

SYLLABUS FOR MATH 242, SECTION 002, VECTOR CALCULUS

0.1. **Instructor, E-Mail, Office.** Daniel Dix, dix@math.sc.edu, LeConte 451, office phone (803)777-7525.

0.2. **Office Hours.** MWF 10:50-11:40 am. If the above days or times or modality for office hours are not suitable then contact me by e-mail and we will find a mutually suitable time and/or place.

0.3. **Course Web-Page and Blackboard.** <http://people.math.sc.edu/dix/teach/242.23s.html>. This will be the place for **all** course-related communication, and all students are expected to consult it frequently. Do not expect e-mails or Blackboard communications, although they may sometimes be employed as supplements in extraordinary situations. Exam and Quiz grades will be posted on Blackboard, for students who lose or do not pick up their papers, but the averages on Blackboard are not official.

0.4. **Class Time and Room.** MWF 12:00–12:50 pm, WMBB 133.

0.5. **Prerequisites.** C or better in Math 142. Math 142 cannot be taken concurrently with Math 242 to meet the prerequisite.

0.6. **Textbook.** *Differential Equations and Boundary Value Problems: Computing and Modeling* by C. Henry Edwards, David E. Penny, David T. Calvis, 6th edition, Pearson, 2023. See the Pearson web-site for the e-book various packages. At a minimum you need to purchase the access code to the online homework system.

0.7. **Material to be covered, Learning Outcomes.** Chapters 1 through 4, and 7. Successful students will be able to accomplish the following:

- Solve initial value problems and find general or particular solutions to ordinary differential equations of the following types: separable, exact, nonlinear homogeneous, first- and higher-order linear equations, both homogeneous and inhomogeneous, especially those with constant coefficients, and systems of two differential equations.
- Carry out solution methods such as: integrating factors, substitution, variation of parameters, undetermined coefficients, Laplace transforms, as well as numerical approximations, such as Euler or Runge-Kutta methods.
- Use differential equations to solve mixture, cooling, mechanical vibration, or electrical circuit problems.

0.8. **Homework.** Homework problems will be assigned at every class meeting on MyLab Math. Follow the instructions on the handout (see link on the web-page). Course ID: dix79579. **You will need to purchase an access code.** The main portal is www.pearsonmylabandmastering.com for all homework assignments. You do all homework on this site and do not turn in any solutions in class. In addition it is highly recommended that all assigned problems should be all be given complete written solutions so they can be used for studying for quizzes and exams. Solutions should be visible online at the pearson web-site after the assignment is due. No deadline extensions or make-up homeworks will be given, but some of the lowest homework grades will be dropped.

0.9. **Quizzes.** 10 minute in class quizzes will be given about once a week. No makeup quizzes will be given except for excused absences. A few of the lowest quiz grades will be dropped.

0.10. **Exams.** There will be four exams given in class on the following dates:

- Wednesday, Feb. 1 (class 10).
- Friday, Feb. 24 (class 20).
- Monday, Mar. 27 (class 30). The drop date is Monday, Mar. 27.
- Wednesday, Apr. 19 (class 40).

These will be taken from the assigned homework, and from the class notes (important definitions, theorems, examples). Students will write all solutions in a new *blue book* which the student must bring to the exam. Buy them from the bookstore. No scratch paper or calculators or note cards or formula sheets will be allowed.

0.11. **Attendance.** There is no separate attendance score that will figure into the student's final grade (see Grading System below). Rather there are regular in-class assessments such as weekly quizzes and one hour exams. The lectures will provide important hints about quiz and exam questions, and should not be considered optional. Missing one of the quizzes or exams results in a zero, although a certain number of the lowest grades are dropped. (See the policy on missed exams or quizzes for excused absences.)

0.12. **Policy on Missed Exams and Quizzes for Excused Absences.** The University allows for students to petition for an excused absence due to any of the following circumstances:

- medical conditions or illness or injury (must be judged sufficient separately in each case),
- death or severe illness of an immediate/dependent family member,
- legal obligation,
- military duty (notify instructor by January 24),
- religious holiday (notify instructor by January 24),
- participation in an authorized university activity (notify instructor by January 24).

In order for an absence to be recognized as "excused", the student **must submit the appropriate form** on the website of the office of the Undergraduate Student Ombuds: https://www.sc.edu/about/offices_and_divisions/student_affairs/our_initiatives/academic_success/ombuds_services/index.php. Additionally, the student **must notify the instructor in writing in advance of the start of the scheduled exam or quiz**, except in cases where such notice is physically impossible (the instructor must agree that it was impossible). For foreseeable excused absences the deadline for notifying the instructor is January 24.

As remarked above, an absence being excused or unexcused only impacts in-class exams or quizzes which occur on the class which is missed. No make-up exam or quiz will be given unless the student can document that it was (or will be) for an excused absence and gives prior notification to the instructor (see the previous paragraph). For foreseeable excused absences the make-up exam or quiz may be given prior to the rest of the class and may be proctored remotely. Students can seek additional advocacy through https://cm.maxient.com/reportingform.php?UnivofSCAcadSupport&layout_id=7 if desired.

0.13. **Final Exam.** There will be a final exam given on Friday, Apr. 28, at 12:30 pm in the classroom. It will cover all the material discussed throughout the semester, including the material covered on the last two class meetings. Items will be chosen for inclusion on the final exam based on their conceptual importance.

0.14. **Grading System.** The final score (out of 100 total points) for the course will be computed as follows:

- Homework average will count 10%.
- Quiz average (after some drops) will count 15%.
- Average of three best (lowest is dropped) hour exam scores will count 60%.
- Final exam will count 15%.

There will be no "curve". From this 100 point figure your grade will be determined by the scale:

<i>A</i> :	90 – –100
<i>B</i> :	80 – –89
<i>C</i> :	65 – –79
<i>D</i> :	50 – –65
<i>F</i> :	0 – –49

0.15. **Accommodations for students with disabilities.** Any student with a documented disability should contact the Office of Student Disability Services at 803-777-6142 to make arrangements for appropriate accommodations.

0.16. **Honor Code Statement.** As a Carolinian ... I will practice personal and academic integrity.

The University of South Carolina expects high standards in all areas from its students. The University, as well as the faculty, staff, alumni, and students, believe strongly in the Honor Code. This Code requires acceptance of certain responsibilities and agreement by all students to abide by the spirit of the Honor Code upon entering the University of South Carolina. In order that you may better understand the required responsibilities, the general University community codes are outlined below.

- It shall be the responsibility of every faculty member, student, administrator and staff member of the University community to uphold and maintain the academic standards and integrity of the University of South Carolina.
- Any member of the University community, who has reasonable grounds to believe that an infraction of the Honor Code has occurred, has an obligation to report the alleged violation. Violation of any of the following standards subjects the student to disciplinary action: improper collaboration, cheating, lying, bribery and plagiarism.

Your enrollment in this class signifies your willingness to accept these responsibilities and uphold the Honor Code of the University of South Carolina. Please review the Honor Code via sc.sdu/academicintegrity. Any deviation from this expectation can result in a grade penalty and a referral to the Office of Student Conduct and Academic Integrity.