

Advanced Calculus I: Math 409

Spring 2007, TTh 11:10–12:25 in ACAD 225

Professor: Michael Anshelevich, 326 Milner, manshel@math.tamu.edu.

Webpage: www.math.tamu.edu/~manshel/m409/m409.html.

Office hours: T 12:30–1:30, WF 1:30–2:30, or by appointment.

Text: William R. Wade, AN INTRODUCTION TO ANALYSIS, 3rd edition, Prentice Hall, 2004. For the honors part of the course, I will also use the text by Steven R. Lay, *Analysis: With an Introduction to Proof*, 4th edition, Prentice Hall, but you do not have to buy it.

Prerequisites: Math 220 and 221. Besides familiarity with calculus, the main prerequisite is some exposure to basic mathematical logic and set theory, and some experience with elementary proofs; you will learn how to do more complicated proofs in this course. For the 200 section, honors standing is required.

Course outline:

- Review of proof methods. Properties of the real numbers (Chapter 1).
- Sequences (Chapter 2).
- Limits and continuity (Chapter 3).
- Differentiation (Chapter 4).
- Integration (Chapter 5).
- Time permitting: infinite series (Chapter 6).

Exams: We will have two in-class tests on **February 20** and **March 29**. The final exam will be on Friday, **May 4**, 3-5 p.m. If, under *completely exceptional* circumstances, you need to miss one of the tests, a make-up exam will be given. Only University-approved excuses will be accepted, and you have to let me know preferably in advance, and no later than 2 days after the exam. The exams are closed book, closed notes, and calculators are not permitted. You should bring your ID to all tests. The exams for the two sections will be different, but will be held in the same place at the same time.

Scholastic Dishonesty: Cheating of any form is not acceptable and it will be dealt with harshly. In particular, copying work done by others, either in-class or out of class, is an act of scholastic dishonesty and it will be prosecuted to the full extent allowed by university policy. Collaboration on assignments is permitted for this course, however each student must write up her or his own solutions. For more information on university policies regarding scholastic dishonesty, see the University Student Rules.

Aggie Honor Code: “An Aggie does not lie, cheat, or steal or tolerate those who do.”

Homework: weekly, due on Thursdays in class. You are encouraged to work together, but straight copying of homework is not allowed. Late homework will not be accepted, but the lowest homework score will be dropped.

Grading: Homework 20%, each midterm test 25%, final 30%. A total score of 90% or more guarantees an A, 80% or more a B, 70% or more a C, 60% or more a D.

Other important dates: January 22 (last day to add or drop a course), April 2 (last day for a Q-drop).

Students with disabilities: Come talk to me no later than the first week of classes. “The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe that you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Room 126 of the Koldus Building or call 845–1637.”

Attendance: According to the University Student Rules, absence for three or more class days requires a University-approved excuse and documentation.

Keys to success: Attend class (of course :) Solve *all* the homework problems, well before the exams. Spend more than seven hours per week working on the problems. Form study groups to discuss the course material and homework problems. Read ahead in the text.

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