

Course Syllabus

Portland Community College | 12000 SW 49th Ave, Portland, OR 97219 | (971) 722-6111

This syllabus introduces you to the goals of the course and how we will be working together this term. Please read it carefully and contact me if you need further clarification.

Course Information

- Course Title: Integral Calculus
- Course Number: MTH 252Z
- CRN: 25731
- Credits: 4
- Term and Year: Spring 2026
- Prerequisites: MTH 251Z and (RD 115 and WR 115) or IRW 115 or equivalent placement.
- Class Meetings & Times: Tuesdays and Thursdays, 1:00PM - 3:50 PM
- Modality / Location: In Person, SCOM 318, Southeast Campus

Instructor Information

- Instructor: Miranda Ramsey
- Email: miranda.ramsey@pcc.edu
- Phone: 971-722-3542
- Office Location: Southeast Campus, SCOM 214
- Office Hours: By appointment
- School Address: Portland Community College, 12000 SW 49th Ave., Portland, OR 97219

Course Description

This course explores Riemann sums, definite integrals, and indefinite integrals for real-valued functions of a single variable. These topics will be explored graphically, numerically, and symbolically in real-life applications. This course emphasizes abstraction, problem-solving, modeling, reasoning, communication, connections with other disciplines, and the appropriate use of technology. This course is part of Oregon Common Course Numbering. MTH 252 and MTH 252Z are equivalent at PCC. The PCC Mathematics Program recommends that students take MTH courses in consecutive terms. Prerequisites: MTH 251Z and (WR 115 and RD 115) or IRW 115 or equivalent placement. Audit available. Read the [Course Content and Outcomes Guide here](#).

Learning Outcomes

Upon successful completion of this course, students should be able to:

- Approximate definite integrals using Riemann sums and apply this to the concept of accumulation and the definition of the definite integral.
- Explain and use both parts of the Fundamental Theorem of Calculus.
- Choose and apply integration techniques including substitution, integration by parts, basic partial fraction decomposition, and numerical techniques to integrate combinations of power, polynomial, rational, exponential, logarithmic, trigonometric, and inverse trigonometric functions.
- Use the integral to model and solve problems in mathematics involving area, volume, net change, average value, and improper integration.
- Apply integration techniques to solve a variety of problems, such as work, force, center of mass, or probability.

For more information, please go to the [Course Content and Outcome Guide](#) for this course.

Instructional Materials

Textbook(s)

- Our primary textbook will be [APEX Calculus](#) chapters 5, 6, and 7. This is a free textbook you can access online. You may purchase a paper copy for a small price, if you want.

Supplies

In this class, you will need:

- Pencils with erasers
- Note paper of your choice
- [Engineering paper](#) for completing your homework write-ups
- Ruler, straightedge, or protractor for drawing neat graphs. The bookstore has a bunch of nice options.

Software/Hardware/Equipment

We will be using a number of free software options in this class. To access these outside of our classroom, you will need to have access to a personal computer with a recommended browser installed. We will be accessing the following:

- [D2L Brightspace](#), our primary learning platform with PCC,
- [Desmos](#), a free online graphing calculator,
- [MyOpenMath](#), where you will complete weekly homework assignments and quizzes, and
- [Amplify Classroom](#), where we will occasionally complete lab activities.

Please visit the technology support section of [Student Support Resources](#) for a complete list of apps and tools for PCC students.

Technical Expectations

The technical requirements for the course include:

- [Technology Requirements for taking an online course at PCC](#)
- [A recommended Internet Browser installed](#)
- [Ability to use Google Drive and Google Docs](#)

- Webcam and/or microphone for meetings and online appointments

Accessibility

This course uses digital courseware, software, or texts that may cause barriers for those using assistive, or accessibility-related technologies. If you encounter barriers, please contact the Access Tech Team at access-tech-group@pcc.edu or by calling 971-722-TECH (971-722-8324).

