George Mason University
Department of Mathematical Sciences

Discrete Mathematics I

Fall 2021

Course: MATH-125, section 002. 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.
- 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: TR 1:30 – 2:45 pm Nguyen Engineering Building (ENGR), room 1101.

Period: From August 23 to December 15.

Professor:
Geir Agnarsson
Exploratory Hall 4412
email: `gagnarss@gmu.edu`

Office-hours: TR 12:30 – 1:30 pm, or by appointment.

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 on Thursdays. They are not to be handed in. Solutions to most of them will be discussed if needed the following Tuesday and posted on Blackboard (Bb). – *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 and will be given at the end of Thursday lectures.

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.

Midterm (MT): Tuesday, October 19, 1:30 – 2:20 pm, ENGR 1101.

Final (FL): Tuesday, December 14, 1:30 – 2:20 pm, ENGR 1101.

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. You also cannot use any helping device, be it notebooks, text-books, cheat-sheets, websites or calculators, unless otherwise clearly stated on the exam.

Available Help: For help with some of the HW you can see me during office hours, or drop in the Mathematics Tutoring Center, currently online, but hopefully will become in-person within the next couple of weeks. That will be in the Johnson Center room 344. For more info on tutoring, go to the website
`https://science.gmu.edu/academics/departments-units/mathematical-sciences/math-tutoring/tutoring-center-hours-and`.

Courtesy: Be courteous to your fellow classmate. During lectures be quiet and please turn off your cellular phones!

Geir Agnarsson
August 24, 2021