

Advanced Calculus (Math 312)

Instructor: Dr. Hamid Behmard

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Office Hours: 10:00-11:30 Mon, Wed, Fri; 1:00-2:00 Wed; other times by appointment

Text: *Introduction to Analysis, 4th Edition*, by William R. Wade.

Course Prerequisite: Mth 311 with a grade of “C-” or higher.

Course Objectives: A rigorous introduction to differential and integral analysis of functions of one variable. The topology of Euclidean spaces, closed & open sets, compactness, uniform continuity, uniform convergence, sequence of functions, the Mean Value Theorem, Taylor’s Theorem, the Riemann integral, and Fundamental Theorem of Calculus.

Presentations:

- 1. In-Class-Presentation (ICP):** We each take turn to present the material in each lesson; theorems, remarks, examples, etc. The presentation should have the format of teaching the material. Prepare accordingly. ICP presentations constitute 20% of the grade. I will share a Google sheet so you may record the date of your presentation and the material that you have presented. That will be the only record showing your track record.
- 2. Individual:** Each member of the class will present two presentations (one before each midterm). You may choose a problem on a first come first serve basis. **We may not have more than two Individual presentations per day. Plan accordingly.** The problems will be posted on a Google sheet and shared with class. Each presentation constitutes 10% of the grade. The points include a formal write-up of the proof, which needs to be typed in LaTeX. You need to use the Wiki page on our class Moodle page to **post your proof within 24 hours of your presentation. Late postings result in a 2% per day reduction of the value of that presentation.** Use the following convention to name your proof; Name_problem#. Your classmates have access to your proof and they are expected to make corrections to your proof. Major corrections will receive extra credits. You may not use any external help (other textbooks, internet, your classmates, other professors, etc.) to prepare for these presentations. Violating this request will be considered academic dishonesty and will be reported to the Student Conduct Committee and will be attached to your academic records. Consequently the score for the presentation portion of the class will be zero.
- 3. Once you made a presentation and/or posted a proof, they are public property. Any criticism or corrections are not of you personally, but the proof itself.**
- 4.** The presentation problems may be discussed during the office hours (minimally).¹
- 5.** I will use the attached rubric to evaluate your presentations.

Homework and Quiz:

- Homework problems:** Homework problems are assigned but not collected. You should work on these problems daily to help you understand the material. These problems can be discussed during the class as time allows.
- Quizzes:** There will be several quiz problems assigned each week. From these problems and the relevant

¹ I expect you be able to figure out more than 90% of your problem. Please ask me only if you need help with very difficult step of your proof. I expect you to be prepared to show your worked-out, thoughtful progress on these problems.

sections' definitions and the statement of the theorems, we will make up weekly quizzes that will be given on each Friday. There will be 8 quizzes, one for each week of the class, except the week five and nine of the classes. The maximum value of the quiz is 15% of the grade. The quiz problems may be discussed during the office hours.¹

Exams: There will be two in class exams, **Exam I on April 29**, and **Exam II on May 27**. **The Final is scheduled on June 8 from 10:00 to 11:50.**

There are no make-ups for missed quizzes, presentations, or exams.

Grading:	Quiz	15%
	Presentations	40% (20% ICP, 20% individual)
	Exam I, II	30% @ 15% each
	Final	15%

Grades will be assigned (**roughly**) according to the following scale ("+" and "-" will be determined later):
A 90-100%; B 80-89%; C 70-79%; D 60-69%; F 30-59%

Attendance and tardiness policies: If you miss class, you may review the class notes that I try to post on Moodle. **If you are consistently late to class (3 minutes or more), I will ask you not to attend the class until you resolve your time conflict.**

Electronic Devices' Policy: **You are not allowed to use any nonacademic electronic devices (Ipod, MP3 players, cell phones, etc.) during the class time. If you bring your cell phone into the class, you MUST turn it off. If you need to have your cell phone on, you need to talk to me prior to class.**

Where to get help:

- Come see me during my office hours or by appointment;
- Work with your classmates;
- **If you have a documented disability, which requires any academic accommodations, you must come to the Office of Disability Services (ODS) for appropriate coordination of your accommodations. You can come by APSC 405 or contact ODS at (503) 838-8250 (V,TTY) to schedule an appointment.**

General guidelines for success:

- Attend every class and take notes;
- Study and do written homework daily;
- Read the current textbook section before/after each class discussion/lecture;
- Ask questions about concepts, techniques or ambiguities as soon as possible;
- Use the support available: me, and your classmates;
- **This is a very difficult course. You should plan to spend 15+ hours per week outside class studying/ reading/thinking/speaking advanced calculus!**