Attendance & Participation

Students are expected to attend each scheduled class period and participate in lab activities with classmates. If a class must be missed, please contact me to ensure that you keep up with the material.

First Week Activities

During the first week of the term, instructors must record students who are not in attendance or engaging in the class. Students who have not done the following will be dropped according to PCC's [G302 Grading Guidelines policy](#).

- In order to avoid being dropped as a "No Show" student, you must complete the following activities by their deadlines:
 - Attend all of the first days of class up to the drop deadline.
 - Enroll in the MyOpenMath course and complete the first week's assignments.
 - Complete and submit the first week's lab assignments.

If you are unable to complete one of these requirements but want to remain enrolled in the class, you must speak with me to make an alternative arrangement to show engagement in the course.

Graded Assignments & Feedback

For more information, please go to the [PCC Grading Guidelines](#).

Homework

Each week will have a homework assignment on MyOpenMath. You will complete the homework in two parts.

1. First, you will answer the questions in MyOpenMath. The questions are set up to give you as many chances as you need to get the right answer. Many questions have supportive videos or explanations to help you through the problem, or another one like it. You can keep trying until you get all of the answers right.
2. Once you have gotten all of the correct answers, you will complete a homework write-up on paper. See the homework and lab guidelines posted in D2L for homework submission instructions.

Lab Work

Each day after a lecture covering the material, you will work on an activity with your group, with a Lab Document submitted at the end of class on Thursdays.

Exams

There will be three exams:

1. Thursday, April 30: Antiderivatives and Integrals
2. Thursday, May 21: Integration Techniques
3. Thursday, June 11: Comprehensive Final Exam

For each exam, a **scientific calculator** will be allowed. Calculators will be provided.

Late Work & Make-up Policy

Students are expected to complete all assignments on pace with the course. However, I understand that external things get in the way. On MyOpenMath, students are given six "latepasses" which they may use to apply extensions to their work. **All assignments must be completed before their associated exam, regardless of late passes.** Homework write-ups should be turned in the next class after the MyOpenMath homework is completed.

For assignments without late passes, I will consider giving up to 1 week extension when requested before the original due date of the assignment. If you must miss an exam, you must arrange a make-up exam with me before the day of the exam.

The final exam is a cutoff for all work in the class.

Grading Criteria

Please read over all assignments and discussion prompts in advance and reach out if you have any questions or if you want to confirm you understand them correctly. Clarifying questions will help you avoid deductions in your grades. Learn more about the [Grading Guidelines at PCC](#).

Activities	Weight %
Lab	15%
Homework	20%
Exam 1	20%
Exam 2	20%
Final Exam	25%
Total	100%

Grading Scale

Letter Grade	Grading Scale by Percentage
A	90 - 100%
B	80 - 89%
C	70 - 79%
D	60 - 69%
F	< 59%

PCC Policies and Deadlines

Visit the [PCC Policies](#) page for information on:

- Academic Integrity Policy
- Accessibility Statement & Resources
- Drop/Withdraw Deadlines
- Grading Policy
- Internet Etiquette
- PCC Payment Policy
- PCC Registration Policy
- Sanctuary College

- Student Rights and Responsibilities
- Title IX/Non-Discrimination

Drop/Withdraw Deadlines

A student is responsible to add/ drop/ withdraw classes. Please review [PCC Registration Policy](#) for more information.

Add and Drop Deadlines

- Students need to register online via MyPCC. Please review the [Online Registration Instructions](#) to find out how.
- For 8-12 week classes, students need to drop out by the end of the first week of classes. Students can view course specific deadlines from the MyPCC Home tab, 'View My Drop & Withdraw Dates' link.
- For late add, students must add within two business days of the course drop deadline.

