Instructor: Mrs. Maliha J. Luqman
Email: mluqman@gmu.edu
Office Hours:
In person: MW 12:00-1:00PM, Exploratory 4309
Zoom: TR 12:00-1:00PM,
https://gmu.zoom.us/j/2179107616
Please email if these don't work for you.

Course Information:
Section: DL1 - 3 credits
Online Class: TR 10:30AM-11:45AM
Follow Zoom link on Blackboard
https://gmu.zoom.us/j/93044736436

Course Description

Course Prerequisites: A grade of C or better in MATH 105 or a passing score on the Math Placement Test. If you have not met the formal prerequisites for the course, you cannot stay in the course. Information on the Math Placement Test is available at https://science.gmu.edu/academics/departments-units/mathematical-sciences/mathematical-sciences-testing-center

Course Description and Objective:
Introduces ideas of discrete mathematics and combinatorial proof techniques including logic, number theory, mathematical induction, sets, graphs, trees, recursion and enumeration.

Textbooks and Materials

Text: Discrete Mathematics with Applications by Susanna Epp. The eText is available on WebAssign which you will use to complete your homework.
WebAssign Course Key: **gmu 7148 9244**

Technology:

- a computer/tablet with internet to access Blackboard, Zoom and WebAssign.
- a tablet/phone with camera to take proctored exams (yes, you need two devices for exams)
- a handheld calculator (TI-83/84, if you have one already, a TI-30II is fine) during exams.
- Recommended: a stylus to write on the "board" during class

Assessments and Grading Scale

Posting of Grades: Student assignments will be evaluated within a week and posted to Blackboard one week after the assignment due date.

Grading Scale:

A	A-	B+	B	B-	C+	C	C-	D	F
93-100	90-92	87-89	83-86	80-82	77-79	73-76	70-72	60-69	0-59

There are 5 components that will determine your grade:

1. Office Hour Visit – 2%
2. Activity Sheets (will drop 2 lowest) – 18%
3. WebAssign Homework – 15%
4. Exams (2 given in-class, about 1.5 hours each) – 20% x 2
5. Comprehensive Final Exam – 25%

Assessments

- **Office Hour Visit (2%)**: You are required to visit me at least once during office hours. If you have no questions and/or concerns, at least stop by for 10-15 minutes to introduce yourself.
- **In-class Activities (18%):** Math is an active sport, missing even one day can impair learning. Though Attendance is not part of your grade, there will be weekly in-class activities in which you can *collaborate with your classmates*, you may miss two of these with no grade penalty. Students are expected to be in class on time and to be actively working on math while they are in class. Have all supplies near you when class starts (dry-erase marker, pencil and paper). Students should be respectful in class (participate only in discussions relative to the class, mute cell phones.) All assignments are to be submitted by the end of class. Late assignments will not be accepted; however, your two lowest scores will be dropped at the end of the semester.
    - Your third lowest activity score can be *replaced* by one of the following options:
        - Your contributions to the Blackboard's Discussion Forum OR
        - Submitting a copy of your notes (on the assigned dates)
- **WebAssign Homework (15%)**: There will be homework corresponding to each homework section we cover in class. **Expect to work 15-20 hours a week for this course.**
- **Exams:** There will be two in-class exams in addition to the comprehensive final. Exams make up the majority of your grade. Cheating of any form will not be tolerated. Exams will be conducted in-class. I allow an exam-swap policy, whereby if the grade on your Final Exam is higher than your lowest exam score, the lowest exam score will be replaced with your final. As a result, missing exams for non-emergency reasons results in a zero on the exam.
- **Final Exam**: The final in-class exam is comprehensive. The final exam is worth 25% of your grade. There will be no make-ups permitted for the final exam. The date is already set by the university, so please do not make other plans on the date of the final exam such as appointments, early vacation departures, family outings, etc. Such changes are not negotiable.
- **Extra Credit**: There will be NO extra credit assigned. Please do not ask.

Course Policies

Communication

I frequently send announcements through email via Blackboard announcements. You can refer to past announcements in Blackboard if you have trouble going through your email. Faculty, staff, and administrators communicate with students through their official GMU email accounts (@gmu.edu). Students are likewise required to use their Masonlive email accounts (@gmu.edu or @masonlive.gmu.edu) to communicate with instructors and other college personnel and should check their email accounts regularly. I will use Blackboard to post announcements, grades and other important information pertaining to the class. You can access this by going to mymason.gmu.edu and logging on using your NetID.

Instructors receive a significant number of emails from students over the course of the semester. To specifically identify the course in which the student is enrolled, all email from the student must include the course and section number (e.g., MATH 125 – 008, Absence Excuse) in the subject of the email.

Additional Resources and Information

Academic Integrity: Violations of the honor code will not be tolerated.

Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.

