

MATH 242 — Spring 2024

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Office Hours:	Monday and Wednesday from 5:20 PM to 6:30 PM (or by appointment as needed).
Text Book:	Differential Equations and Boundary Value Problems computing and modeling sixth edition by Edwards, Penney, and Calvis. ISBN-13: 9780137540365 or ISBN-13: 9780137540129 It is possible that other ISBN numbers work – I do not know.

You do **not** need **MyMathLab-Access** for my course.

The Fourth Edition of the book (by Edwards and Penney only and the words “Boundary value problems” does not appear in the title) will also work. The problems are exactly the same (but the page numbers are a little different).

If you have some edition of the book, **I can help you find the “right” problems, just ask.**

Catalog Description	MATH 242 - Elementary Differential Equations (3 Credits) Ordinary differential equations of first order, higher order linear equations, Laplace transform methods, series methods; numerical solution of differential equations. Applications to physical sciences and engineering. Prerequisites: C or better in MATH 142.
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Learning Outcomes:	By the end of this course, students should be able to: <ul style="list-style-type: none">• explain the concept of a differential equation,• solve first-order ordinary differential equations,• find solutions to higher-order linear differential equations, and• use Laplace transforms to solve differential equations.
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Attendance: I plan to deliver a lecture in-person for each class. If you are healthy, please come.

When you miss a class, you miss an important learning opportunity. When you miss multiple classes, your success in this course becomes less likely.

Lecture Notes: I have posted typed lecture notes on my website for each class. I encourage you to study these notes. In particular, if you are not healthy or otherwise not able to come to class, then I strongly encourage you to study the lecture notes.

To succeed: I expect you to do the problems correctly and to do the homework.

As you do your homework, focus on getting the correct answer and knowing how to tell that your answer is correct.

There will be an opportunity to ask questions in every class. Ask about the things that bother you.

Mistakes: Treat mistakes as learning opportunities. A poor performance on a given quiz or hour exam does not doom you to a poor grade in the course. Figure out what you did wrong. Do not make those mistakes again. I will surely ask something similar later. Get it right the next time. (See “How your course grade will be calculated” at the end of the syllabus for many more details.)

Homework: The list of all homework questions for the semester may be found at my website. I will assign a few homework problems each class. Be sure to do these problems before the next class. **The quiz questions will be taken directly from the homework.** The homework questions are found **in the textbook.**

Quizzes: We are scheduled to have 7 quizzes. These quizzes will be given on Wednesdays on January 17, January 24, February 14, February 21, March 20, March 27, and Monday, April 15. Each quiz will be worth five points. **The quiz will consist of one problem from the assigned homework problems.** Quiz solutions are posted on my website shortly after the quiz is given.

If you are unable to take a quiz or an exam, do not worry about it. I will calculate your grade out of the quizzes and exams that you do take.

Hour Exams: There will be three hour exams. They will be given:

Wednesday, January 31,
Wednesday, February 28, and
Wednesday, April 3.

Each hour exam is worth 50 points. Exam solutions are posted on my website shortly after the exam is given.

If you are unable to take a quiz or an exam, do not worry about it. I will calculate your grade out of the quizzes and exams that you do take.

- Final Exam:** The final exam is worth 100 points. The final is 12:30 – 3:00 on Monday, April 29.
- Quality Work** There is no bonus for turning the exams in quickly. Please, take your time; work carefully; clearly identify your answer; check your answer; make sure your answer answers the question.
- Drop Date:** The last day to drop without receiving a WF is Monday, March 25, 2024. You will have 2 exams and (approximately) 5 quizzes before that day.
- Manners:** If you plan to leave before class is over, the correct procedure is to mention this to me before I start class.
- Old Exams:** The exams I gave the last few times I taught this course are available at my web site.
- Prerequisites:** Qualification through placement or a grade of C or better in MATH 142.
- Mid-semester Evaluation** About a third of the way through the course you will be asked how you feel things are going. Your responses will be anonymous; so please record your thoughts. Details will be forthcoming.

