

## Course Policies

Prof. Shahed Sharif

**Textbook.** We will be using *Book of Proof* by Richard Hammack, available as a free pdf from [www.people.vcu.edu/~rhammack/BookOfProof](http://www.people.vcu.edu/~rhammack/BookOfProof).

*Book of Proof* is also available from Amazon at a very low price.

**Software.** Homework and exams will be turned in via [Gradescope](#). Please obtain a scanner or scanning app (such as Adobe Scan, available for free with your CSUSM credentials), and use it to convert your homework assignments to pdf format. Then upload these to Gradescope. Please make sure to identify which problem is on which pages. Gradescope is free; you will receive an enrollment email by 9/2.

**Course description.** Math 350 is a bridge course between computation-driven mathematics and theoretical mathematics. It is designed to familiarize the student with the language and process of rigorous mathematical thought, speech, and writings through the introduction of typical and important examples from algebra, analysis, combinatorics, and geometry. We will cover elementary logic, methods of proof, mathematical induction, sets, relations, including order relations and equivalent relations, functions and inverse functions, and binary operations.

**Course objectives.** The main objective of this course is for students to understand how to read and write mathematical proofs. This goal encompasses a variety of skills, including mastery in usage of the following:

- propositional logic, including use of quantifiers;
- formal set theory, including set operations, set relations, function theory, and cardinality;
- rigorous mathematical definitions; and
- basic techniques of proof, including direct proof, proof by contradiction, and mathematical induction.

This is a writing-intensive course! Expect weekly homework assignments to be 4–8 pages in length.

**Course requirements.** The grading scheme is as follows:

5%	for worksheets
10%	for homework
45%	for seven exams
40%	for final exam

**Worksheets** are assigned every day and will be graded by inspection. Worksheets are group assignments, so should be done in permanent groups of 5–6. There should be a single sheet of paper with all your work, and scribe duties should rotate. Come up with a name for your group, and once you have done so, please send me an email with the group name and the full names of all the group members. Grades are based on effort and group dynamic.

**Homework** is posted on my webpage every Friday on my webpage and is due on Gradescope the following Friday. I will post a long list of problems, but you will only need to turn in a few of those problems, indicated with an asterisk \* on my webpage. Late homework is not accepted, no exceptions.

Most of the problems are proofs and explanations. These must be written legibly and in complete sentences. *You will be graded on your writing!* Correct and clear grammar is essential to a correct proof. Of course, your reasoning must also be completely clear for full credit. Rewriting homework before handing it in is highly advisable. Homework fulfills this course's writing requirement.

After homework is handed in, I will post solutions to starred problems on my webpage. If you want to see the solution for a different problem, let me know. Feel free to also e-mail me questions and/or ask the GA.

**Exams** are given at the end of class every other Tuesday, starting on 9/3. Each exam covers the material from the previous two weeks. *You must pass every exam to pass the course!* You can take as many make-up exams as you like, but it is your responsibility to schedule these make-ups with me.

The **final exam** is scheduled for 4–6 PM on Thursday, December 12. It is cumulative.

**Office hours.** My office hours are Monday, 2:40–4 PM and Thursday, 1–2 PM. Drop by the Zoom room at that time—you don't need an appointment, or even any questions! If you have a conflict, send me an email and we'll work out an alternate time. You can also email me any questions that you have. Make sure you include as much relevant detail as possible—pictures are fine.

**Ethics.** You are encouraged to work with others on graded assignments, the final product should be your own work (or in the case of worksheets, your own group's work). In particular, you may not read your classmates' finished assignments until your own is completed! The same goes for other sources—online, AI, back of the book, or other sources. Avoid looking at these sources, or if you do, take no notes on them. Failure to follow these guidelines is considered plagiarism, and all involved parties will *at a minimum* earn a zero on the relevant assignment and have their actions reported to the Dean of Student Affairs.

**ADA policy.** Students with disabilities who require reasonable accommodations must be approved for services by providing appropriate and recent documentation to the Office of Disability Support Services (DSS) in Craven Hall 4300 (ph: (760) 750-4905; TTY: (760) 750-4909). Students authorized by DSS to receive reasonable accommodations should meet with me during my office hours in order to ensure confidentiality.

**STEM Success Center.** This course is challenging and requires students to be pro-active in their learning and study strategies. Free, walk-in tutoring is available to all students in the STEM Success Center (now including the Math Lab), in two locations in the new Extended Learning Building. The STEM SC is a welcoming environment with peer tutors, open study space, advanced technology for student use, textbooks available for check-out and many other useful resources. Their trained peer educators (tutors) will assist you in developing a deeper understanding of course concepts, problem solving, preparation for quizzes and exams, and identifying effective study strategies. In fact, students who attend early and often have demonstrated increases in their final grades. Tutoring starts the first week of classes and goes through finals week, to make sure you are supported from start to finish! See [www.csusm.edu/stemsc](http://www.csusm.edu/stemsc) for more details.

**Advice.** This is likely your first higher math course. The most important piece of advice is to **learn your definitions!** Ideally, you will understand and be able to apply the definitions (which is probably 80% of the course . . .), but barring that, at least memorize the definitions. Most problems will be pretty impossible to even start if you don't know the definitions.

The concepts and techniques covered in this course will come up in the rest of your math classes, so if something isn't clear to you, please let me know.