

## MATH 261, Calculus for Physical Sciences III

### A. COURSE INFORMATION

**Primary Instructor:** Varies with sections (see your section Canvas page)

**Course Coordinator:** Baohua Chen (baohua.chen@colostate.edu)

**Course Website:** Canvas.colostate.edu

**Office Hours:** Tutoring for this course is available through the Calculus Center, located in the Russell George Great Hall in The Institute for Learning and Teaching (TILT). Regular help hours are Monday through Friday, 9:00 am-4:00 pm. No appointment is necessary, and you can attend any instructors' help hours. Information about the tutoring schedules is found from <https://mathematics.colostate.edu/about/calculus-center/>

### B. COURSE DESCRIPTION

**Catalog Description:** Building on single-variable calculus, this course extends derivatives and integrals to higher dimensions. Core topics include scalar functions of several variables, partial derivatives, multidimensional integrals; vectors and vector fields, line integrals and surface integrals of vector fields, and fundamental theorems of vector calculus (Green's Theorem, Stokes' Theorem, and Divergence Theorem). Applications involve motion analysis, optimization problems, and calculation of surface/volume in three-dimensional space.

**Prerequisites:** Successful completion of Calculus I and II with a strong foundation in differential calculus, integration theory, and advanced integration techniques. Some background in Linear Algebra may be helpful on some points but is not required.

### C. TEXTBOOK

1. **Required:** Active Calculus by Schlicker et al. Found for free here:

<https://activecalculus.org/multi/frontmatter-7.html>

2. **Suggested:**

- Thomas' Calculus, early transcendentals. We will cover roughly Chapters 12-16.
- Calculus: Single and Multivariable. By Deborah Hughes-Hallett

### D. INSTRUCTIONAL METHODS AND ACTIVITIES

- **Lectures:** Class meets four times a week, and daily attendance is strongly recommended. Excessive absence may compromise your ability to succeed on the course.
- **Weekly Homework:** Homework is essential for course success and aligns with exam content. Homework is assigned every Tuesday except exam weeks and graded for both completion and accuracy. Five questions per homework assignment will be graded, while all questions must be completed to receive full completion points. At the end of semester, homework scores below your midterm exam average will be replaced with that average. Due to this grade adjustment policy and immediate solution releasing for all coordinated sections, late submissions are strictly not accepted.

- **Weekly Quizzes:** Short quizzes are held in class each Friday, excluding exam weeks. Up to five quiz scores (out of 10) that are lower than your midterm exams average will be replaced with that average at the end of semester. Due to quiz testing recent material and immediate solution posting for timely learning, makeup quizzes are not provided.
- **Midterm Exams:** Three in-class midterm exams are given on selected Thursday evenings: February 12, March 12, and April 16, at 5:00 pm - 6:50 pm.
- **Final Exam:** A comprehensive final exam is given on the date and time designated by the university, May 11, Monday, at 7:30 am – 9:30 am.

#### E. MAJOR COURSE REQUIREMENTS AND GRADING

Your final grade is calculated according to the following percentages:

| Activity      | % of Final Grade |
|---------------|------------------|
| Homework      | 10 %             |
| Quizzes       | 5 %              |
| Midterm Exam1 | 20 %             |
| Midterm Exam2 | 20 %             |
| Midterm Exam3 | 20 %             |
| Final Exam    | 25 %             |

**Grading Scales:** A: 90-100%, B: 80-89.99%, C: 70-79.99%, D: 60-69.99%, F: 59.99%-

**Note:**

- The overall grades displayed in Canvas may not accurately reflect your true course standing. Calculate your weighted course average using the grading formula above.
- Final grades in this course reflect solely earned credits. We do not offer additional credit opportunities or grade adjustments based on the requirements of a given major, scholarship criteria, planned future course work or graduation schedule. Regular class participation, independent home completion of homework, and utilization of Calculus center resources provide the foundation for achieving success in this course.

