University of Wisconsin-Madison

Math 222 - Calculus and Analytic Geometry II

Credits: 4

https://canvas.wisc.edu/courses/183649

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: TR 9:30-10:45 VVB102

Instructional Mode: blended

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

INSTRUCTORS AND TEACHING ASSISTANTS

Instructor Title and Name: Assoc. Prof. Mariya Soskova

Instructor Availability: MF 3:30PM-4:00PM and W 9:00AM-10:00AM

Instructor Email/Preferred Contact: msoskova@math.wisc.edu

Teaching Assistants:
Bentsen, Geoffrey
Srivastava, Rajula
Yao, Liding
Jiang, Ruofan
YU, Polly
Dalby, Ewan

01/23/18
TA Email/Preferred Contact: Please use Piazza for most questions.
Bentsen, Geoffrey  gbentsen@wisc.edu
Srivastava, Rajula  rsrivastava9@wisc.edu
Yao, Liding        lyao26@wisc.edu
Jiang, Ruofan      rjiang32@wisc.edu
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Dalby, Ewan        edalby@wisc.edu

TA Office / Office hours:
See on canvas

OFFICIAL COURSE DESCRIPTION

Course Description
Techniques of integration, improper integrals, first order ordinary differential equations, sequences and series, Taylor series, vector geometry in two and three dimensions

Requisites
MATH 217, 221, or 275. MATH 211 or 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 222 you should be able to:

- Apply a variety of integration techniques to find and analyze the solutions to differential equations and initial value problems.
- Compare the size and behavior of functions, and use these comparisons to analyze the convergence of integrals.
● Derive and manipulate asymptotic expansions of functions, and use these expansions to understand the properties of the functions they approximate.

● Describe objects in three dimensional space and how they interact with each other.

● Describe physical and biological phenomena using mathematical models.

● 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% (2 drops)
Online homework - 6% (4 drops)
Group project - 2%
Module quizzes - 2% (4 drops)
In-class activities - 1% (2 drops)

A - 90%
AB - 88%
B - 80%
BC - 78%
C - 70%
D - 60%
F - below 60%

REQUIRED TEXTBOOK, SOFTWARE & OTHER COURSE MATERIALS

● Stewart Calculus 8e ebook
● 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: Wednesday, February 26, 5:30-7:00 pm
- Midterm 2: Wednesday, April 1, 5:30 - 7:00 pm
- Final Exam: TBA

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 due Thursdays 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. No makeups or extensions will be given.

- **Group Project**

  There will be one group project during the semester. 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 due Sundays 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. No makeups or extensions will be given.

- **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 collected as online file submissions in 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. The two lowest (empty) submissions will be dropped. It is your responsibility to save these drops for personal emergency situations. Makeup submissions or deadline extensions will not be given.

**RULES, RIGHTS & RESPONSIBILITIES**

- See the Guide’s Rules, Rights and Responsibilities

**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**

01/23/18
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/)