MATH 161, section 004

Basic Course Information

Course Name: Calculus for Physical Sciences II, MATH 161, Section 004

Semester: Spring 2026

Credits: 4

Prerequisites/Co-requisites: MATH 120 or 124 and MATH 159 or MATH 160

Meetings/Times: MTWF 11:00 am – 11:50 am

Location: Clark C 361

Instructor Information

Instructor Name: Patrick Orchard (He/Him/His)

Instructor Email: Patrick.Orchard@colostate.edu

Coordinator: Patrick Orchard

Coordinator Email: Patrick.Orchard@colostate.edu

Office Location: Weber 238

Calculus Center Hours: MTWRF 9:00 am – 4:00 pm in the TILT Great Hall

Course Materials

Textbook

Required: Active Calculus by Boelkins et al. Found for free here:
https://activecalculus.org/single2e/frontmatter.html

Optional: Calculus by George Thomas

Course Description

This class picks up where Calculus I leaves off, and will cover topics such as integration techniques, applications of integration, sequences and series, convergence tests for infinite series, Taylor series and their applications, complex numbers and Euler's formula. This course emphasizes critical reasoning and problem-solving skills rather than rote memorization, so working a large number of practice problems (and seeking help when you're stuck!) is essential.

Assignments' Descriptions

Homework: Homework is assigned weekly, except for exam weeks, and is graded for both completion and presentation as well as for accuracy. Homework needs to be submitted on Gradescope. Information on how to do this is on Canvas. Scores lower than your midterm exam average are replaced by the midterm exam average at the end of the semester (as a percentage), and so we do not offer makeup homework assignments.

Quizzes: Quizzes will be given in class at the end of most weeks, on Friday, excluding exam weeks. Scores lower than your midterm exam average are replaced at the end of the semester (as a percentage), and so we do not offer makeup quizzes.

Exams: Midterm exams will be given on select Thursday evenings: 2/12, 3/12, and 4/16 from 5:00 pm to 6:50 pm. The final exam will be given on the date and time designated by the university: 7:30 am – 9:30 am on Monday, 5/11. Final exam information for all courses can be found at https://thehub.colostate.edu/registration-records/final-exams/ . If you must miss an exam, you must provide a university approved excuse to the course coordinator within 2 business days of the missed exam.

Tentative Course Schedule

WEEK OF	TOPIC	ASSIGNMENT
1/19/26	Review: Limits and factorials; Intro to infinite series, geometric and p-series	Quiz 1 on Fri 1/23/26
1/26/26	Test for Divergence; Limit Comparison Test; Ratio Test; Alternating Series Test	HW 1 due Tue 1/27/26 Quiz 2 on Fri 1/30/26
2/2/26	Power Series; Taylor Series	HW 2 due Tue 2/3/26 Quiz 3 on Fri 2/6/26
2/9/26	Review in class; **Exam 1: Thurs 2/12 at 5:00 pm**	HW 3 due Tue 2/10/26 No class Fri 2/13/26
2/16/26	Review: Antiderivatives; Integrate with Taylor Series	Quiz 4 on Fri 2/20/26
2/23/26	U-substitution; Integration By Parts; Trig Integrals	HW 4 due Tue 2/24/26 Quiz 5 on Fri 2/27/26
3/2/26	Trig Substitution; Partial Fraction Decomposition	HW 5 due Tue 3/3/26 Quiz 6 on Fri 3/6/26
3/9/26	Review in class; **Exam 2: Thurs 3/12 at 5:00 pm**	HW 6 due Tue 3/10/26 No class Fri 3/13/26
3/16/26	No class (Spring Break)	
3/23/26	Intro to Differential Equations; Bucket Problems	Quiz 7 on Fri 3/27/26
3/30/26	Method of Disks/Washers; Method of Shells	HW 7 due Tue 3/31/26 Quiz 8 on Fri 4/3/26
4/6/26	Mass of Revolution; Tank problems	HW 8 due Tue 4/7/26 Quiz 9 on Fri 4/10/26
4/13/26	Review in class; **Exam 3: Thurs 4/16 at 5:00 pm**	HW 9 due Tue 4/14/26 No class Fri 4/17/26
4/20/26	Complex coordinates; Polar Coordinates; Euler's Identity	Quiz 10 on Fri 4/24/26
4/27/26	Parametric Equations	HW 10 due Tue 4/28/26 Quiz 11 on Fri 5/1/26
5/4/26	Review for Final Exam	HW 11 due Tue 5/5/26

WEEK OF	TOPIC	ASSIGNMENT
5/11/26	Final Exams Week	Final Exam on Monday 5/11/26 at 7:30 am

Morgan Library Services Desk

The Morgan Library Services Desk provides both research (ph. 970-491-1841) and technical (ph. 970-491-7276) support. In addition, you can contact a librarian for assistance at Ask Us! or find a research guide at Research Help.

CSU Principles of Community

Inclusion: We create and nurture inclusive environments and welcome, value and affirm all members of our community, including their various identities, skills, ideas, talents and contributions.

Integrity: We are accountable for our actions and will act ethically and honestly in all our interactions.

Respect: We honor the inherent dignity of all people within an environment where we are committed to freedom of expression, critical discourse, and the advancement of knowledge.