#### F. IMPORTANT DATES

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| Jan. 20, Tuesday: Classes begin  |
| Feb. 4, Wednesday: Registration closes- end of period for adding courses - last day for dropping courses without record entry, changes in grade option, and tuition and fee adjustment |
| February 12, Thursday (5:00-6:50 pm): EXAM 1   |
| March 12, Thursday (5:00-6:50 pm): EXAM 2  |
| March 14, Saturday: Spring break begins-no classes next week   |
| April 16, Thursday (5:00-6:50 pm): EXAM 3  |
| April 17, Friday: End Course Withdrawals ("W") Period, Repeat/Repair Deadline  |
| May 8, Friday: Last day of classes   |
| May 11, Monday (7:30 am-9:30 am): FINAL EXAM   |
| May 19, Tuesday: Grades due  |

## G. EXAM/HOMEWORK POLICIES

- No notes, calculators, cell phones and electronic devices are allowed to be used during test.
- Midterm exams and final exam will not necessarily be held in the regular classroom. Exam room information will be announced by your instructor, and it is your responsibility to make sure you are where you're supposed to be.
- Midterm exams are scheduled for Thursday evenings. There are no classes the following Friday after each exam.
- **Examination dates and times are listed in the syllabus and non-negotiable. Please make sure you can make all scheduled exams at the beginning of semester.** Personal commitments, including vacations, weddings, travel plans, etc. will NOT be considered valid reasons for alternative testing arrangements. Alternative exam times will only be considered for university approved absences (for which a special letter is required), religious observances, and serious emergencies.
- In the case of a legitimate exception, it is your responsibility to inform the instructor in due course (well ahead of a conflict with a university event, or a medical emergency) of the conflict and to provide written documentation. Lateness in informing the instructor of a potential issue could result in accommodation not being offered, even for a valid excuse.
- If you cannot take an exam due to a serious medical emergency, you need to provide medical documentation from an examining physician that explicitly confirms you are physically unable to take the examination on the scheduled date. Standard medical visit verifications will not be accepted as adequate documentation.
- The registrar indicates that students may negotiate with their instructors for an alternate exam time if they are scheduled to take multiple final exams on the same day. In such cases, the general policy is that priority is given to maintaining the scheduled time for coordinated course exams. You should first seek to reschedule exams for uncoordinated courses.
- **Regrade.** Review your graded work promptly when it is returned. If you find grading errors on an exam (e.g., you believe you lost points without reason or there was some arithmetic error with calculating the total grade), notify your instructor within one week of receiving the exams. No grade changes will be considered after one week period. It is your responsibility to verify that all grades, including any regrades, are accurately recorded in Canvas.

## H. COLLEGE AND UNIVERSITY POLICIES

**Accommodation:** Students who require Student Disability Center (SDC) Accommodations for examinations must make arrangements through the SDC and provide formal documentation to both the course coordinator and your instructor **at least one week before every exam.** Accommodated exam must be taken on the same date as the standard exam. Alternative start times will only be permitted if specified in your SDC accommodation or in exceptional circumstances and they must be approved by the course coordinator.

**Life Circumstances:** If students experience a serious, unexpected life circumstance that affects their ability to participate in the course fully, it is recommended to contact CSU Student Case Management for confidential, professional assistance and support. The URL is: <https://studentcasemanagement.colostate.edu/>

### **Academic Integrity**

This course strictly enforces the University Policy on Academic Integrity. Academic dishonesty penalties for severe, reflecting our philosophy that non-submission of work is preferable to dishonest submission. We strongly advise you not to run afoul of the honesty code – it is simply not worth it. If you find yourself struggling in the course, you should seek assistance from your instructor, the course coordinator, or the Calculus center tutoring. All work submitted must be reflective of your own understanding. Uploading a question to the Internet or using a solution which was either obtained online or authored by others is strictly prohibited. Submitting work that is excessively similar to that of another students or that you cannot justify or explain adequately afterward is also considered academic dishonesty. The course policy is that if several assignments are found to be excessively similar, then academic penalties will be incurred by all the students in question, regardless of who copied or provided the work. This includes situations where multiple students obtain solutions from a third party.

Please note that simply having access to forbidden materials – such as notes, a calculator, a smart phone, etc. – during exams constitutes academic honesty, regardless of whether these items are used. Additionally, any misrepresentations to instructors, fraudulent or misleading documentation, or actions that prevent reliable assessment of academic performance will be treated as violation of academic integrity. These violations typically result in penalties more severe than a zero on the assignment and commonly prevent passing the course.

Bathroom break during an exam must be limited to 10 minutes maximum. Extended absences will be considered potential academic misconduct unless you have either notified the instructor of a medical necessity before the exam begins or experienced an unexpected medical emergency during the exam (which must be immediately reported to the proctor).

### **GENERAL DISCLAIMER**

The course syllabus is a general plan for the course, modification of the schedules, assignments, deadlines, and course policies may be necessary. Instructors will announce such changes in a timely manner during regularly scheduled lecture periods.