George Mason University
Department of Mathematical Sciences

Discrete Mathematics I

Spring 2021

Course: MATH-125, section 003. This is a *Mason Core Course* in the category of *Quantitative Reasoning*. The expected learning outcomes are listed at `http://masoncore.gmu.edu/quantitative-reasoning-2/`.

Total Credits: 3.

Purpose: An introduction to the ideas of discrete mathematics; combinatorics, mathematical induction proof technique, sets and graphs.

Prerequisites: For precise information go to: `https://catalog.gmu.edu/` in "Find a Course" when typing "MATH 125". Either one of the following requirements will suffice.

- A minimum score of 13 on the Mathematics Placement Algebra I. See info `math.gmu.edu/placement_test.php`
- C or better in MATH 105, MATH 108, or MATH 113.

These prerequisite are enforced by the registration system. Those having problems registering should talk to Christine Amaya, the Senior Secretary of the Department of Mathematical Sciences, `camaya@gmu.edu`.

Times and Places: online, asynchronous instructional method.

Period: From January 25 to May 10.

Professor:
Geir Agnarsson
email: `gagnarss@gmu.edu`

Office-hours: W 1 – 3 pm via Zoom.

Required Text: Edgar G. Goodaire and Michael M. Parmenter, *Discrete Mathematics with Graph Theory.* Prentice Hall (2006), 3d edition.

Material: Chapters: 2, 3, 4 (Sec: 4.1, 4.2, 4.3 ,4.4), 5 (Sec: 5.1, 5.2, 5.3), 6, 7, 9, 10 (Sec: 10.1), 12 (Sec: 12.1, 12.2, 12.3).

Homework (HW): HW will be assigned every week. They are not to be handed in. Solutions to most of them will be posted on Blackboard. – *You should attempt them before reading the solutions!*

Examinations: There will be weekly quizzes (QZ) throughout the semester, one midterm exam (MT) and a final exam (FL).

Each quiz (QZ) can be from anything up to that point in lecture and will be made to be about 10 minutes long.

The midterm (MT) will cover the material up to that point in lecture. It will be made as a 50 minutes long exam.

The final (FL) will serve as a second midterm exam and roughly cover the material from the midterm exam (MT) to the end of the course. It will also be made as a 50 minutes long exam.

Each exam (quiz, midterm, final) will be posted on Gradescope (which can be accessed from within Blackboard) and available for 12 hours (usually 8am – 8pm EST). Once accessed, you have (a) one hour to complete each quiz (b) three hours to complete each midterm exam or final exam, and to upload your solutions to Gradescope. The downloading, work on the exam and uploading of your solution **must be completed within the given window of 12 hours!**

Midterm (MT): Monday, March 8 (with above format.)

Final (FL): Monday, May 3 (with above format.)

Grading: The letter grade will be based on the largest one of the following:

1. QZ 10% + MT 60% + FL 30%.
2. QZ 10% + MT 30% + FL 60%.

Policy:

- No exam turned in, without proper explanation, is an automatic zero on that exam.
- In order to pass the class one MUST TAKE THE FINAL!

Proper conduct: Needless to say, collaboration of any kind during an exam (quiz, midterm or final) is cheating. You are to abide by the GMU's Honor Code, see `oai.gmu.edu/mason-honor-code/`

During an exam you are not allowed to help anyone nor receive any help from anyone, except possibly from the exam proctor. More specifically this includes, but is not limited to: (a) not receiving help from anyone, except possibly the instructor, yours truly, via email or Discussion Board on Blackboard, (b) not using any equipments, material or websites not mentioned and (c) not copying anything directly from a book or anything found on the Internet.

Geir Agnarsson
January 25, 2021