

MATH 222: MULTIVARIABLE CALCULUS

Section 1: MWF 9:50 AM - 10:40 AM, Exley 141

Section 2: MWF 10:50 AM - 11:40 AM, Exley 638

Instructor: Prof. Alyson Hildum
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Office: Exley Science Center 603
Office phone: (860) 685-2090
Office hours: Mondays 4:30 – 5:30 PM
Tuesdays 1:00 PM – 2:00 PM,
Thursdays 11:00 AM – 12:00 PM, 3:00 PM – 4:00 PM

Teaching Assistants.

Ted Heitzmann: theitzmann@wesleyan.edu
TA Session: Thursdays, 8:00 PM - 9:00 PM in Exley 121
Freda Li: fli@wesleyan.edu
TA Session: Wednesdays 7:00 PM - 8:00 PM in Exley 139

Text. *Multivariable Calculus*, James Stewart, 7th edition, or similar (e.g. *Essential Calculus*, James Stewart, 2nd edition.)

Prerequisites. Math 121 and Math 122 (or equivalent) or a score of 4 or 5 on the AP BC Calculus Exam.

Syllabus. This course treats the basic aspects of differential and integral calculus of functions of several real values, with emphasis on the development of computational skills. The areas covered include scalar- and vector-valued functions of several variables, their derivatives and integrals; Green's Theorem, Stokes' Theorem, and Divergence Theorem (if time permits). This course will be fast paced (especially in the first few weeks), so it is extremely important to stay on top of the material. I request that you to read **ahead of class time** the sections of the textbook to be covered, so that you are familiar with the material presented during lecture. Readings will be posted on the course Moodle.

Classroom expectations. In order to ensure that we cover all planned material and our course runs smoothly, please abide by these expectations:

- Attend every class. If you will be absent due to illness or scheduled conflict, please notify me in advance.
- Take notes during lecture. If you miss class, it is your responsibility to obtain lecture notes from a classmate. I will not be posting my notes to Moodle. (Note: I will regularly use colored chalk. You might find it helpful to have a few colors in addition to your regular writing utensil.)
- Arrive for class a few minutes early so that we may all start on time.
- Participate in group work, when applicable. If I give you class time to work on examples, do so. If you need help getting started, simply ask!
- Read the posted material ahead of class time. Come to class with questions prepared, and ask them!
- Please keep your cell phones on silent and put away (unless I tell you otherwise).
- Laptops are not necessary and should not be brought to class unless I give you permission otherwise.
- Food is permitted as long as it will not disrupt others.

Disability Resources. Wesleyan University is committed to providing reasonable accommodations to students with documented disabilities. Students, however, are responsible for registering with Disabilities Services, in addition to making requests known to me in a timely manner. Note that accommodations are not provided retroactively.

If you believe that you need accommodations for a disability, please contact Dean Patey in Disability Resources, located in North College, Room 021, or call (860) 685-5581 for an appointment. See <http://www.wesleyan.edu/studentaffairs/disabilities/Student/index.html> for more information.

If you require accommodations in this class, please **make an appointment** to see me as soon as possible, so that appropriate arrangements can be made.

Office hours. You are encouraged to use my office hours whenever you have questions about the course material. Sometimes one-on-one conversations with me can save you hours of study time on your own! If you can't attend office hours due to a class or athletic conflict, please email me at ahildum@wesleyan.edu to make an appointment with me for another time.

TA Help Sessions. There will be optional help sessions held weekly by our TAs. Freda Li will hold a TA session on Wednesdays from 7:00 PM - 8:00 PM in Exley 139. Ted Heitzmann will hold a TA session on Mondays from 8:00 PM - 9:00 PM in Exley 121. Please come with questions prepared!

