



University of Wisconsin-Madison

Math 221 - Calculus and Analytic Geometry I

Credits: 5

<https://canvas.wisc.edu/courses/212339>

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:

Asynchronous video lectures - Course Canvas site

Instructional Mode: online

Specify how Credit Hours are met by the Course: The five credit hours are met by five 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: Brian Hepler (van vleck visiting assistant professor)

Instructor Email/Preferred Contact: bhepler@wisc.edu

Teaching Assistants:

Rebecca Eastham (TA coordinator), Shi Chen, Karan Srivastava, Sophia Wiedmann, Jiaqi Hou, Zheng Lu

TA Email/Preferred Contact:

Rebecca Eastham: reastam@wisc.edu
Shi Chen: schen636@wisc.edu
Karan Srivastava: ksrivastava4@wisc.edu
Sophia Wiedmann: swiedmann@wisc.edu
Jiaqi Hou: jhou39@wisc.edu
Zheng Lu: zhenglu@math.wisc.edu

OFFICE HOURS

Instructor:

Tues 19-20/ Wed 13-14

TA Office/Office Hours:

Rebecca Eastham: Wed 13-14/ Thur 12-13
Shi Chen: Thur 17-18/ Sun 17-18
Karan Srivastava: Wed 14-15/ Fri 12-13
Sophia Wiedmann: Mon 13-14/ Fri 15:30-16:30
Jiaqi Hou: Mon 10-11/ Tues 13:15-14:15
Zheng Lu: Tues 8:30-9:30/ Thur 8:30

Feel free to attend any of the office hours listed above. You can attend the office hours of any of the TAs listed above, not just your own. They will be hosted online.

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.

STUDENTS' RULES, RIGHTS & RESPONSIBILITIES

During the global COVID-19 pandemic, we must prioritize our collective health and safety to keep ourselves, our campus, and our community safe. As a university community, we must work together to prevent the spread of the virus and to promote the collective health and welfare of our campus and surrounding community.

UW-MADISON BADGER PLEDGE

UW-MADISON FACE COVERING GUIDELINES

While on campus all employees and students are required to wear appropriate and properly fitting face coverings while present in any campus building unless working alone in a laboratory or office space.

Face Coverings During In-person Instruction Statement (COVID-19)

Individuals are expected to wear a face covering while inside any university building. Face coverings must be [worn correctly](#) (i.e., covering both your mouth and nose) in the building if you are attending class in person. If any student is unable to wear a face-covering, an accommodation may be provided due to disability, medical condition, or other legitimate reason.

Students with disabilities or medical conditions who are unable to wear a face covering should contact the [McBurney Disability Resource Center](#) or their Access Consultant if they are already affiliated. Students requesting an accommodation unrelated to disability or medical condition, should contact the Dean of Students Office.

Students who choose not to wear a face covering may not attend in-person classes, unless they are approved for an accommodation or exemption. All other students not wearing a face covering will be asked to put one on or leave the classroom. Students who refuse to wear face coverings appropriately or adhere to other stated requirements will be reported to the [Office of Student Conduct and Community Standards](#) and will not be allowed to return to the classroom until they agree to comply with the face covering policy. An instructor may cancel or suspend a course in-person meeting if a person is in the classroom without an approved face covering in position over their nose and mouth and refuses to immediately comply.

QUARANTINE OR ISOLATION DUE TO COVID-19

Student should continually monitor themselves for COVID-19 [symptoms](#) and get [tested](#) for the virus if they have symptoms or have been in close contact with someone with COVID-19. Student should reach out to instructors as soon as possible if they become ill or need to isolate or quarantine, in order to make alternate plans for how to proceed with the course. Students are strongly encouraged to communicate with their instructor concerning their illness and the anticipated extent of their absence from the course (either in-person or remote). The instructor will work with the student to provide alternative ways to complete the course work.

GRADING

Exam 1 - 8% (5% for online component and 3% for written component)
Exam 2 - 8% (5% for online component and 3% for written component)
Exam 3 - 8% (5% for online component and 3% for written component)
Exam 4 - 8% (5% for online component and 3% for written component)
Exam 5 - 8% (5% for online component and 3% for written component)
Exam 6 - 8% (5% for online component and 3% for written component)
Exam 7 - 8% (5% for online component and 3% for written component)
Exam 8 - 8% (5% for online component and 3% for written component)
Exam 9 - 8% (5% for online component and 3% for written component)
Exam 10 - 8% (5% for online component and 3% for written component)
Final exam - 8% (5% for online component and 3% for written component)
Online homework - 6% (4 drops)

