

Syllabus: MA 162 (Flipped)

Plane Analytic Geometry and Calculus II, Spring 2025

Course Description

This section of Calculus II is designed in a flipped style. Instead of 150 minutes per week with the lecturer, you will only have 75 minutes. The class will meet on Tuesdays for a 75-minute session devoted to group work, active learning, and problem solving. There will also be recitation sections twice a week. An important difference from traditional calculus is that these 75-minute sessions will not “cover” the material; instead, you will watch pre-recorded lecture videos posted on Brightspace. The purpose of the 75-minute active learning sessions is to help students understand difficult concepts, engage in critical thinking, and learn together with your TA and Professor Sunkula.

Course Objectives

1. Apply techniques of integration (integration by parts, trigonometric substitution, and partial fractions).
2. Compute areas of planar regions, volumes of solids of revolution, and areas of surfaces of revolution, work, moments, and centers of mass of homogeneous lamina.
3. Apply tests of absolute convergence of series to find the interval of convergence of some power series.
4. Find the Taylor and Maclaurin series of some exponential, rational, and trigonometric functions.
5. Use polar coordinates to sketch the graphs of some curves.
6. Understand the definition of a Riemann sum and apply elementary approximation methods of integration.

Meeting Times & Attendance Policy

Instructor	Session Type	Day	Time	Location
Dr. Mahesh Sunkula	Active Learning	Tuesday	12:00 pm - 1:15 pm	WALC 3087
Alexander Hsu	Recitation	Wednesday, Friday	8:30 am - 9:20 am	LILY G401
Alexander Hsu	Recitation	Wednesday, Friday	9:30 am - 10:20 am	LILY G401
Sarah Anderson	Recitation	Wednesday, Friday	2:30 pm - 3:20 pm	BHEE 236

Attendance is mandatory for this class as it is structured around active learning. Excuses must be approved by Professor Sunkula.

Instructor's Contact Information

Instructor's contact information and office hours are listed below. Note that office hours are subject to change and will be announced on Brightspace.

Instructor	E-mail	Office Location	Office Hours
Dr. Mahesh Sunkula	msunkula@purdue.edu	MATH 842	Monday, Wednesday: 1pm - 2pm Tuesday: 1:30pm - 2:30pm Schedule a meeting

Communication

Due to the large number of students in this class, for most questions (in particular for questions about deadlines, grading disputes, or technical issues) it is recommended that you first read the Course Syllabus and Calendar carefully and, if you have questions, email your TA

Course Webpages & Calendar

Course information and resources such as lecture Boilercast recordings, lecture notes, announcements, important links, and MyLabMath should be accessed through your Brightspace course page at <http://purdue.brightspace.com>. Additionally, general course information and a detailed course calendar can be found on the following webpages:

<https://www.math.purdue.edu/MA161>

<https://sites.google.com/view/msunkula/teaching/ma161/f24/calendar-flipped>.

Required Materials

Students are required to have an access code for the *Pearson MyLabMath* platform. A physical textbook is NOT required. A digital version of the textbook is included in MyLabMath. For reference, the textbook is *Calculus, Early Transcendentals, (Third Edition)* by Briggs, Cochran, Gillett, Schulz. There is a two week grace period before you must purchase an access code. If you have taken more than one semester of calculus, the full access code (multi-semester) is good for all the Calculus courses (MA 16100, MA 16200, MA 16500, MA 16600, and MA 26100) since they use the same textbook.

Grades

Course grades will be determined from your overall score computed as follows:

Group Presentations	2%
Flipped Session Activities	7%
Worksheets	7%
Quizzes	7%
Homework	14%
Midterm Exam 1	14%
Midterm Exam 2	14%
Midterm Exam 3	14%
Final Exam	21%

The minimum percentages to get each grade are:

A+	97%
A	93%
A-	90%
B+	87%
B	83%
B-	80%
C+	77%
C	73%
C-	70%
D+	67%
D	60%

For each of these grades, it's possible that at the end of the semester a somewhat lower percentage will be enough to get that grade. (In other words, the lowest percentage to get, for example, an A could be lower but will not be higher than 93%.)

