

Advanced Analysis III  
Math 473, Spring 2008  
1:00-1:50 MWF, Bouillon 109

**Instructor:** Dr. Jon Fassett

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**Office Hours:** TBA

**Text:** Real Analysis and Foundations, by Steven Krantz.

**Course Description:** This course is the third and last course in a sequence introducing students to the mathematically rigorous study of functions of a real variable. While some of our time will be spent proving familiar theorems from the standard calculus sequence, much of our time will be spent studying unfamiliar concepts and examples that challenge and improve our mathematical intuition: Pointwise and uniform convergence of a sequence and series of functions, the Riemann integral, and metric spaces.

**Course Goals:** The main goals of the course are for students to learn how to read, understand, and write rigorous mathematical proofs. In addition, some less measurable goals are the following:

- Students will realize (and experience) why an intuitive understanding of calculus is insufficient as a foundation for building more complicated and powerful mathematical tools.
- Students will be rewarded for their efforts toward mathematical rigor and abstraction by being exposed to concepts and examples that show the richness inherent in the study of functions of a real variable.

**Course Policies:**

**Class Participation:** Daily classes will be a mixture of lecture and discussions. Meaningful contributions are expected each week. This can take the form of presenting a proof or participating in class discussions. There should be plenty of time to share your thoughts, understandings, and questions.

**Homework:** Problems from each section will be assigned and selected problems will be turned in for grading. You are encouraged to work together on homework but each student must turn in his or her own write-up.

**Exams:** There will be a take-home final exam. You cannot pass the course without taking the final exam.

**Course Grade:** Course grades will be assigned according to the following:

Homework	65%
Class participation	10%
Final Exam	25%

Students with disabilities who wish to set up academic adjustments in this class should give me a copy of their "Confirmation of Eligibility for Academic Adjustments" from the Disability Support Services Office as soon as possible. Students without this form should contact the Disability Support Services Office, Bouillon 205 or [dssrecept@cwu.edu](mailto:dssrecept@cwu.edu) or 963-2171.