Math 155: Multivariable Calculus
Fall 2025, 1:50-3:00pm, West Campus 220

Instructor: Liz Sattler (she/her)
Office: West Campus 232
Email: sattlere@lawrence.edu (Please contact me by email! It is the fastest way to get a response from me.)
Student hours: Monday, Wednesday, Thursday, Friday 3-4pm

Prerequisites: MATH 140 (or equivalent) and score of 75 on ALEKS placement assessment
Textbook for course: Calculus – Volume 2 and 3 on Openstax.
Link to text: https://openstax.org/details/books/calculus-volume-2 (Volume 2)
https://openstax.org/details/books/calculus-volume-3 (Volume 3)
Required software: we will use Derivita for daily homework assignments. Derivita costs $40 for the term, and this must be paid within the first two weeks.

Course overview: The course topics will include: integration techniques, vectors, multivariable functions, partial derivatives, optimization of multivariable functions, double and triple integrals. In order to fully understand these topics, you must have a strong understanding of algebra, functions, single-variable calculus, some geometry and trigonometry. If you need review on these topics, please take advantage of the ALEKS learning modules that are available to you and the Openstax textbook for single variable calculus (https://openstax.org/details/books/calculus-volume-1).
Learning Outcomes: By the end of this course, you should be able to:

(1) Content specific outcomes:
   a. Define and analyze functions of two variables
   b. Compute partial and directional derivatives
   c. Find and interpret gradients and tangent planes
   d. Solve multivariable optimization problems
   e. Set up and evaluate double and triple integrals using rectangular, polar, and spherical coordinates.
(2) Solve unfamiliar problems independently u
(3) Read and interpret mathematical text and examples at an introductory level
(4) Clearly express your reasoning behind your solutions

Grading: The grading breakdown for this class will be as follows:

Perusall Activity:	**5%**
Derivita:	**5%**
Weekly Homework:	**10%**
Quizzes:	**15%**
Exams:	**40%**
Final exam:	**25%**

I will use a 90/80/70/60 scale for your letter grade (A/B/C/D). +/- cutoffs will be placed above _7.5% (+) and below _2.5% (-). I will not curve grades and will not give extra credit in this course.

Course policies:

- **Perusall**
  - To earn points for your Perusall grade, you must complete the assigned reading and submit questions and/or comments.
  - You will have assigned reading **due the night before each class at 11:59pm.**
  - You will receive zero credit after the due date.
- **Derivita**
  - Derivita is an online homework system that you will use for short, frequent assignments. You can access the assignments through Canvas.
  - You will have a Derivita assignment **due the night before each class (11:59pm)**, unless otherwise noted. You will receive zero credit for late work.
  - These problems are graded automatically and you have an unlimited number of attempts.
- **Homework**
  - Written homework assignments will be due **Mondays at 11:59pm**. You will submit them on Gradescope.
  - These problems will be graded on accuracy and quality of explanations or justification. Partial credit will be awarded.
  - You will receive **zero credit for late homework**.
  - I will drop your lowest homework score.
- **Quizzes:**
  - We will take quizzes in class most weeks (usually on Wednesday).
  - Quizzes will consist of 2-3 problems that are similar to written homework and Derivita problems.
  - You must notify me BEFORE class if you will miss a quiz for an acceptable reason (illness, extracurricular activity, etc.). If you fail to notify me before the quiz, you will not get to retake the quiz.
  - You will not be allowed to use notes, calculators, textbooks, etc. on quizzes.
- **Exams**
  - You will take two exams in this course: **October 8 (Week 4)** and **November 3 (Week 8)**
  - You must take the exams in class. If you must miss an exam for an acceptable reason (illness, extracurricular activity, etc.), you MUST notify me BEFORE the start of the exam. Documentation may be requested.
  - There will be no opportunities for retakes or extra credit on exams.
- **Final Exam**
  - The final exam will be given on **Tuesday, November 25th at 8:00-10:30am.**
  - You MUST take the exam at this time and you MUST take the exam in person.

Attendance policy:

- To succeed in this class, you need to be present and engaged.

- You are allowed two unexcused absences in this course. For each unexcused absence beyond this, your final letter grade will drop by one step.
- Examples: if you finish the course with a B but you miss 3 classes, your final grade will be a B-.
- If you need to miss class due to illness, athletic events, religious observations, emergencies, please notify me as soon as possible (preferably BEFORE class) and I will excuse the absence.

Academic Integrity: Academic integrity is vital to every class you take at Lawrence University. Each student is responsible for knowing and maintaining the standards of academic integrity put forth in the Lawrence University Honor Code. Your instructors expect that you have a clear understanding of the Honor Code and that you will adhere to it at all times. Academic dishonesty will not be tolerated. The following actions are **PROHIBITED** in this class (and any violations will be reported to the Honor Council):

- Use of online websites, apps, generative AI (like ChatGPT) and similar resources to **find solutions** to assigned problems.
- Inappropriate collaboration. You cannot copy solutions from another student. You cannot share your solutions with another student. The work you complete and submit must be your own.

You are responsible for your own learning. We forbid these resources because we want you to fully understand and retain the content you learn in this course.

AI Policy: To learn mathematics, you need to practice mathematics consistently. Practice includes making mistakes and struggling with problems! To ensure that you get this important practice, **you are NOT allowed to use AI tools (ChatGPT, Gemini, CoPilot, etc) to find solutions to homework problems**. You CAN use AI tools for learning purposes (review concepts, seek alternate explanations, generate extra problems, etc).

Help outside of class:

- Student hours. This time is reserved specifically for my current students. If you cannot make it to my office hours, please email me to set up an appointment.
- Drop-in tutoring hours. Drop-in math tutoring will take place in the Quantitative Resource Center on the second floor of the library. Drop-in hours are Sun-Thurs from 7-9 and Mon-Friday 1-5pm.
- One-on-one tutoring. You can request an individual tutor through Navigate. If you aren't sure how to do this, please ask me!

Accessibility Statement: Lawrence University is committed to ensuring the full participation of all students in its programs. If you have a documented disability (or think you may have a disability), contact Accessibility Services as soon as possible by emailing accessibility@lawrence.edu. The Director of Accessibility Services located in the Center for Academic Success (CAS) works with students to determine eligibility for academic accommodations, such as extended testing time and note taking support.

If there are circumstances that may affect your performance in this class, please let me know as soon as possible. Together we can develop strategies that can foster your success in the course.

All students are encouraged to utilize the available resources on campus, including Wellness Services, writing and content tutors, academic skill support, and academic counselors.

Basic Needs: There are many resources available to support and assist students while at Lawrence University. If you or someone you know is struggling to meet their basic needs like safety, shelter, food, transportation, mental health, or other personal challenges, please contact the Dean of Students office at deanofstudents@lawrence.edu for support with navigating campus and community resources.

Academic Materials Assistance: If you are a student with high financial need, have utilized all financial aid options available to you, and still need help getting required academic course materials, please contact the Dean of Students office at 920-832-6596 or deanofstudents@lawrence.edu to discuss possible resources.

Title IX: Confidentiality and Responsible Employee Statement Lawrence University is committed to creating a safe learning environment for all members of our community, free from gender and sex-based discrimination and harassment. Please note that our institutional policy designates all employees, aside from select Confidential Sources, as Mandatory Reporters. All Mandatory Reporters must report all disclosures of sex or gender-based discrimination or violence to Lawrence's Title IX Coordinator. The Title IX Coordinator will reach out to provide resources, support, and information after receiving a report, but community members are not required to respond to such outreach. For more information regarding Lawrence's Title IX procedures, reporting, or support measures, please visit the Equity and Title IX Website.