Group project - 1%

Module quizzes - 2% (4 drops)

Lecture activities - 2% (4 drops)

Participation - 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 ten midterms and a final for this course. All exams will be cumulative. The dates for these exams are

- Exam 1: Thursday September 17
- Exam 2: Thursday September 24
- Exam 3: Thursday October 1
- Exam 4: Thursday October 8
- Exam 5: Thursday October 15
- Exam 6: Thursday October 22
- Exam 7: Thursday October 29
- Exam 8: Thursday November 12
- Exam 9: Thursday November 19
- Exam 10: Thursday December 3
- Final exam: Thursday December 14, 12:25-2:25 pm

All exams are online. Use of a computer is required. Blank scratch paper is allowed. Exams are locked browser, and no calculators, phones, tablets, or electronic devices of any kind (other than the computer) are allowed. We will use the online proctoring tool Honorlock.

Honorlock is an online proctoring service that allows you to take your exam from the comfort of your home. You DO NOT need to create an account, download software or schedule an appointment in advance. Honorlock is available 24/7, and all that is needed is a computer, a working webcam/microphone, your ID, and a stable internet connection.

To get started, you will need Google Chrome and download the Honorlock Chrome Extension.

When you are ready to complete your assessment, log into Canvas, go to your course, and click on your exam within the Honorlock Navigation tab. Clicking "Launch Proctoring" will begin the Honorlock authentication process, where you will take a picture of yourself, show your ID, and complete a scan of your room. Honorlock will be recording your exam session through your webcam, microphone, and recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers, even if it's on a secondary device.

Honorlock support is available 24/7/365. If you encounter any issues, you may contact them through live chat on the support page or within the exam itself. For more information visit <https://honorlock.com/> and <https://kb.wisc.edu/103206#toc1>.

Failure to use the proctoring service assigned will result in zero on exams.

Privacy of Student Information and Digital Proctoring Statement

The privacy and security of faculty, staff and students' personal information is a top priority for UW-Madison. The university carefully reviews and vets all campus-supported teaching and learning tools, including proctoring tools and takes necessary steps to ensure that tool providers prioritize proper handling of sensitive data in alignment with FERPA, industry standards and best practices.

Under the Family Educational Rights and Privacy Act (FERPA – which protects the privacy of student education records), student consent is not required for the university to share with Honorlock those student education records necessary for carrying out the proctoring service. 34 CFR 99.31(a)(1)(i)(B). FERPA specifically allows universities to treat vendors as school officials and to share student education records with them where they perform services for the university and are subject to FERPA requirements governing the use and redisclosure of personally identifiable information from education records. Honorlock is FERPA compliant and is bound by the terms of its agreement with the university to comply with FERPA's restrictions on the use of student education records.

HOMEWORK & OTHER ASSIGNMENTS

- Homework

There will be weekly online homework assignments, available on the Canvas site. Homework will be due Wednesdays 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. You will be given more information when it is assigned.

- Modules

Modules are due Sundays by 11:55PM. Modules will help you prepare for 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.

- **Lecture activities**

You may be given some problems to work on during class (or class videos).. The problems are to 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.

- **Participation**

Participation will measure student engagement (examples include participation in discussion sessions, Piazza posts and answers, etc.).

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.

PRIVACY OF STUDENT RECORDS and the USAGE of AUDIO RECORDED LECTURES

See information about [privacy of student records and the usage of audio-recorded lectures](#).

Usage of Audio Recorded Lectures Statement

Lecture materials and recordings for [insert class name] are protected intellectual property at UW-Madison. Students in this course may use the materials and recordings for their personal use related to participation in this class. Students may also take notes solely for their personal use. If a lecture is not already recorded, you are not authorized to record my lectures without my permission unless you are considered by the university to be a qualified student with a disability requiring accommodation. [Regent Policy Document 4-1] Students may

not copy or have lecture materials and recordings outside of class, including posting on internet sites or selling to commercial entities. Students are also prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor's express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university's policies, UWS Chapters 14 and 17, governing student academic and non-academic misconduct.

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/>

COURSE EVALUATIONS

Students will be provided with an opportunity to evaluate this course and your learning experience. Student participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.

Digital Course Evaluation (AEFIS)

UW-Madison now uses an online course evaluation survey tool, AEFIS. In most instances, you will receive an official email two weeks prior to the end of the semester when your course evaluation is available. You will receive a link to log into the course evaluation with your NetID where you can complete the evaluation and submit it, anonymously. Your participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.