Assessments

Group Presentations

During the first week of classes, students will be divided into groups of three to four, and each group will be assigned a unique number. At the end of each Tuesday session, two groups will be randomly selected to deliver a 10-minute presentation during the following week's session.

Flipped Session Activities

There are 14 mandatory Tuesday flipped sessions throughout the semester (the session during the quiet period is not mandatory). You can earn 5 points per session by attending the in-person session and actively participating in group activities and problem-solving tasks. Points for these activities will be tracked via iClicker.

Make-ups for missed sessions will not be allowed. However, alternative opportunities—such as surveys and problem sets—will be available to recover missed points. This component of your grade is significant, and your active involvement and consistent attendance are essential for your success in this course.

Worksheets

Every Wednesday during the recitation session, you will work on a worksheet with your group, based on the same topics that were covered in the Tuesdays flipped session. Completed worksheets must be submitted on Brightspace by 11:59pm on Wednesday. Each worksheet is worth 10 points: 2 points for Wednesday’s recitation session attendance, 4 points for completeness, 4 points for the correctness of two selected problems.

Quizzes

A quiz will be held during recitation every Friday, covering material from the week’s flipped session, worksheet, and homework. Please see the [calendar](#) for quiz schedule.

Homework

There are a total of 35 online assignments (numbered 1 - 35) using *MyLabMath*. *Pearson MyLabMath* is accessed through the [Brightspace](#) course page. Due dates and times are listed in the MyLab Math system and on the course calendar. Generally, homework from the topics on the tuesday’s flipped session are due Thursday at 11:59pm.

Students have unlimited attempts on each question. However, after three incorrect tries, the coefficients in the question will change. Note that incorrect submissions do not result in a loss of points. Contact your TA if you have unresolved concerns over how a homework problem was scored.

There are many questionable resources (excessive calculator use, online solvers, answer-sharing websites, etc.) that you may be tempted to utilize when completing the homework; availing yourself of these shortcuts means you are not only missing the opportunity to internalize the problem-solving concepts, but also disregarding chances to self-assess your understanding and computational fluency. Poor homework habits will show up in poor quiz and exam results.

Exams

There will be three midterm exams and a final. Dates, times & locations of midterm exams are listed below:

Exam	Date	Time	Location
Exam 1	February 13	8:00pm - 9:00pm	ELLT 116
Exam 2	March 13	6:30pm - 7:30pm	ELLT 116
Exam 3	April 17	8:00pm - 9:00pm	TBD

Details about the final exam will be announced later in the semester by the registrar’s office.

All exams are course-wide, multiple-choice and machine-graded. There is no partial credit on the exams, only what is marked on the scantron will be graded. You are not permitted to use calculators, books, notes, electronic devices, websites, or to consult a peer or any other person on the exams. Exam scores are final and there are no exam re-takes.

Policy on Missed Homework, Quiz & Exam

Timely submission of homework is required; late submissions will not be accepted. No makeup quizzes will be provided. To accommodate the challenges of a course of this scale, at the conclusion of the semester, the three lowest homework scores, two lowest quiz scores and two lowest worksheet scores will be dropped. This accounts for unforeseen circumstances such as appointments, oversights, accidents, illnesses, or emergencies that may cause students to miss class or a homework deadline, aligning with the universal “drop” policy.

Students compelled to miss class due to approved absences by the Office of the Dean of Students should promptly reach out to the office of the Dean of Students, the lecturer, and the TA. Quizzes missed due to approved absences may be exempted by the TA from the overall total. Please visit the webpage: <https://www.purdue.edu/advocacy/students/absences.html> to see the list of approved absences.

