

# Advanced Multivariable Calculus I

## Sections A and B - Winter 2016

**Instructor:** Dr. Annie Raymond

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**Course website:**

<http://www.math.washington.edu/~raymonda/math324abfall115.html>

**Office hours:** Monday from 11:30 to 12:30 in Padelford C-432 and Wednesday from 8:30 to 9:30 in TBA (hopefully EEB 045) for Annie's Survival Kit. If you are not available during those times, please e-mail me to schedule an appointment.

**Text:** *Multivariable Calculus* by James Stewart (this is a custom text for UW - you may also use *Calculus: Early Transcendentals, seventh edition* by Stewart). You may purchase a hard copy of the text at the bookstore or use the electronic version that comes with WebAssign.

**Other Materials:** You also need a WebAssign access code. If you took Math 124, 125 or 126 last year, then the code you purchased should still work. You shouldn't need to enter anything, you should be able to just log in. (If you can't, just contact WebAssign and they will fix it for you.) Please log in before Friday to make sure you can view the first assignment. If you have never purchased a WebAssign access code for calculus, then you will need to purchase an access code (see course website).

**Course content:** This course is a continuation of Math 126. The focus is mostly on integration in multiple variables. We'll discuss double and triple integrals in different coordinates systems in chapter 15. Then we'll cover gradient and derivatives in chapter 14. Finally, in chapter 16, we'll introduce line integrals, vector fields, surface integrals and ultimately how to calculate them using Green's theorem, Stokes' theorem and Gauß' theorem. This course is end-loaded, in that there are a lot of big topics in the last two weeks.

**CLUE:** The Center for Learning and Undergraduate Enrichment (CLUE) is the university's free, late-night, multi-disciplinary study center. They offer drop-in tutoring, discussion sessions led by graduate and senior undergraduate students, and a writing center.

**Grading:** The weight for each part of the course is given below.

Category	Weight
Quizzes	21
Homework	7
Midterm	30
Final exam	42
Total	100

**Homework:** Homework assignments (eight in total) will be given out and collected via WebAssign. Homework will generally be due at 12:01 AM on Wednesdays. Your worst homework grade will be dropped.

**Quizzes:** There will be eight quizzes throughout the quarter, always at the end of a lecture on Wednesday. The material covered on those quizzes will be the same as the homework due right before. You can use a scientific calculator (but not a graphing calculator) on the quizzes. Any formula you need will be given to you. Your worst quiz grade will be dropped. Moreover, there will be two opportunities to gain some extra-credit to improve your quiz grades.

The quizzes are somewhat harder than the homework (in that they require some more thinking) and are on par with the difficulty of the midterm and final exam. In order for you to practice for them, I will distribute three problems (Annie's Survival Kit or ASK) every week; these problems don't need to be handed in. On Wednesday morning, right before the quiz, I will hold a special ASK office hour where I will solve these problems. The solutions will also be sent to all students before the quiz.

**Exams:** You will be allowed to use a scientific calculator (but not a graphing calculator) and one  $8.5 \times 11$  sheet of **handwritten** notes for the exams. The midterm will be on 02/05 during the normal lecture time. The final exam for Section A will be on 03/16 from 8:30 to 10:20PM and on 03/14 from 8:30 to 10:20AM for Section B.

**Exam dates:** There won't be any make-ups for homework assignments, quizzes or exams. If you miss an exam due to **unavoidable, compelling, and well-documented** circumstances (e.g., illness, transportation emergency), your final exam may be weighted more heavily. **Contact me immediately if one of these circumstances arises.**

**Grading scheme:** I will set the grade scale for the course at the end of the quarter. My preliminary estimate is that the scale will be linear, with  $4.0 = 95\%$  and  $2.0 = 70\%$ . The actual grading scale will be no tougher than this preliminary estimate, so your course grade will be at least as good as the preliminary scale indicates.