Accommodations and Services

PCC is committed to supporting all students. If you plan to use academic accommodations for this course, please contact your instructor as soon as possible to discuss your needs. Accommodations are not retroactive; they begin when the instructor receives the “Approved Academic Accommodations” letter from you (submitted in person for courses on campus; via email for Online Learning courses). To request academic accommodations for a disability, please contact an Accessible Education & Disability Resources counselor on any PCC campus. Office locations, phone numbers, and additional information may be located on the [Accessible Education & Disability Resources website](#).

Student Rights and Responsibilities

Students are required to complete this course in accordance with the [Student Rights and Responsibilities Handbook](#). The Handbook establishes students' freedoms and protections as well as expectations of appropriate behavior and ethical academic work. The Handbook includes items such as the Policy on Student Rights, and the Student Code of Conduct Policy and Procedures.

Generative AI Statement

The use of generative AI tools, including but not limited to ChatGPT, to complete your work is strictly prohibited and will be considered equivalent to unauthorized sharing of work or plagiarism. **All AI use is strongly discouraged, even as a study tool.** I want to help you build a strong internal understanding of the material without relying on outside tools. If you have a question or need help, please reach out to me instead. In return, **I promise that I will not use generative AI in my relationship with you as your instructor.** Any feedback you receive on your work will be my authentic human response to you.

Academic Integrity (rules about cheating, plagiarism, or sharing work)

The handbook contains the Code of Student Conduct and the Academic Integrity Policy. Cheating includes any attempt to defraud, deceive, or mislead the instructor in arriving at an honest grade assessment, and may include copying answers from other students or using unauthorized notes during tests. Plagiarism is a particular form of cheating that involves presenting as one's own the ideas or work of another and may include using other people's ideas without proper attribution and submitting another person's work as one's own. Dishonest activities such as cheating on exams and submitting or copying work done by others will result in disciplinary actions including but not limited to receiving a failing grade. For further information, review the institution's [Academic Integrity Policy](#).

Internet Etiquette (or Netiquette)

[Click here for more information about Netiquette.](#)

Sanctuary College Statement

PCC is a sanctuary college. For more information and resources, see the [resources for undocumented students page](#).

Inclement Weather Statement

Our course is typically unaffected by college campus and facility closures or delayed class start times. Our regular due dates [and Zoom class meeting times (if a remote class)] apply. However, if PCC must close all operations, our regular due dates will be adjusted accordingly. Please check your email for my instructions and continue to check Brightspace during closures.

Flexibility Statement

The instructor reserves the right to modify course content and/or substitute assignments and learning activities in response to institutional, weather, or class situations.

Course Calendar

This calendar is subject to change. Any changes to content or due dates will be communicated to students in writing.

Week	Tuesday	Thursday	Assignments
1	April 7 Introduction Calculus Review Antiderivatives	April 9 Approximate Areas	Prerequisite Assignment due 4/10 Homework 1 due 4/10 HW Write-up due 4/14 Lab 1 in class
2	April 14 Definite Integrals	April 16 Fundamental Theorem of Calculus	Homework 2 due 4/17 HW Write-up due 4/21 Lab 2 in class
3	April 21 Substitution	April 23 Substitution	Homework 3 due 4/24 HW Write-up due 4/30 Lab 3 in class
4	April 28 CLOSED	April 30 Exam 1	
5	May 5 Integration by Parts	May 7 Partial Fractions	Homework 4 due 5/8 HW Write-up due 5/12 Lab 4 in class
6	May 12 Numerical Integration	May 14 Improper Integration	Homework 5 due 5/15 HW Write-up due 5/19 Lab 5 in class
7	May 19 Review	May 21 Exam 2	
8	May 26 Area Between Curves Arc Length	May 28 Volume by Slicing	Homework 6 due 5/29 HW Write-up due 6/2 Lab 6 in class
9	June 2 Volume Shell Method	June 4 Physical Applications	Homework 7 due 6/5 HW Write-up due 6/9 Lab 7 in class
10	June 9 Review	June 11 Final Exam	