Service: We are responsible, individually and collectively, to give of our time, talents, and resources to promote the well-being of each other and the development of our local, regional, and global communities.

Social Justice: We have the right to be treated and the responsibility to treat others with fairness and equity, the duty to challenge prejudice, and to uphold the laws, policies and procedures that promote justice in all respects.

Course Policies

Conduct Policy: While in class, in examinations, or in the Calc Center, it is expected that each student is respectful of their fellow students and instructor, and acting in a way that is not consistent with a positive, inclusive, welcoming environment is not tolerated. Consequences, including grade penalties or removal from the space, may be applied in the event of a violation. This includes us asking a disruptive student to leave the classroom or exam (in which case the exam is not graded). You are not allowed to record your fellow students or instructor, unless by SDC accommodation.

If there is another person who is, in any way, making you feel uncomfortable, unwelcome, disrespected, or unsafe in class, please notify the instructor or course coordinator immediately.

Academic Honesty Policy: The University Policy on Academic Integrity is enforced in this course, and the academic honesty penalties are predicated on a "less than zero" philosophy that it is better to not hand in an assignment at all than it is to hand it in dishonestly. It is typically not possible to pass the course after an infraction. Please also be advised that potential academic honesty infractions are assessed on a preponderance of evidence basis and in a factual dispute between a student and an instructor or exam proctor, the burden of proof typically would rest with the student. We strongly advise you not to run afoul of the honesty code—it is simply not worth it.

All work submitted must be reflective of your own understanding. Uploading questions online or using a solution which was either obtained online or authored in the main by another person, service, or AI is strictly prohibited and results in an automatic F for the semester. You also cannot resubmit work from a previous semester, even if it was done honestly initially. Submitting work that is excessively similar to that of another student's, or that you cannot justify or explain adequately afterward, is also considered academic dishonesty on the part of all students involved. This includes exam and homework solutions that the student cannot, within reason, explain or reproduce later.

Please note that making misrepresentations to course personnel, providing fraudulent or misleading documentation, or intentionally creating a situation where adherence to the academic honesty policies cannot be assessed are also a violation of the honesty code.

Exam Policies

- Midterm exams will be given on select Thursday evenings during the semester: 2/12, 3/12, and 4/16 during 5:00 pm – 6:50 pm. At the beginning of the semester, please make sure you can attend all the exams. Do not schedule personal travel that conflicts with these times, as this will not be considered valid for the purposes of scheduling an alternate testing time.
- The only excepts to the above are conflicts with university approved absences (for which a special letter is required), religious observances, or serious emergencies. In the case of a legitimate exception, it is the student's responsibility to inform the instructor in a timely manner and provide written documentation.
- You must bring your student ID with you to all exams. Having calculators, notes, phones, and so forth on your person, or in an easily accessible or concealed location during an exam is strictly not allowed. You should make sure they're securely put away before an exam begins.
- Midterm exams are not necessarily held in the same room as lectures, and the final exam is not necessarily going to be held in the same rooms as the midterms. Exam room information will be provided by the instructor as it is provided to us by the university. It is the student's responsibility to be where they're supposed to be.
- Doors close 20 minutes after the start of each exam.
- Please check that your grades are entered accurately on Canvas, and alert your instructor in a timely manner if you notice an error. Time to review exams will be provided in class on the day exams are returned. Concerns about exams need to be brought during this time. Once you have left with your exam, we can no longer validate claims that an oversight was made in grading.
- We only revisit grading when there is a reasonable, clearly articulable claim of an objective error. In case of exams, it must be returned to the instructor for review by the coordinator to ensure consistency in grading. We do not consider requests that amount to checking if we 'can' assign more points to an answer.
- If you require Student Disability Center Accommodations for exams, you must make arrangements with the Student Disability Center and provide formal documentation to the course

coordinator and your instructor. SDC exams need to be scheduled at least one week in advance of the exam. The exam must be taken at the same date and start time as unaccommodated exams, except in exceptional circumstances or required by your accommodations, in which case an alternate start time needs to be cleared with the course coordinator.

- There is no class the day after an exam.

Grading Policy

Please be aware that we do not use Canvas to compute averages, and any averages automatically generated by Canvas are likely not correct and may even be substantially misleading. Also note that we do not offer any additional or alternative credit opportunities at the end of the semester. We do not adjust grades based on the requirements of a given major, scholarship, planned future course work, or graduation schedule.

ASSIGNMENT	GRADE PERCENTAGE
Homework	8%
Quizzes	8%
Midterm Exam 1	20%
Midterm Exam 2	20%
Midterm Exam 3	20%
Final Exam	24%
Total:	**100 %**

Precise letter grade cut-offs will be determined at the end of the semester, but are expected to be no stricter than the following:

Letter Grade	Percentage
A	90% – 100%
B	80% – 89%
C	70% – 79%
D	60% – 69%
F	0% – 59%

Calculus Center Webpage

The Calculus Center (located in the TILT Great Hall) offers drop-in tutoring, support, and resources for students currently enrolled in calculus courses at CSU. You can find more information at https://mathematics.colostate.edu/about/calculus-center/ or follow the QR code:

Additional Syllabus Information and Policies

The link https://col.st/2FA2g or the QR code below provides policies relevant to your courses at CSU and resources to help with various challenges you may encounter.