

Math 530 Real Analysis for Teachers II
Spring 2014

Wednesday 5:00 - 8:00
600 SEO

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Course Description

This course will cover applications of real analysis in the high school mathematics curriculum. Topics include, but are not limited to, integration, exponentials and logarithms, trigonometric functions, the transcendental numbers, e and π , Taylor series, and Fourier series.

Requirements

Prerequisite MTHT 430 or equivalent. See the instructor if there are concerns.

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).

Technology Students should have a graphing calculator for class. Students are welcome to use a laptop during class. We will be using Geogebra. This free, downloadable software is a combination of a graphing calculator, a spreadsheet and something similar to geometer's sketchpad.

Grading

Homework [30%] There will be homework assignments weekly. We will be sharing work on GoogleDocs and writeLatex. Accounts are free and easy to get at <http://acctt.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.

Presentations [40%] Each student will research and present on a topic that demonstrates connections between MTHT 530 topics and teaching high school mathematics. It is anticipated that each student will have the opportunity for three presentations.

Midterm and Final exams [30%] Exams will be take-home.

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 complete all work on schedule. Missing 2 classes will result in grade reduction and missing 3 or more classes will result in failure.

Course Webpage

For more information go to www.math.uic.edu/~saunders/MTHT530_Analysis