Math 430 Real Analysis for Teachers I — Wednesday 5:00 - 8:00
Fall 2014 — 600 SEO

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office hours Wednesday 4 - 5 SEO 622 312 413-1417

Course Description

This course will cover the basic properties of real numbers including the completeness of the real numbers, and a rigorous development of Calculus through the fundamental theorem with attention paid to limits, continuous functions, differentiability, and the Riemann integral. Applications to high school mathematics will be considered throughout the course.

Requirements

Prerequisite Grade of C or better in MATH 210 and MATH 215.

Text Real Analysis by Frank Morgan, 2005. The book is available through the UIC bookstore. If you look for it elsewhere use either ISBN-10: 0-8218-3670-6 or ISBN-13: 978-0-8218-3670-5. It is published by the American Mathematical Society (AMS).

Text We will also be using *Calculus* by Tom M. Apostol, 1967, pages 17 - 47. These pages will be handed out in class. The entire book is on reserve in the UIC library.

Technology Students are welcome to use a laptop during class. We will be making some use of Geogebra. This free, downloadable software is a combination of a graphing calculator, a spreadsheet and something similar to geometer's sketchpad. We will be sharing work on Googledocs and/or writeLatex. Google accounts are free and easy to get at `http://accc.uic.edu/service/googleapps`. Students may go to `www.writelatex.com` to learn about writeLatex, but this will be demonstrated in class. No knowledge of LaTex is required for the class.

Grading

Homework, quizzes and attendance [30%] There will be homework assignments and/or quizzes weekly.

Midterms [30%] There will be two midterm exams.

Final [40%] The final exam will be comprehensive.

Class attendance is mandatory. If for any reason a class is missed, contact the instructor by phone or e-mail in advance. The student is responsible for finding out what was covered and completing all work on schedule. Missing 2 classes will result in grade reduction and missing 3 or more classes will result in failure.

For more information go to `www.math.uic.edu/~saunders/MTHT430_Analysis`