MTH 355 DISCRETE MATHEMATICS - Spring 2015

Class Meetings TR 12:00 PM-1:20 PM in WB 205

Instructor Elaine Cozzi
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  • Office Hours: Mon 2:30 PM-4:00 PM, Tues 3:30 PM-5:00 PM

Text *A Discrete Transition to Advanced Mathematics*, by Bettina Richmond and Thomas Richmond

Course Webpage http://people.oregonstate.edu/~cozzie/MTH355S15.html
The first-day handout, homework assignments, and other course materials will be posted on the course webpage.

Content of the course In this course, you will learn a variety of tools which will lay the foundation for more abstract upper level mathematics courses. We will cover sets and logic, quantifiers, proof techniques (including mathematical induction), basic counting principles, elementary combinatorics, the binomial theorem, equivalence relations, and functions. If time permits, we will touch on recurrence relations, generating functions, and graph theory.

Prerequisites MTH 253 (MTH 341 recommended)

Course Assessment Your overall grade will be determined by the following:
  • Homework: 20%
  • Quizzes: 10%
  • Class Participation (Worksheets): 10%
  • Midterm Exam: 25%
  • Final Exam: 35%

Homework Homework will usually be due on Thursday at the beginning of class class, although homework may occasionally be due on Tuesday. The first assignment will be due on April 9. You must write up and submit your own work. Late homework will not be accepted under any circumstance. Your lowest homework grade will be dropped.

Quizzes There will be four short in-class quizzes. The quizzes are tentatively scheduled for April 14, April 28, May 12, and May 26. Your lowest quiz grade will be dropped. There will be no make-up quizzes.

Class Participation (Worksheets) On most Thursdays, you will spend thirty to forty minutes in groups working together on worksheets, which will
be submitted at the end of class.

**Exams** There will be one in-class midterm and a final exam. The midterm is tentatively scheduled for Tuesday, May 5. The final is cumulative and will be held on Monday, June 8, 9:30 AM - 11:20 AM.

**Learning Outcomes** Upon completing MTH 355, the successful student is expected to be able to

- construct simple proofs using various proof techniques,
- construct an inductive argument,
- solve combinatorics problems, and be able to state and prove the Binomial Theorem,
- understand properties of functions and their inverses,
- be able to identify and understand relations and their properties (in particular, equivalence relations).

**Students with Disabilities** Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

**Academic Honesty** Students are expected to be familiar with Oregon State University’s Statement of Expectations for Student Conduct. Please review this statement at http://oregonstate.edu/admin/stucon/achon.htm