Math 2784 - Fall 2009
Undergraduate Seminar

Instructor **Keith Conrad**

Email kconrad at math dot uconn dot edu. (When you send an email message, please identify yourself at the end.)

Office hours MSB 318; W Th 12:30—1:30

Course info

Lecture MWF 5:30—6:20, MSB 319 (This will usually be just Mondays and Wednesdays.)
Paper Topic Chosen By: Oct. 23 **Outline Due:** Nov.6 **First Draft Due:** Nov. 20 **Final Draft Due:** Dec. 16

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8/31: Semester begins!

Syllabus: You can find it here.

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Course grade: This is based on the paper you submit at the end of the course.

Course conduct: To respect everyone's right to a productive learning environment, please refrain from disruptive activities during class. This includes reading newspapers or magazines, and using pagers and cell phones. Set cell phones on *vibrate* mode only. If your cell phone receives a message, you can check it after class. Please turn *off* all other electronic gadgets before entering the classroom. On a positive note, do feel free to ask questions!

Academic integrity: Students are expected to avoid academic misconduct. Your integrity is not worth losing (and the course not worth failing) by falsely presenting yourself in any aspect of this course. For further information on academic integrity, see Appendix A of the Student Code.

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Math 2784/2794W

1. Brief overview

This course will partially satisfy the W criteria for math majors. You are required to prepare a paper of at least 7 to 8 pages of revised and edited work on a mathematical topic this semester, written in accordance with common conventions in mathematics. (Taking the course twice will satisfy the 15-page requirement for a W credit. Under no circumstances will a student be allowed to write two papers in one semester to reach the 15-page minimum for a W credit.) Course handouts are available to provide some sample math papers for you to examine and some advice on mathematical writing. Read the sample papers and model your format on those samples if you are unsure how to structure your paper.

2. What is a W course?

According to the UConn regulations, W courses should:

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(3) Have an enrollment cap of nineteen students per section;
(4) Make explicit the relation between writing and learning in the course;
(5) Articulate the structure of supervision of student writing;
(6) Explain the place and function of revision in the course;
(7) Detail how the page requirement will be met;
(8) Require that students must pass the writing component in order to pass the course.

3. Course meetings

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There will be sign-up sheets posted on the instructor's office door (MSB 318) to set up an individual meeting with each student in the early part of the semester.

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5. Content of the paper

The most basic thing to remember is that your paper is about *mathematics*. It must have mathematical content at the college level. A paper with no serious mathematical content is not acceptable. For instance, an essay on the history of the Newton–Leibniz priority dispute over calculus would not be primarily a paper on mathematics and is not going to be accepted. Some historical remarks in your paper can be useful, but they're not the main point.

It should be evident in the outline you submit what kind of mathematics will be used or developed in the paper, so the instructor can judge that you're going in the right direction in terms of mathematical content.

A good paper will have the following features:

- An introduction that gives good motivation to the topic.
- Clearly written definitions of relevant terms (which may also be described in less formal language).
- Careful mathematical reasoning that takes the reader from the definitions to some nontrivial mathematical results. This usually is placed in the format of theorems and proofs.
- Examples that illustrate the basic mathematical ideas, including some possible points of confusion. (For instance, $|x|$ is a good example showing a continuous function need not be differentiable.)
- Show a clear mastery of the material.

In short: introduce new ideas with motivation, state results, prove them, and illustrate what they mean by well-chosen examples.

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- A persistent vagueness about the concepts being discussed. (It suggests the writer doesn't really have a grasp of the material.)
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