Math Workshop. The Math Workshop is located in the basement of the Science Library in Room 88. It is (tentatively) open Sundays-Thursdays, 7:00 PM – 10:00 PM and Mondays-Fridays, 11:45 AM – 1:15 PM. It is staffed by experienced undergraduates or math graduate students. This is a drop-in tutoring service, **FREE**LY available to all members of the Wesleyan community. Staff members provide a friendly, relaxed atmosphere while answering questions about mathematics. The workshop is a good place to go when you get stuck on your math homework. More information can be found here:

http://www.wesleyan.edu/mathcs/math/math_workshop.html

Assignments. In addition to readings, we will have weekly assignments, usually consisting of an average of 15 problems from the textbook (7th edition of Stewart's *Multivariable Calculus*). I will post copies of the assigned problems to Moodle so that there are no issues with using a different edition of Stewart. I may occasionally supplement the textbook questions with my own. Assignments may be shorter or nonexistent on weeks that we have scheduled midterms. **Assignments will be due on Fridays by 5pm.** You may either submit your homework during class or alternatively you may place it in the drop box outside of my office door (603 Exley). Late assignments will be accepted **only** under extenuating circumstances, and must have my permission ahead of the due date.

I encourage you to discuss homework problems with your classmates, but **you must write up your own solutions.** If you do choose to work together, write your collaborators' names at the top of your paper. **You may not use any solution manuals or look up answers to assignments online.**

All assignments should be legible, clean, and stapled. If the TA cannot read your writing, you will not get credit. Please treat your assignments in this class the same as you would in any other. That is, do not turn in an assignment that is clearly a first draft, with scribbles and crossings-out, etc.

Mathematica. Throughout the semester, I will make use of the computational software Mathematica, which is incredibly helpful in visualizing surfaces and vector fields in 2 and

3 dimensions. You may have homework questions requiring use of Mathematica, which is installed on many if not all university computers. You may also download a *free* student license to your own personal computer. (Search “Mathematica” on the Wesleyan homepage for instructions on downloading student licenses.) No prerequisite knowledge of Mathematica is needed.

Exams. There will be two midterm exams and a final exam. The midterm exams will be held in the evening, the time and locations will be determined as we near each particular test. Tentative dates and times are as follows, and will be confirmed at least two weeks in advance:

- Midterm 1: Tuesday, February 26, 7-9 PM
- Midterm 2: Tuesday, April 9, 7-9 PM

The final exam time is scheduled by the registrar and will be finalized after Spring Break.

If you have an academic or athletic conflict with a midterm exam (such as a class, lab, another exam, or a Wesleyan athletic competition), inform me **at least one week before the exam**.

You are permitted to use a small formula sheet: you may *hand write* on one index card (which I will distribute) anything you think you might need during each midterm or final exam. (The index cards can be different for each test.)

Moodle. Copies of the textbook are available on reserve at the Science Library in Exley. All other course materials for Math 222 will be available online on Moodle. This includes, but is not limited to, course announcements, reference materials, homework assignments, and midterm exam solutions. A note on Moodle-displayed grades: The TAs will upload your assignment grades to Moodle and I will upload your midterm grades for informational purposes only. I have my own spreadsheet that I use to calculate current grades in the course; your current grade will not be posted to Moodle.

Calculators are **not** allowed during the midterms or the final exam. You may need a scientific calculator for some homework problems, but in most cases you should be able to do the arithmetic without one. Memorize the unit circle, if you haven’t already.

Grades. Your grade in the course will be based on the following:

- (1) Homework Assignments (15% of your grade).

All homework assignments are weighted equally and averaged. Late assignments, if accepted, may have grade penalties.

- (2) Participation (5% of your grade).
- (3) Two midterm exams (each 25% of your grade).
- (4) Final exam (30% of your grade).

Academic Integrity.

You are expected to follow the University’s policy on academic integrity. Any violation of the Student Honor Code will be referred to the Honor Board, without exception. The Honor Code can be found in the Student Handbook. Before you hand in an assignment or a test, pledge the following:

In accordance with the Honor Code, I affirm that this work has been completed without improper assistance. All content taken from other sources has been properly acknowledged.