

$$\forall \epsilon > 0 \exists \delta > 0 \forall x (0 < |x - c| < \delta \rightarrow |f(x) - L| < \epsilon)$$

**Math 3410 (Remote and Asynchronous)**  
**Introduction to Analysis, Fall 2022**  
**3 credits**

**Professor:** Dr. Greg Oman  
**e-mail:** goman@uccs.edu  
**office:** ENG 281

**Office Hours:** I am currently out of state, so we cannot meet in person just yet. Here is what we will do: I will be happy to set up one-on-one meetings via Zoom/Teams. All you have to do is email me and ask; then we will find a time convenient for both of us.

**Course Web Page:** <https://faculty.uccs.edu/goman/math-3410-fall-2022/>

**Class Schedule:** ONLINE (most weeks, I will post notes on Mondays and Wednesdays and lectures on Tuesdays and Thursdays. Most weeks, homework assignments will be due by Sunday at 11:59 pm as a PDF upload to Canvas)

**Text:** *Analysis With an Introduction to Proof*, 5th edition, by Steven R. Lay.

**Course Objectives:** Upon successful completion of the course, you should

- know the algebraic and order axioms for the real numbers
- be able to prove basic algebraic and order-theoretic properties of the real numbers.
- understand the concept of limit of sequences and functions, be able to compute limits, and be able to write proofs involving the limit
- understand the concept of continuity of functions, and be able to write proofs involving continuity
- be able to apply analytic concepts to abstract metric spaces
- understand Cauchy sequences and monotonic sequences and be able to apply them in both computational and theoretical contexts

(see next page)

**Graded Components of the Course:** Your grade will be based on homework, two exams, and a comprehensive final. Each test will be worth 25% of your grade, the final will be worth 30% of your grade, and homework will be worth 20%. I reserve the right to see a **DOCUMENTED EXCUSE** in order to allow you to make up work/exams. Please take this statement seriously. I tentatively plan to give the first test (via Canvas) on **Thursday, October 6 from 3-5 pm** and the second on **Thursday, November 17 from 3-5 pm**. The date and time of the comprehensive final will be announced later. PLEASE let me know now of any conflicts with the two exam dates/times listed above.

I will decide plus and minus cutoffs before assigning final grades; modulo this, here is the grading scale:

90% – 100%: A or A-  
80% – 89%: B+, B, or B-  
70% – 79%: C+ or C (I don't give the grade C-)  
60% – 69%: D+, D, or D-  
less than 60% : F

**Homework and Lectures** All assignments will be turned in on Canvas (**PDF only**). I will post assignments on the course web page as well as notes (NOTE THAT I WILL NOT BE POSTING ASSIGNMENTS AND NOTES ON CANVAS, BUT AT THE COURSE WEBPAGE LISTED ON THE PREVIOUS PAGE). I will also upload lectures to the course webpage using Panopto. If you are unsure of how to upload assignments via Canvas, just let me know and I am glad to help you.

**Extra Help** There is a PASS (peer assisted study session) leader for this course. Please see <https://mathcenter.uccs.edu/peer-assisted-study-sessions> and scroll down to find the days/times for Math 3410, which will be led by Ph.D. student Kris Gearhart.

**Disability Services** Please let me know of any additional accommodations you may require. Such accommodations should be approved by the Office of Disability Services, and they should have paperwork for you to give me. Let me know if you have questions.