Math 3283W meets MWF at 11:15am-12:05pm in Fraser 102. You also have sessions with your Teaching Assistants on Tu/Th at either 10:10 or 11:15.

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Course Webpage: http://www.math.umn.edu/~rogness/math3283w/

The fastest, most reliable way to reach me is via email. Occasionally I get a deluge of email, but anything with "3283" in the subject line will get tagged as a high priority message.

Please note: I have two different offices on campus. On some math department lists, my "office" is Vincent 431, which is now used by another faculty member. My regular office is in the Vincent 4 suite of MathCEP offices. Unless announced otherwise, office hours will be held in Vincent 4. There is generally a student worker at the desk just inside the door who can point you in my direction.

Office Hours. See the course webpage.

Course Description. Math 3283W is a "bridge" course between lower division mathematics courses and upper division proof-oriented ones. The specific material chosen by our department for its bridge course is a careful study of sequences and series, but the real goal of the course is to make you comfortable with the techniques and language of mathematical writing and proof. Sequences and series are important foundations for the branch of mathematics known as "Analysis" – hence our use of an Analysis textbook. But the heart of any Analysis course out of this text would be the chapters on differentiation and integration, and we won't cover those chapters at all.

We will begin with Chapters 1 through 3, which contain important background material for any upper division course in this department, from Analysis to Abstract Algebra. Sequences and Series are covered in Chapters 4 and 8. Time permitting, we will also discuss parts of Chapter 5 and Chapter 9 before the semester ends.

This course aims to address, at the least, the following UMN student learning outcomes (SLOs): students will identify, define, and solve problems; locate and critically evaluate information; master a body of knowledge and a mode of inquiry; and communicate effectively.

Textbook. *Analysis: With an Introduction to Proof*, Fifth Edition, by Steven R. Lay. (**Required**)

Writing / Communication Component. There are three parts to the communication component of this course.

- **Writing Quizzes** During those weeks without an exam, a selection of exercises will be posted on the website. *Homework will not be collected or graded*, but one or more of these exercises will form the basis for an **in-class writing quiz** at the beginning of class on the following Thursday. (In some cases the problems may in fact be identical; in other cases there may be slight changes. Instead of proving something for n sets, for example, I may ask you to do the proof for three sets.) These quizzes will be graded for both mathematical correctness and the quality of the exposition, and assigned a grade out of 20 points.

  Tentative dates of in-class writing quizzes: 9/15, 9/22, 9/29, 10/13, 10/20, 10/27, 11/3, 11/17, 12/1. The highest eight scores of these nine writing quizzes will count toward your writing quiz grade. In particular, this allows you to miss one quiz for a non-University sponsored reason without directly hurting your grade.

- **Oral Presentation** Mathematicians often communicate with one another by talking at a board. The oral presentation is meant not as an examination but rather an opportunity to practice this form of communication. The presentation will be short – no more than five minutes – and can take many forms: presenting an example during lecture or discussion, presenting an example during the lecturer's or a TA's office hour, or taking a short oral quiz with the lecturer or the TA.

  The presentation must be scheduled in advance, and must involve responding to questions from instructors and/or students. More information about scheduling and planning your presentation will be given early in the semester.

- **LaTeX Project and Rewrite** Communicating about mathematics requires careful use of language and symbols. Typesetting mathematics is an essential skill for anyone who wants to communicate technical information in a readable format.

LaTeX (pronounced *lah-tech*) is a typesetting system that is used almost universally in the mathematical and scientific community. Compilers that convert LaTeX markup language (in a `.tex` file) into `.pdf` documents are widely available:

- free online compilers (ShareLaTeX, Overleaf, Sage Cloud)
- free downloads for Mac (MacTeX) and Windows (MiKTeX)
- in CSE Labs (available also to non-CSE students of this class)

The project will consist of a one-page typeset document containing your solution to a problem in the course's textbook or another source, planned in advance with your TA. Your TA will determine how you should submit your electronic solution. Your TA will respond with suggestions for revisions or extensions, and you will have one week to submit an updated `.tex` file.

More information about scheduling and planning your project, and a template for the `.tex` files that you create, will be given early in the semester.

The grading scheme for writing work is posted on the course webpage. Please read it carefully.

Exams. Our three midterm exams are tentatively scheduled for the following Thursdays in class: 10/6/16, 11/10/16, 12/8/16. The schedule or location may change depending on proctoring needs; any such changes will be announced well in advance in class, via email and on the course webpage. Our final exam is scheduled for 1:30pm-3:30pm, Thursday, December 22, in a location to be determined by the math department later this semester.

Make-up exams will only be permitted in extraordinary situations. (Think "emergency surgery," not "oversleeping," although I will be impressed—and somewhat envious—if you manage to sleep through an exam which ends after 12pm.)

Grading Scheme. The components of the course will be weighted as follows:

15%	Writing Quizzes
5%	Oral Presentation
5%	TeX Project
5%	TeX Project Rewrite
45%	Midterms (15% each)
25%	Final Exam

The grade lines for each component of the course (and hence overall course grades) will be at least as generous as the following (standard) scale. I may *lower* these gradelines if a test or homework assignment turns out to be harder than intended.

90%-100%	A-, A
80%-89%	B-, B, B+
70%-79%	C-, C, C+
60%-69%	D, D+

Because this is a writing intensive class, you must earn at least a C- or better on the communication component of your grade to pass the course. Hence you should strive to average 70% or higher on those parts of the course. (The C- gradeline may drop below 70%, but you should not count on it.)

Incompletes. Incompletes are given only in extremely unusual circumstances, and only if you arrange it with me in advance. Incompletes are given only if you have completed most of the course material at a satisfactory level – at least two midterms and most writing assignments at a C level – but some terrible, unexpected event prevents you from finishing the course. In particular, we cannot give you an incomplete if you simply fall behind in your work.

Academic Honesty. The instructor's solutions manual for this textbook can be found easily (if illegally) online. In past semesters, large numbers of 3283W students in have handed in solutions taken more-or-less directly from the manual. This behavior is academically dishonest and not appropriate for students in a University level course. Such actions can result in a score of zero on the problem, the entire assignment, and for your entire course grade. Here is the University's official statement on these matters:

Scholastic Dishonesty: Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis.

Within this course, a student responsible for scholastic dishonesty can be assigned a penalty up to and including an "F" or "N" for the course. If you have any questions regarding the expectations for a specific assignment or exam, ask.

We encourage you to work together, but solutions must be written in your own words, and not identical to another student's work, a printed source or an online source. A good rule of thumb is the following:

> Wait 30 minutes. If you can still write out the solution on your own, without looking at the resource, showing all the steps and *in your own words*, then you have learned the material and the work is your own.

One other point to keep in mind: the instructors also have the solutions manual, and it is full of typos and mistakes, so it is surprisingly easy for your TAs to tell if a student has copied a solution (or portions thereof).

Other policies. We will follow all standard University policies found at

http://policy.umn.edu/education/syllabusrequirements-appa

including the statements about equal opportunity, disability accommodations, and mental health resources.