Academic Integrity

The first tenet of the Carolinian Creed is, “I will practice personal and academic integrity.” Therefore, it is your responsibility and mine to uphold and maintain the academic standards and integrity of the University of South Carolina. Below are some websites for you to visit to learn more about University policies:

- Carolinian Creed

https://sc.edu/about/offices_and_divisions/student_affairs/our_initiatives/involvement_and_leadership/carolinian_creed/index.php

- Academic Responsibility

<https://www.sc.edu/policies/ppm/staf625.pdf>

- Office of Student Conduct and Academic Integrity

https://sc.edu/about/offices_and_divisions/student_conduct_and_academic_integrity/index.php

How your course grade will be calculated.

It is important to me that you learn the material. It also is important to me that you receive a good grade in the course. I firmly believe that you should not be penalized for doing something incorrectly the first time you try it. Or phrased a different way, if you do good work at the end of the course, then your grade should be pretty good, independent of when you started to do good work. On the other hand, when necessary, I do have to convey “This is wrong. Please do it correctly the next time.” Please, don’t let such a warning alarm you; just fix whatever the problem is. Compare your answer to the answer sheet and find where and how you got off the right track or come talk to me if that will help.

All of the exams in the course are cumulative; they cover everything from the beginning up to wherever we are at the time of the exam; consequently, there is straightforward way for me to communicate to you that “I am pleased with your present work. Your earlier work, which was not as good, is not going to foul up your grade.”

When I calculate your grade for the course I will use the following procedure: If you do better on an exam than you had done on some previous exams or quizzes, then I will ignore the weak exams or quizzes when I compute the your grade, provided this works to your advantage.

Here is a hypothetical example at the end of the semester.

	Q1	Q2	E1	Q3	Q4	E2	Q5	Q6	E3	Q7	FE	Tot	Pos	Tot/Pos	Course Grade
maximum	5	5	50	5	5	50	5	5	50	5	100	285	285		
raw scores	5	<i>x</i>	35	5	4	40	5	3	39	5	78				
counted scores	5	<i>d</i>	<i>d</i>	5	4	40	5	<i>d</i>	39	5	78	181	225	80%	B
out of	5	<i>d</i>	<i>d</i>	5	5	50	5	<i>d</i>	50	5	100	225			

- **“Course Grade” is the grade that will appear on your report card.**
- “FE” is your score on the final exam.
- “E1”, “E2”, and “E3” are your scores on the three exams.
- “Q1”, ..., “Q7” are your scores on the 7 quizzes.
- “Tot” is the total number of points you earned on the exams and quizzes that are counted for you. **(If you do better on an exam than you had done on some previous exams or quizzes, then I will ignore the weak previous exams or quizzes when I compute your grade, provided this works to your advantage.)**
- “Pos” is the maximum possible points on the exams and quizzes that are counted for you.
- Tot/Pos is Tot/Pos turned into a percentage. This is the number that I use to determine your final grade:
 - 90% guarantees an “A” (sometimes the actual cut off is a little lower),
 - 85% guarantees a “B+” (sometimes the actual cut off is a little lower),
 - 80% guarantees a “B” (sometimes the actual cut off is a little lower),
 - 75% guarantees a “C+” (sometimes the actual cut off is a little lower),
 - 70% guarantees a “C” (sometimes the actual cut off is a little lower),
 - I do not usually assign “D+”. If someone would qualify for “D+”, I usually assign “C”, and
 - 60% guarantees a “D” (sometimes the actual cut off is a little lower).
- “x” indicates that I do not have a grade for you on this quiz or exam.
- “d” means that this information has been ignored.
- “maximum” is what the Exam or Quiz was worth.
- “raw scores” are your scores on the exams and quizzes.
- “counted scores” are the scores that I am counting for you.
- “out of” is the maximum possible score on the exams and quizzes that I am counting for you.

I will send you a partially completed version of the above chart-and-key pertaining to your grades after each test. You will have a decent idea of where you stand in the course all the time.