University of Wisconsin-Madison

Math 221 - Calculus and Analytic Geometry I

Credits: 5

https://canvas.wisc.edu/courses/

Course Designations and Attributes:

Gen Ed - Quantitative Reasoning Part B
Breadth - Natural Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S

Meeting Time and Location:

MWF 8:50-9:40am in B102 Van Vleck Hall

Instructional Mode: blended

Specify how Credit Hours are met by the Course:
The five credit hours are met by two 75-minute meetings and two 50-minute meetings and a minimum of ten hours of out of class student work per week for 15 weeks.

INSTRUCTORS AND TEACHING ASSISTANTS

Instructor Title and Name: Betsy Stovall, Associate Professor, Mathematics

Instructor Email/Preferred Contact: stovall@math.wisc.edu, 721 Van Vleck Hall

Teaching Assistants:

Will Hardt, Aidan Howells, Jiaxin Jin, Amelia Stokolosa, Chaojie Yuan
TA Email/Preferred Contact:

Will Hardt whardt@wisc.edu, 820 Van Vleck Hall
Aidan Howells ahowells@wisc.edu, 516 Van Vleck Hall
Jiaxin Jin jjin43@wisc.edu, 416 Van Vleck Hall
Amelia Stokolosa stokolosa@wisc.edu, 616 Van Vleck Hall
Chaojie Yuan cyuan25@wisc.edu, 416 Van Vleck Hall

OFFICE HOURS

Instructor:

- Mondays 2:30-3:30, Tuesdays 3-4, and Fridays 10-11 in 721 Van Vleck

TA Office/Office Hours

- See the office hours link within Canvas for the most up-to-date TA office hours.

Feel free to attend any of the office hours listed on Canvas. You can attend the office hours of any of the TAs listed above, not just your own.

OFFICIAL COURSE DESCRIPTION

Course Description
Introduction to differential and integral calculus and plane analytic geometry; applications; transcendental functions.

Requisites

Math 114 or (Math 112 and 113) or placement into Math 221.
Math 211 or Math 213 does not fulfill the requisite.

LEARNING OUTCOMES

Course Learning Outcomes

In the disciplinary or interdisciplinary context of a course, students will:

Manipulate quantitative information to create models, and/or devise solutions to problems using multi-step arguments, based on and supported by quantitative information.
Evaluate models and arguments using quantitative information.

Express and interpret in context models, solutions and/or arguments using verbal, numerical, graphical algorithmic, computational or symbolic techniques.

By the end of Math 221 you should be able to:

- Apply differential calculus to quantify rates of change, and in particular to model physical and biological phenomena.
- Analyze the behavior of functions of one variable, including their asymptotic behavior, local behavior and existence of extrema.
- Apply integral calculus to model the cumulative effects of continuous processes.
- Articulate mathematical knowledge and understanding of differential and integral calculus in a written context.

GRADING
Midterm 1 - 27%
Midterm 2 - 27%
Final exam - 27%
Discussion quizzes - 8%
Online homework - 6%
Group project - 2%
Module quizzes - 2%
In-class activities - 1%

LETTER GRADES: your total scores will be rounded up (by up to .99%), and fit on the following curve:
A - 90%
AB - 88%
B - 80%
BC - 78%
C - 70%
D - 60%
F - less than 60%

REQUIRED TEXTBOOK, SOFTWARE & OTHER COURSE MATERIALS
- Stewart Calculus 8e ebook, Chapters 1-6
- WebAssign
EXAMS, QUIZZES, PAPERS & OTHER MAJOR GRADED WORK

There will be two midterms and a final for this course. The final exam will be cumulative. The dates for these exams are

- Midterm 1: Tuesday February 25, 5:30-7:00 pm
- Midterm 2: Tuesday April 7, 5:30 - 7:00 pm
- Final exam: Monday May 4, 7:25-9:25 pm

All exams are closed book, closed notes and no calculators or electronic devices of any kind are allowed

HOMEWORK & OTHER ASSIGNMENTS

- Quizzes

There will be weekly quizzes during discussion. Quiz content and grades are managed by your TA. The two lowest quizzes will be dropped. It is your responsibility to save these drops for personal emergency situations. Makeup quizzes will not be given.

- Homework

There will be weekly online homework assignments, available on the Canvas site. Homework will be assigned on Friday evening, and will be due the following Thursday by 11:55PM. Since it is quite likely that in the course of the semester you will either experience a technical difficulty (e.g., missed the deadline, your computer shut down as you were submitting it, internet outage, etc) or a personal emergency (being sick, attending a funeral, etc), the four lowest HW scores will be dropped. You do not need to contact your TA or instructor if such a situation does come up.

- Group Project

There will be one group project. This project is intended to deepen your understanding of the course material and help you develop mathematical writing skills. You will be given more information when it is assigned.

- Modules

Modules will be posted on the Canvas site every Tuesday by 5:00PM, and will be due the following Sunday by 11:55PM. Modules will help you prepare for the upcoming lecture and/or review relevant material you’re expected to already know. Since it is quite likely that in the course of the semester you will either experience a technical difficulty (e.g., missed the deadline, your computer shut down as you were submitting it, internet outage, etc) or a personal emergency (being sick, attending a funeral, etc), the four lowest module quiz scores will be dropped.

- In-class activities

You may be given some problems to work on during class. You will be given more info about the different activities in class. The problems will be submitted as files to Canvas and graded only based on completion -
the goal of these exercises is for you to try them on your own and with your peers, you're not expected to or required to get the correct answer.

RULES, RIGHTS & RESPONSIBILITIES

● See the Guide’s Rules, Rights and Responsibilities

PIAZZA

There is a Piazza page for this course. This page is a forum for you to discuss the material of this class with other students. Posts to this page should be confined to questions regarding the material and logistical questions about the class (e.g., exam dates and locations). Any posts containing comments (either positive or negative) about the instructors, the class, the students, or anything else, will be deleted. Unprofessional conduct may result in disciplinary action. Please do not use email for math questions.

COLLABORATION

We encourage you to discuss topics from the course with other students. In particular, you may collaborate on the homework and modules/module quizzes. Collaboration is NOT allowed during discussion quizzes and/or exams.

ACADEMIC INTEGRITY

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison’s community of scholars in which everyone’s academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to studentconduct.wiscweb.wisc.edu/academic-integrity/.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

McBurney Disability Resource Center syllabus statement: “The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA.”
http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php

DIVERSITY & INCLUSION
Institutional statement on diversity: “Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.” [https://diversity.wisc.edu/](https://diversity.wisc.edu/)