

## MATH 260: SETS AND LOGIC

INSTRUCTOR: DANNY LARA

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Office Hours: M-Th 10:00am-11:00am

Class Room: Samuelson 101  
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### COURSE DESCRIPTION

Math 260 is an introduction to the structures of mathematical proof. We will introduce basic set notation, set theory, logic, quantifiers and some methods of proof: various types of direct proof, proof by contradiction, and proof by induction. We will also introduce and practice good mathematical thinking. Mathematical thinking is characterized by clarity and precision and important in a variety of areas, including computer programming. To practice mathematical thinking, we will work with basic number theory and basic set theory.

### TEXTBOOK AND MATERIALS

The textbook for this course is *Mathematical Reasoning Ver 3* by Ted Sundstrom. You can find an online version of the textbook [here](#).

### COURSE WORK

This course is graded by a methodology called Standard Based Grading. There are 7 required standards in the course and 7 optional standards for a total of 14 standards. Each standard will be measured with an evaluation (quiz). Instead of getting a percentage as a score, students will receive a rating. The ratings for this course are as follows.

- Exceeds Standard (E)
- Meets Standard (M)
- Not yet (NY)

**There are no points** in this course. Each standard is a collection of learning objectives and each objective will have problems assigned to it. Your final grade will be based on your highest achievement on your standard.

**This system** rewards growth. Rather than losing points throughout the quarter or having high stakes exams, students can take and retake evaluations. You will be given multiple opportunities to demonstrate mastery of each standard. You can steadily make progress towards the grade that you want to earn in this course.

**Homework** will be assigned weekly. It is your responsibility to keep up with these

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*Date:* Fall 2022.

assignments. These provide you with practice for your evaluation. Homework in this course is not part of your final grade. But if you keep up with your homework, you may turn it in at the end of the quarter for a +1 optional standard (in addition to the ones you currently have).

## Evaluations

- Evaluations will be taken in class. At least seven class days and the final exam period will be set aside for our in class evaluations. You can take any evaluation you feel prepared for.
- Based on your performance, you can retake a standard up to a second or third time. If you need a fourth attempt on a standard, the highest rating will be a "Meets Standard." Optional standards cannot be taken more than 4 times. Ratings will be posted on canvas so that you can keep track of your progress.
- Evals can be retaken during our scheduled eval days or during office hours. Please wait at least 3 class days before making another attempt.
- Homework assignments are your practice for your evaluations. The majority of evaluation questions will come from your homework, examples from the textbook, and examples from class.
- No evaluations may be taken after the final day of class until our scheduled Final Exam period. During the final exam period, you may only take each evaluation at most one time.
- The first two standards, R1 and R2, must be taken before Nov 1. If you have not made an attempt on these first two standard by then, the highest rating you can receive is a "Meets Standard."

A **proof portfolio** is a representation of your best work from the course. Write 3 carefully written and edited proofs to turn in. These will receive feedback and may require corrections. The portfolio will be due at the end of the quarter (but a first draft will be due much sooner).

## GRADING POLICY

**Grading Policy.** There are 14 standards in this course with 7 being required and 7 optional. For each standard attempted, you will receive a rating on Canvas. (3) is Exceeds (E), (2) is Meets (M), or (1) Not Yet (NY) (this means you have not received credit for this standard).

Letter Grade	# of Required	# of Optional	# problems in proof portfolio
A	7 at E	4 at E	3 at E
A -	7 at E	3 at E	2 at E
B+	7 at E	3 at M	1 at E
B	7 at E	2 at M	0
B -	7 at E	1 at M	0
C +	5 at E and 2 at M	1 at M	0
C	3 at E and 4 at M	0	0
C-	6 at M	0	0

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Grade	# of Standards (any) at M
D+	6
D	5
D-	4
F	3 or below

**You earn your own grade.** From the very start of class, you know how much work you need to put in to get the grade that you want. The amount of work becomes clearer when you begin to take evaluations.

**Student Expectations.** As a student, you have certain expectations of me. These include knowing the material, answering emails, be present during office hours, showing up to class, and so on. In return I expect all students to put forth effort to work on assignments in the course, participate in class, and be respectful to both peers and instructor.

**Religious Obligations and Schedule Conflicts.** In compliance with RCW 28B.137.010, Central Washington University makes every effort to deal reasonably and fairly with students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Students must present written notice to their instructor within the first two weeks of class listing the specific dates on which accommodations are required. Contact the Dean of Student Success at (509) 963-1515 for further information or questions.

**Professionalism.** CWU expects every member of the university community to contribute to an inclusive and respectful culture for all in its classrooms, work environments, and at campus events. As a student in this course, you are expected to treat your professors, fellow students, and other people affiliated with your work at CWU with respect, regardless of their sex, race and color, religion and creed, national origin, sexual orientation, gender identify and gender expression, disability and use of assistive devices or a service animal, and veteran or military status.

**Academic Honesty.** Consult university policies (CWUP 5-90-040(22), CWUR 2-90-040(22), and WAC 106-125-020) for student conduct, cheating, plagiarism, and other academic expectations. CWU's policies and recommendations for academic misconduct will be followed, leading to disciplinary action up to and including failing the course.

**Disability Support Services.** Central Washington University is committed to creating a learning environment that meets the needs of its diverse studentbody. If you anticipate or experience any obstacles to learning, contact Disability Services to discuss a range of available options to removing barriers, including accommodations. Student Disability Services is located in Hogue 126. Call (509)963-2214 or email [ds@cwu.edu](mailto:ds@cwu.edu) (<mailto:ds@cwu.edu>) for more information.

**Changes.** I reserve the right to amend, adjust, or otherwise modify the syllabus at any time during the course. This syllabus is the best approximation of what students should expect during the course.