

$$\forall x \exists y (P(x, y) \rightarrow Q(x, y))$$

Math 2150 (Remote and Asynchronous)
Discrete Mathematics, Fall 2022
3 credits

Professor: Dr. Greg Oman
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office: ENG 281

Office Hours: I am currently out of state, so we cannot meet in person just yet. Here is what we will do: I will be happy to set up one-on-one meetings via Zoom/Teams. All you have to do is email me and ask; then we will find a time convenient for both of us.

Course Web Page: <https://faculty.uccs.edu/goman/math-2150-summer-2021/>
(I realize that “summer” appears in the address, but this is the current and correct address)

Class Schedule: ONLINE (most weeks, I will post notes on Mondays and Wednesdays and lectures on Tuesdays and Thursdays. Most weeks, homework assignments will be due by Sunday at 11:59 pm as a PDF upload to Canvas)

Texts: There are no required texts for this course. I have a PDF of (an older edition of) the book *Discrete Mathematics* by Rosen. The text is useful to supplement the material I am teaching (most, though not all, of the material I will teach is contained in the Rosen text), though I will be teaching the course in such a way that it will be self-contained.

Course Objectives: Upon successful completion of the course, you should

- be able to work with and interpret truth tables in propositional logic and be able to draw conclusions from them
- understand and be able to use the language of propositional logic to formalize statements
- understand and be able to use predicate logic and quantifiers to formulate statements
- be able to negate statements in both propositional and predicate logic
- understand the fundamental proof techniques of direct proof, proof by contraposition, proof by contradiction, proof by cases, etc.
- be able to write complete proofs of certain mathematical statements
- understand the basic set-theoretic operations and be able to do proofs of set-theoretic relations and equalities
- understand and be able to use the principle of mathematical induction

(see next page)

Graded Components of the Course: Your grade will be based on homework, two exams, and a comprehensive final. Each test will be worth 25% of your grade, the final will be worth 30% of your grade, and homework will be worth 20%. I reserve the right to see a **DOCUMENTED EXCUSE** in order to allow you to make up work/exams. Please take this statement seriously. I tentatively plan to give the first test (via Canvas) on **Thursday, October 6 from 3-5 pm** and the second on **Thursday, November 17 from 3-5 pm**. The date and time of the comprehensive final will be announced later. PLEASE let me know now of any conflicts with the two exam dates/times listed above.

I will decide plus and minus cutoffs before assigning final grades; modulo this, here is the grading scale:

90% – 100%: A or A-
80% – 89%: B+, B, or B-
70% – 79%: C+ or C (I don't give the grade C-)
60% – 69%: D+, D, or D-
less than 60% : F

Homework and Lectures All assignments will be turned in on Canvas (**PDF only**). I will post assignments on the course web page as well as notes (NOTE THAT I WILL NOT BE POSTING ASSIGNMENTS AND NOTES ON CANVAS, BUT AT THE COURSE WEBPAGE LISTED ON THE PREVIOUS PAGE). I will also upload lectures to the course webpage using Panopto. If you are unsure of how to upload assignments via Canvas, just let me know and I am glad to help you.

Extra Help There is a PASS (peer assisted study session) leader for this course. Please see <https://mathcenter.uccs.edu/peer-assisted-study-sessions> and scroll down to find the days/times for the Math 2150 sessions, which will be led by Jack Kessler.

Disability Services Please let me know of any additional accommodations you may require. Such accommodations should be approved by the Office of Disability Services, and they should have paperwork for you to give me. Let me know if you have questions.