Math 325 Elementary Analysis
Section 001

Lecture: MWF 12:30-1:20   Oldfather (OldH) 208

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WWW pages for this class: http://www.math.unl.edu/~mbrittenham2/classwk/325s12/

(There you will find copies of nearly every handout from class, lists of homework problems assigned, dates for exams, etc.)

Office Hours: (tentatively) Mo 10:30-11:30, Tu 11:00-12:00, We 2:00 - 3:00, and Th 12:00-1:00, and whenever you can find me in my office and I'm not horrendously busy. You are also quite welcome to make an appointment for any other time; this is easiest to arrange just before or after class, or via email.

Text: *Analysis: With an Introduction to Proof*, by Steven Lay, Prentice Hall (4th Edition).

ACE outcome 3: This course satisfies ACE Outcome 3. You will apply mathematical reasoning and computations to draw conclusions, solve problems, and learn to check to see if your answer is reasonable. Your instructor will provide examples, you will discuss them in class, and you will practice with numerous homework problems. The exams will test how well youve mastered the material.

This course, as the name/text is meant to imply, is about analysis (i.e., calculus). In addition, as the text title suggests, this course is intended as an introduction to proof. That is, we will focus as much on *how we determine how to show that a statement is true* (how do we discover proofs?) as we will on what statements are true. The subject matter we will use to discover proofs will be drawn from the material covered in the first two semesters of calculus. A probably too ambitious goal will be to touch on all of the main themes from the calculus:

Chapter 1: Logic and Proof
Chapter 2: Sets and Functions
Chapter 3: The Real Numbers
Chapter 4: Sequences
Chapter 5: Limits and Continuity
Chapter 6: Differentiation
Chapter 7: Integration
Chapter 8: Infinite Series
Chapter 9: Sequences and Series of Functions

Homework will be assigned (approximately) weekly. It is an essential ingredient to the course - as with almost all of mathematics, we learn best by doing (again and again and ...). It will also provide to the best practice possible in formulating your own arguments (i.e., proofs). Cooperation with other students on these assignments is acceptable, and even encouraged. However, you should make sure you are understanding the process of finding the solution, on your own - after all, you get to bring only one brain to exams (and it can't be someone else's). For the same reason, I also recommend that you try working each problem on your own, first. Some portion of the homework will be collected and graded; it will count 50 percent toward your final grade

Midterm exams will be given two times during the semester, in the **evenings**. Specific dates will be worked out at the beginning of the semester. Each exam will count 15 percent toward your final grade. You can take a make-up exam only if there are compelling reasons (a doctor SAYS you were sick, jury duty, etc.) for you to miss an exam. Make-up exams may be harder than the originals (because make-up exams are harder to write!).

Finally, there will be a regularly scheduled **final exam**, on Monday, April 30, from 3:30pm to 5:30pm. It will cover the entire course, with a slight emphasis on material covered after the last midterm exam. It will count the remaining 20 percent toward your grade.

Your course grade will be based upon these percentages, and will be converted to a letter grade, taking into account the overall average of the class. However, a score of 90% or better will guarantee some kind of **A**, 80% or better at least some sort of **B**, 70% or better at least a flavor of **C**, and 60% or better at least a **D**.

Stay current! In mathematics, new concepts continually rely upon the mastery of old ones; it is therefore essential that you thoroughly understand each new topic before moving on. Our classes are an important opportunity for you to ask questions; to make sure that you are understanding concepts correctly. Speak up! It's your education at stake. Make every effort to resist the temptation to put off work, and to fall behind. Every topic has to be gotten through, not around. And it's a lot easier to read 50 pages in a week than it is in a day. Try to do some mathematics every single day. **Class attendance** is probably your best way to insure that you will keep up with the material, and make sure that you understand all of the concepts. [And on a more pragmatic note, the intructor writes the exams, so it pays to know what the instructor said!] Even more, **stay ahead!** You are strongly encouraged to read the section to be covered in class prior to its presentation in lecture; this will both improve your ability to follow the lecture and help to focus your attention on any areas where extra effort on your part will be required.

Cell phones should be silenced for the duration of all classes, and extreme restraint should be exercised in answering a call during class. If you feel that you must answer a call, please (silently...) excuse yourself from the room before beginning to take the call.

Calculators will probably be relatively useless in this course? In the end, it is not *what* the answer is but *how we arrive at* the answer, *why* it is true, which will be most important to us.

Departmental Grading Appeals Policy: The Department of Mathematics does not tolerate discrimination or harassment on the basis of race, gender, religion or sexual orientation. If you believe you have been subject to such discrimination or harassment, in this or any math course, please contact the Department. If, for this or any other reason, you believe your grade was assigned incorrectly or capriciously, appeals may be made (in order) to the instructor, the Department Chair, the Departmental Grading Appeals Committee, the College Grading Appeals Committee, and the University Grading Appeals Committee.

Some important academic dates

Jan. 9	First day of classes.
Jan. 16	MLK Day (no classes)
Jan. 21	Last day to withdraw from a course without a **'W'**.
Mar. 2	Last day to change to or from P/NP.
Mar. 18-25	Spring break - no classes.
Apr. 6	Last day to withdraw from a course.
Apr. 28	Last day of classes.
Apr. 30 - May 4	Final exam week.
Apr. 30	Math 325 final examination.