Homework	8%
Reports and Projects	15%
Lab Practical	15%
Midterm Exam	20%
Final Exam	25%

Grade Scale: Final grades are tentatively based on the following percentages.

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