Mason Honor Code is available at: https://oai.gmu.edu/mason-honor-code/

Religious Holidays: GMU is accommodating to all religious holidays observed by its students and faculty. It is each student's responsibility during the first two weeks of the semester to inform instructors the dates of any major religious holidays on which the student will be absent or unavailable due to religious observances. https://ulife.gmu.edu/religious-holiday-calendar/

Disability statement: If you are a student with a disability and you need academic accommodations, please contact Disability Services at 703.993.2474. All academic accommodations must be arranged through that office. Your accommodations sheet must be submitted on Blackboard at least one week prior to any assessment that you are requesting accommodations for. https://ds.gmu.edu/

Tutoring Center: The Mathematics Tutoring Center is offering online tutoring services to students currently enrolled in undergraduate math courses at GMU. Please see the website for details: http://math.gmu.edu/tutor-center.php

Student Privacy/FERPA: The Family Educational Rights and Privacy Act of 1974 (FERPA) is a federal law that governs the education records of eligible students. It grants students continuous access to their education records upon request, allows students to amend their records if they feel they're inaccurate, and restricts how and when their education records can be disclosed. https://registrar.gmu.edu/ferpa/

Netiquette: Craft your messages carefully to avoid misinterpretation. Keep these online communication strategies in mind:

- Avoid vague words, jargons, and sarcasm—any rude or disrespectful posts will result in a grade deduction
- Edit meticulously

ITS Support Center: The ITS Support Center serves as the central point of contact for the university community for requesting IT support or information. Additional details and resources are located at https://its.gmu.edu/service/its-support-center/ Email support@gmu.edu or call 703-993-8870 for technical support.

Keep Learning, Learning Services https://learningservices.gmu.edu/keeplearning/

Counseling and Psychological Services https://caps.gmu.edu/

University Libraries https://library.gmu.edu/

See a longer list of Mason student support services posted on **The Stearns Center** website:

https://stearnscenter.gmu.edu/knowledge-center/knowing-mason-students/student-supportresources-on-campus/

Important Campus-wide Dates

Classes Begin	Monday, August 22
Last day to add	Monday, August 29
Labor Day – University closed	Monday, September 5
Last day to drop a class with a tuition refund	Tuesday, September 6
Last day to drop (50% refund)	Tuesday, September 13
Unrestricted Withdrawal Period (W on transcript) • If you do not withdraw by this date and do not complete your assignments, your grade will be based on what you have submitted, this is usually an F.	September 14-27
Fall Break	Monday, October 10
Selective Withdrawal Period (W on transcript) • If you do not withdraw by this date and do not complete your assignments, your grade will be based on what you have submitted, this is usually an F. • You are limited to 3 withdrawals in your academic career	September 28-October 24
Thanksgiving Break – University closed	Wednesday, November 23- Sunday, November, 27
Final exam	Thursday, December 8 – 10:30AM-1:15PM

Tentative Schedule

	Date	Sections and Topics:	Assignments
Week 1	T: 08/23	1.1 Variables 2.1 Logical Form and Logical Equivalence	Activity 1 WebAssign: "Getting Started with WebAssign", 1.1, 2.1-2.2
	R: 08/25	2.2 Conditional Statements	
Week 2	T: 08/30	2.3 Valid and Invalid Arguments	Activity 2 WebAssign: 2.3, 1.2, 6.1
	R: 09/01	1.2 The Language of Sets 6.1 Set Theory	
Week 3	T: 09/06	6.2 Properties of Sets	Activity 3 WebAssign: 6.1-6.3
	R: 09/08	6.3 Disproofs and Algebraic Proofs	
Week 4	T: 09/13	9.1 Introduction to Probability	Activity 4 WebAssign: 9.1-9.2
	R: 09/15	9.2 The Multiplication Rule	
Week 5	T: 09/20	9.3 The Addition Rule	Activity 5 WebAssign: 9.3-9.4
	R: 09/22	9.4 The Pigeonhole Principle	
Week 6	T: 09/27	9.5 Combinations and Permutations	Activity 6 WebAssign: 9.5
	R: 09/29	Catch up & Review	
Week 7	T: 10/04	**Exam 1**	**Sections covered in Ch. 2, 6 & 9**
	R: 10/06	5.1 Sequences 5.2 Mathematical Induction	
Week 8	T: 10/11	*NO CLASS (Monday classes meet on Tuesday)*	Activity 7 WebAssign: 5.1, 5.2, 5.4
	R: 10/13	5.4 Strong Mathematical Induction	
Week 9	T: 10/18	5.6 Defining Sequences Recursively	Activity 8 WebAssign: 5.6, 5.7
	R: 10/20	5.7 Solving Recurrence Relations by Iteration	
Week 10	T: 10/25	1.3 The Language of Relations and Functions 7.1 Functions on General Sets 7.2 One-to-One, Onto, and Inverse Functions	Activity 9 WebAssign: 1.3, 7.1-7.2, 8.1
	R: 10/27	8.1 Relations on Sets	
Week 11	T: 11/01	8.2 Reflexivity, Symmetry and Transitivity 8.3 Equivalence Relations	Activity 10 WebAssign: 8.2-8.5
	R: 11/03	8.4 Modular Arithmetic 8.5 Partial Order Relations	
Week 12	T: 11/08	**Exam 2**	**Sections covered in Ch. 5, 7 & 8**
	R: 11/10	1.4 The Language of Graphs	
Week 13	T: 11/15	10.1 Trails, Paths and Circuits	Activity 11 WebAssign 1.4, 10.1-10.2
	R: 11/17	10.2 Matrix Representation of Graphs	
Week 14	T: 11/22	10.3 Isomorphisms on Graphs	Activity 12 WebAssign 10.3
	R: 11/24	*NO CLASS*	
Week 15	T: 11/29	10.4 Trees 10.6 Spanning Trees and Shortest Path Algorithms	Activity 13 WebAssign 10.4, 10.6

	R: 12/01	Catch up & Review	
Week 16	R: 12/08	**Final Exam (10:30AM-1:15PM)**	

*****ITEMS ARE SUBJECT TO CHANGE AND WILL BE UPDATED ON BLACKBOARD ACCORDINGLY.*****