Course Syllabus, Summer 2020

Math 125-A01/A02, Discrete Mathematics I

Instructor Jack Love, jlove6@masonlive.gmu.edu

Office hours Blackboard Collaborate Ultra Course Room, Fridays 9:00am-10:00am or by appointment

Required text *Discrete Mathematics with Graph Theory.* Edition: 3rd 18. ISBN: 9780134689555.

Prerequisites Math Placement Algebra I 13 or Undergraduate level MATH 105 Minimum Grade of C or Undergraduate level MATH 108 Minimum Grade of C or Undergraduate level MATH 113 Minimum Grade of C

Course description We will cover chapters 2, 5, 6, 7, 9, and 10 of the text. The overarching goal is to learn how to think, reason, and communicate mathematically.

Disability statement If you are a student with a disability and you need academic accommodations, please see me and contact Disability Services at `https://ds.gmu.edu`. All academic accommodations must be arranged through that office.

University Honor Code You are expected to follow the GMU Honor Code. See `https://oai.gmu.edu` for details.

Diversity You are expected to behave in accordance with the GMU Diversity Statement. See `https://stearnscenter.gmu.edu/purpose-and-mission/mason-diversity-statement` for details.

Tutoring Center See `http://math.gmu.edu/tutor-center.php` for details.

Counseling and Psychological Services Counseling and Psychological Services provides a wide range of free services to students. See `https://caps.gmu.edu` for details.

Privacy Students must use their masonlive email account to receive important University information, including messages related to this class. See `http://masonlive.gmu.edu` for details.

A different kind of math class It is worth taking a moment to discuss the nature of this class.

This class will probably feel very different from most of your previous math classes.

Many math classes are taught as a system of rules that you are asked to follow blindly so that the "right answer" appears at the end of your work.

In this class you will learn to make clear, cogent, precise mathematical arguments. In other words, you will learn to reason and to communicate your reasoning.

Not only is this closer to the heart of mathematics, it is an invaluable skill that I hope you will take with you and apply to many areas of your life.

Grading Your grade is dependent upon 3 criteria: Review Exercises, Quizzes, Exams. You must complete the Review Exercises at the end of each chapter. For each chapter you will receive one of the following scores:

- 1 – an honest effort was made to complete every exercise
- 0 – missing exercises or careless work

Yes, it is possible (and probably expected) that you get full credit for review exercises even though you have done some of them incorrectly. This means the onus is on *you* to make sure you understand the material, so that your reasoning skills can stand up to more scrupulous critique on quizzes and exams. I strongly encourage attending weekly office hours so that we can discuss the material "in person".

In addition to the review exercises, there will be 3 quizzes and 2 exams. Your course percentage will be calculated according to the weights

$$25\% \text{ Review Exercises} \qquad 25\% \text{ Quizzes} \qquad 50\% \text{ Exams}$$

and your letter grade will be assigned as follows:

$A+$	A	$A-$	$B+$	B	$B-$	$C+$	C	$C-$	D	F
98-100	93-97	90-92	88-89	83-87	80-82	78-79	73-77	70-72	60-69	0-59

Schedule Review exercises are due every Friday before midnight. Quizzes and exams will be held on Fridays; they will be made available at 12:01am and must be submitted by 11:59pm.

There will be 36 1-hour lectures. The sections to be covered are listed by lecture number on the following page. Below that is a suggested schedule for viewing the lectures, along with details for when the review exercises are due and when the quizzes and exams will be held.

Lecture	Section
1	-
2	2.1
3	2.2
4	2.3
5	2.4
6	2.4
7	2.5
8	5.1
9	5.1

Lecture	Section
10	5.1
11	5.2
12	5.2
13	5.3
14	5.4
15	6.1
16	6.1, 6.2
17	6.2, 6.3
18	6.3

Lecture	Section
19	7.1
20	7.2
21	7.3
22	7.3
23	7.4
24	7.4
25	7.5
26	7.5
27	7.6

Lecture	Section
28	7.7
29	9.1
30	9.2
31	9.3
32	10.1
33	10.1
34	10.2
35	10.3
36	10.4

Quiz and exam dates, review exercise due dates, and suggested lecture schedule

Week 1: June 1 - 5					
Day	M	T	W	R	F
Lecture #	1, 2	3, 4	5, 6	7, 8	ch 2 review exercises due
Book section	2.1	2.2, 2.3	2.4	2.5, 5.1	ch 2 quiz

Week 2: June 8 - 12					
Day	M	T	W	R	F
Lecture #	9, 10	11, 12	13, 14	15, 16	ch 5 review exercises due
Book section	5.1	5.2	5.3, 5.4	6.1, 6.2	ch 5 quiz

Week 3: June 15 - 19					
Day	M	T	W	R	F
Lecture #	17, 18	19, 20	21, 22	Study day	ch 6 review exercises due
Book section	6.2, 6.3	7.1, 7.2	7.3		exam 1: ch 2, 5, 6

Week 4: June 22 - 26					
Day	M	T	W	R	F
Lecture #	23, 24	25, 26	27, 28	29, 30	ch 7 review exercises due
Book section	7.4	7.5	7.6, 7.7	9.1, 9.2	ch 7 quiz

Week 5: June 29 - July 3					
Day	M	T	W	R	F
Lecture #	31, 32	33, 34	35, 36	Study day	ch 9, 10 review exercises due
Book section	9.3, 10.1	10.1, 10.2	10.3, 10.4		exam 2: ch 7, 9, 10