Negotiations for alternate exams due to exceptional circumstances should be conducted with the lecturer, with in 24 hours of the exam start time. Students arriving more than 20 minutes late to an exam will not be permitted to take it. They must immediately contact the lecturer to seek permission for a makeup exam, and grade penalties may apply.

Important Dates

Last day to drop the course without it being recorded: **Friday, January 27**

Last day to drop the course and receive a W: **Friday, April 18**

Please see the [Purdue University Academic Calendar](#) for other important dates.

Transfers

If you transfer recitation sections, it is your responsibility to notify the TA of the new section so that he or she can ensure that your MyLabMath scores are transferred.

Calculators

Calculators are not allowed on exams or quizzes. It is important that you learn to do simple manipulations by hand.

TA Office Hours

You may attend any of the [scheduled hours](#) in the Math Resource Room. The purpose of the MRR is to foster student learning. The MRR is a space for students to work collaboratively and for instructors to answer questions over course material and go through similar homework problems. The instructors will not do your exact homework problems. Instead, they will go through a similar problem with you to give you another example to work through. This is more beneficial for you, since it better prepares you for quizzes and exams.

Supplemental Instruction:

There are Supplemental Instruction (SI) study sessions available for this course. These study groups are open to anyone enrolled in this course who would like to stay current with the course material and understand the material better. Attendance at these sessions is voluntary, but extremely beneficial for those who attend weekly. Times and locations for the study session can be found here: www.purdue.edu/si. Students who attend these interactive sessions will find themselves working with peers as they compare notes, demonstrate and discuss pertinent problems and concepts, and share study and test-taking strategies. Students are asked to arrive with their student ID card, lecture notes and questions to these informal, peer-led study sessions.

Tutoring

“[Women in Science and Engineering Tutoring Program](#)” offers free evening tutoring. “[COSINE](#)” offers free evening tutoring for Math, Biology, and Chemistry in Shreve Hall’s University Residences Support Center. Here is a list of math tutors for hire: www.math.purdue.edu/academic/tutor/.

Academic Adjustments for Students with Disabilities

Purdue University strives to make learning experiences accessible to all participants. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let your instructors know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone: 765-494-1247. If you have been certified by the Disability Resource Center (DRC) as eligible for accommodations, you should contact your recitation TA to discuss your accommodations as soon as possible. You should send your Course Accessibility Letter to your recitation TA and also to the professor; here are instructions for how to do this www.purdue.edu/drc/students/course-accessibility-letter.php

CAPS Information

Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765)494-6995 and www.purdue.edu/caps during and after hours, on weekends and holidays, or by going to the CAPS office, room 224 of the Purdue University Student Health Center (PUSH) during business hours.

Commercial Note Taking in Classes

Notes taken in class are generally considered to be “derivative works” of the instructor’s presentations and materials, and they are thus subject to the instructor’s copyright in such presentations and materials. No individual is permitted to sell or otherwise barter notes, either to other students or to any commercial concern, for a course without the express written permission of the course instructor. See University Senate Document 03-9, April 19, 2004.

Academic Dishonesty

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

Purdue prohibits “dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty.” [Part 5, Section III-B-2-a, University Regulations] Furthermore, the University Senate has stipulated that “the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest.” [University Senate Document 72-18, December 15, 1972]. For more details about the Purdue Policy on academic dishonesty see: <http://www.purdue.edu/odos/academic-integrity/>

Course and Instructor Evaluations

During the last two weeks of the semester, you will be provided an opportunity to evaluate this course and your instructor(s) through online course evaluations. On Monday of the 14th week of classes, you will receive an official email from evaluation administrators with a link to the online site. You will have two weeks to complete this evaluation. Your participation in this evaluation is an integral part of this course. Your feedback is vital to improving education at Purdue University. We strongly urge you to participate in the evaluation system.

Other Issues

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor’s control. To get information about changes in this course please check Brightspace regularly.