

Instructor: Matt Lamoureux

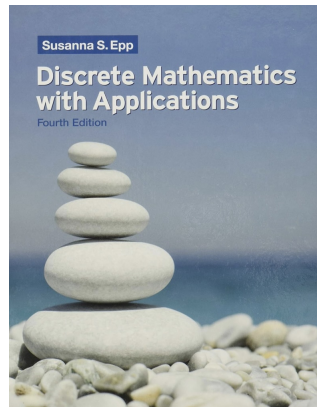
Instructor email: matthew.lamoureux@uconn.edu

Office: Science 1 MZ1 120

Office Hours: Mon 1-2 in SCI1 office, Wed 10-11 in ITE lobby, or by appointment.

TA info: TBD

Text: *Discrete Mathematics with Applications*, 5th edition, by Susanna Epp.



Supplemental: MIT OpenCourseWare: Mathematics for Computer Science.
ocw.mit.edu/courses/6-042j-mathematics-for-computer-science-fall-2010

Prerequisites: CSE 1010 (Introduction to Computing).

Learning Outcomes, adapted from Kenneth Rosen's course goals:

- (1) *Mathematical Reasoning*: Learn how to read, comprehend, and construct mathematical arguments through studying logic and practicing methods of proof.
- (2) *Combinatorial Analysis*: Solve counting problems and analyze algorithms by leveraging basic combinatorial techniques.
- (3) *Discrete Structures*: Become familiar with abstract mathematical structures used to represent discrete objects, and understand the relationships between these objects. Examples include sets, permutations, relations, graphs, trees, and finite-state machines.
- (4) *Algorithmic Thinking and Applications*: Connect methods of discrete mathematics to solving problems in computer science. Verify algorithms mathematically and leverage pseudocode to aid in analysis.

Academic Integrity:

Integrity is a crucial part of the academic experience. You must observe the University's Academic Integrity Policy as found in the Student Code. Cheating can result in one or more of the following: a score of zero on the assignment; a grade of F in the course; expulsion from the university and/or any subsidiary programs.

Summary of Grades:

Participation	in class and on HuskyCT	5%
Homework	six assignments	25%
Midterm Assessment 1	tentatively 9/25	20%
Midterm Assessment 2	tentatively 10/30	20%
Final Assessment	week of 12/9	30%

Participation:

- Because this course is fast-paced, attendance in lectures will be critical to achieving learning outcomes. Take notes that can help with future work, and ask questions as you encounter new and/or confusing material.
- There will be weekly assessments submitted on HuskyCT to help us (student and instructor) learn what concepts have or haven't been mastered. These are not meant to be intimidating, and should not take more than 10 minutes to complete. These will be due Mondays, and you can miss 3 without penalty—if you don't send me any emails requesting extensions.

Homework:

- There will be 6 assignments that must be submitted via one PDF on HuskyCT. Your best 5 scores will be used to compute your grade.
- Deadlines will be available on HuskyCT and generally at midnight. You can submit an assignment late only if:
 - (1) grading has not yet begun,
 - (2) the solutions have not yet been posted, and
 - (3) you haven't emailed me requesting an extension.Start each assignment early and submit whatever work is completed by the deadline.
- It is **highly** recommended that students form study groups and work together on homework assignments. Please be sure to include the names of your study group members on your homework submission, as a form of acknowledging their contribution.
- I am also happy to help! Feel free to attend office hours or reach out with questions.

Exams:

- There will be 2 midterm exams given in class (50 min each), and a cumulative final exam will be given at the end of the semester, scheduled by the university (2 hours).
- Multiple choice questions (~30%) based on information from the lectures will assess fact recognition, important definitions, etc. Some of these questions may be directly taken from hints that I've provided during class.
- Free response questions (~70%) will allow you to apply methods from class and are likely to be formatted similarly to homework questions.
- Some students learn more quickly than others. If you take all 3 exams, and the final exam score is better than either of your midterm exam scores, the final exam score will replace the lower midterm exam score.
- Sometimes emergencies occur. If you miss one midterm exam, your final exam score will be used as the missing midterm exam score.
- If you miss more than one exam, you will receive 0s for all missed exams.
- Requests for accommodations (through CSD) are welcomed, and these should be arranged at the beginning of the semester, or at least a week before an exam.

Grading Scheme: The usual one.

Points	Grade
93-100	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
60-62	D-
00-59	F

Tentative Schedule: Subject to change.

Week	Date	Reading	Topic
1	8/26	2.1	Compound Statements
		2.2	Conditional Statements
2	9/2	2.3	Arguments
		3.1-3.2	Quantified Statements
3	9/9	4.1-4.4	Direct Proofs and Counterexamples
4	9/16	4.7-4.8	Proof by Contradiction
5	9/23		Review
	9/25		Midterm Exam 1
6	9/30	5.1, 5.2, 5.5	Sequences & Induction
7	10/7	5.6, 5.7, 5.9	Recursion
8	10/14	6.1-6.2	Sets
9	10/21	7.1-7.2	Functions
10	10/28		Review
	10/30		Midterm Exam 2
11	11/4	8.1-8.5	Relations
12	11/11	9.1-9.2	Probability
13	11/18	9.3-9.5	Counting
14	12/2	10.1, 10.4	Graphs & Trees