

# CS 222 - Discrete Mathematics

## Syllabus - Fall 2006

### Basic Information

Lecture time: 12:45-2:00 pm, Tue/Thu, EPS 103

Instructor: Dr. Brendan Mumeey, [mumeey@cs.montana.edu](mailto:mumeey@cs.montana.edu)

Grader/GTA: Will Merryman, [wmerryma@cs.montana.edu](mailto:wmerryma@cs.montana.edu)

Office hours: See [www.cs.montana.edu/mumeey/schedule.htm](http://www.cs.montana.edu/mumeey/schedule.htm), EPS 364

Course home page: [www.cs.montana.edu/courses/222](http://www.cs.montana.edu/courses/222)

Textbook: *Ensley and Crawley, Discrete Mathematics: Mathematical Reasoning and Proof with Puzzles, Patterns, and Games.*

### Course Outline

This course covers the basics of discrete mathematics including logic, Boolean algebra, sets, relations, proof techniques, basic combinatorics, probability and graph theory.

*See the course web page for a lecture by lecture schedule of topics.*

### Course Outcomes

By the end of the course students will:

- Be able to use formal proof techniques, including mathematical induction and proof by contradiction
- Understand algorithmic complexity and be able to use it to compare different program designs for a problem
- Solve problems using Boolean algebra.
- Solve problems that use logic, sets, and functions.
- Solve problems that use permutations and combinations.
- Solve problems that use discrete probability.
- Solve problems that use basic graph theory.

### Homework

Homework will be assigned throughout the semester, and will be graded by the TA. You may work with one other partner on the assignments (no more than one). *All homework assignments will be due at the start of class on the assigned date.*

### Exams

Exams will be on the following dates and times (no exceptions unless you notify me beforehand with a legitimate reason).

Midterm: 12:45-2:00 pm, Thursday, October 12, EPS 103

Final Exam: 2:00-3:50 pm, Tuesday, December 12, EPS 103

*You will be allowed a single 8.5 x 11 sheet of study notes to take into the exam.*

### Grading Scheme

Homework 50%

Midterm 20%

Final 30%

*The final course grades may be curved.*