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# Course Policies

Prof. Shahed Sharif

**Textbook.** We will be using Susanna Epp's *Discrete Mathematics with Applications*, 5th ed. We will cover chapters 1–8, 9.1–9.3, and as much of chapter 10 as we have time for.

**Electronics-free classroom.** I do not allow the use of electronics devices during class. Please silence and stow your phones, tablets, etc. If you need your device for class purposes, please let me know ahead of time and I will give you permission. If you prefer, I am happy to hold on to your electronics for the duration of the class.

**Webpage.** I do not use Cougar Courses; instead, check my webpage for supplementary materials and announcements.

**Course description.** Exposure to fundamental discrete mathematical skills and knowledge: basic logic and applications in computer science, methods of proof, functions, relations, sets, basic counting techniques, graphs, trees, and applications in computer science.

**Alan Turing** is considered the father of computer science. But he also established a new field of biology, invented a framework for understanding artificial intelligence, broke military codes used by the Nazis, wrote the first computer chess program, and came close to qualifying for Olympic running. Unfortunately, the British government prosecuted him for homosexuality after WWII and, possibly connected with this punishment, Turing committed suicide at the age of 41. His papers are quite readable and, to this day, illuminating; I particularly recommend his paper on artificial intelligence and his paper on Turing machines.

**ACM Learning Objectives.** At the conclusion of this course, students will be able to

- perform operations with functions, relations, and sets;
- understand and write proofs using formal propositional logic and standard proof techniques;
- explain and use both weak and strong induction;
- apply basic counting techniques, including the Pigeonhole Principle an d inclusion-exclusion; and
- understand basic terminology and results in graph theory.

While there are many applications of this course to computer science, I mostly don't cover them—after all, that's what your CS courses are for! But I'm more than happy to chat about applications, so let me know if you have questions. The book also has many application sections that you are welcome to read.

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

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| 7% | for group work |
| 8% | for homework |
| 50% | for two exams |
| 35% | for final exam |

**Group work** are worksheets done in class. Groups are comprised of 5–7 people. One person should write up the work; this duty should rotate. Make sure to write everyone's full name at the top of your work. Worksheets should be turned in by the end of class. Worksheets are graded on effort, not completeness or correctness. (Although those things can be indicators of effort.)

**Homework** is a mix of Webassign problems and written homework. I will add you to Webassign—you should receive an email by the 2nd class session with login instructions. You'll typically have 2 or 3 Webassign problem sets due every Tuesday. Written homework is posted on my webpage on occasional Tuesdays—I'll aim for once every two weeks. Written homework is 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 written homework assignments to pdf format. Then upload these to Gradescope. Please make sure to identify which problem is on which pages.

For written homework, you must show all work to receive full credit. Any method that does not use a standard algorithm from class must be justified in complete sentences. Some 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 solution. Of course, your reasoning must also be completely clear for full credit. Rewriting homework before handing it in is highly advisable. I also highly encourage you to type up your problem sets. Homework fulfills this course's writing requirement.

The **first exam** is tentatively scheduled for March 3. The **second exam** is tentatively scheduled for April 14. The **final exam** will be **Wednesday, May 13, 7–9 AM**. If it would help, the final exam score will replace your lowest midterm exam score.

**Late assignment policy.** Late homework is not accepted. There are no exceptions! Instead, the lowest two homework scores are dropped.

Make-up exams are not given. The replacement policy for exams will be used instead.

**Office hours.** My office hours are **Tuesdays and Thursdays, 1–2 PM**starting the second week of class. Drop by the math conference room, ADM 6242, during those times—you don't have to make an appointment or have any questions. Feel free to bring your homework and a friend and just work on your own if you like. 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, and be aware that I may not have the textbook with me when I read your email.

**Ethics.** You are encouraged to work with others on homework assignments, but the final product should be your own work. In particular, you may not read your classmates' finished assignments until your own is completed! The same goes for other sources—online, 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.

**LLM use policy.** You may use LLMs on your homework, as long as your use complies with the ethics guidelines. On your written homework, you must indicate how you used it. I do discourage the use of LLMs, since the point of this course is learning to think mathematically. Additionally, the purpose of homework is to prepare for the exam, where you will not have access to any technology.

**ADA policy.** Students with disabilities who require reasonable accommodations must be approved for services by providing appropriate and recent documentation to the Office of Disabled Student Services (DSS) in ADM 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.

**Advice.** Mathematics is the *only* discipline in which everything can be understood perfectly. So perfect understanding should be your goal! Don't settle for "sort of" understanding. I am happy to get you there. Often, students feel embarrassed for being lost. Fight through it!