Discrete Mathematics I Syllabus: Summer 2023

Instructor, Pronouns & Email: Tim Banks, He/Him & TBanks6@GMU.edu
Section 125 - B03: Art and Design Building Room 2026
Dates & Meeting Times: 5/30/23 - 7/29/23 & TTh 10:30AM - 1:10PM
Office Hours: To Be Announced
Zoom Link:

General Notes & Technology

First and foremost, this class is a place where we are free to make mistakes and learn. Please help me create a respectful, supportive environment for yourself and your peers. During our summer together, please let me know your preferred name and pronouns and I will make the adjustment in my class roster and address you according to your instructions. Please be patient as I learn all of your names.

Please ask for help if you need it. It is literally my job! Office hours are a great time to ask more in depth questions about the material.

There should be no technology used unless otherwise noted. Please be respectful of myself and others. Devices may be used for educational purposes at designated times. If you need to use a device for a medical purpose or for a personal emergency, please let me know ahead of time. Due to the rise in AI, I reserve the right to ask you to explain a problem to me in a 1 on 1 setting to ensure you understand the content.

The last day to drop a class, with 100% tuition reimbursement in SESSION B is June 1st. The last day to drop a class, with 50% tuition reimbursement in SESSION B is June 14th. Other important information can be found here: https://registrar.gmu.edu/calendars/summer_2023/

Required Materials, Technology & PreRequisites

Discrete Mathematics with Applications by Susanna Epp, 5th Edition

WebAssign: One of the main ways to practice the content

Internet Access, Blackboard, Gradescope, Email, Zoom

Pre - Requistes & Course Description

You must have passed Math 105, 108 and/or 113 to be registered for this class.

This course will introduce ideas of discrete mathematics and combinatorial proof techniques including mathematical induction, sets, graphs, trees, recursion and enumeration. We will also discuss introductory number theory to discuss direct proofs and a short introduction to cryptography.

This class will be a mix of traditional lecture, interactive lectures and active learning. This means I will ask you to participate and think during portions of this class. Thi may include various games and activities! Studies show that we learn by doing and not simply listening to others talk. I believe this active participation will help you to develop a solid mathematical foundation which will be of great benefit during your time at Mason and beyond. Even if you do not go into math, the critical thinking that you will develop in Discrete Mathematics will be an invaluable skill in the “real world”.

Expectations

Complete the readings on the topics that we will review that day. This will make the content more digestable.

Select problems will have solutions uploaded within 48 hours.

If you are reading this, send me an email that tells me about your favorite TV show and a brief explanation on why its your favorite.

Be respectful. Please pay attention when an example is being presented or a question is being asked. If you are playing on your phone or generally not paying attention, you will lose participation points.

Anticipated Structure

In alignment with standards based grading, there will be a short quiz at the start of most classes. The topics will vary from week to week. They will also purposefully get longer as the summer goes on. Do **NOT** attempt all of the problems. Do the topics that you need. I will let you know your standing on each topic before each quiz. The 20 topics will be listed later in this document. After the quiz, there will be a lecture until about the half way point of our meeting time. Then, we will take a quick break. After that, you will have the opportunity to go through problems individually or within a small group. Finally, we will have presentations on selected problems.

Attendance & Grading

I will cut to the chase here. Attendance is highly recommended. You can not practice mathematics with all of the supports of class if you are not here!

Your grade will be based on Three Factors

Quizzes (70%)

Homework (20%)

2 questions will be randomly picked and graded for accuracy. The rest will be graded for completion.

Participation and Presentations (10%)

Your final grade will be calculated by dividing the number of points you get by 10 and converted to a letter grade based on the intervals below.

A: [89.5, 100] B: [79.5, 89.5) C: [69.5, 79.5) D: [59.5, 69.5) F: [0, 59.5)

I will curve and give +/- based on the final grade distribution.

Something that we have all learned over the past 3 years is that life is unpredictable. In that spirit, at the end of the semester, I will drop the lowest quiz grade in each type and the lowest homework grade. If possible, please show up to all of the classes.

Quizzes

At the start of most classes, there will be an individual quiz based on topics from the immediately previous class and other classes before then. The last two classes will have an option to do quizzes with a partner. The grade will count as an individual grade for each of you. After the quiz is complete, you must upload the quiz to Gradescope. Failure to do will result in a 0. Also, failure to assign the pages correctly will lead to half off your grade until it is fixed. Feedback will be available within one business day. Make ups and additional opportunities can happen during office hours and by appointment.

Each quiz will have multiple questions, varying in the type and the proficiencies covered. You must attempt each proficiency at least twice and select ones a third time. Each question will be graded out of 5 points. Only your best 2 attempts will count.

Honor Code

George Mason has an honor code that is outlined here: https://oai.gmu.edu/mason-honor-code/. You are encouraged to work with others, but make sure your work is original.

Learning Differences & Special Needs

George Mason also has an office to help with providing equitable access to course materials and the overall campus. More information is here: https://ods.gmu.edu.

Diversity Statement

Mason's goal is to build and sustain an inclusive campus community and to foster a welcoming climate that values and respects all members of the community. As individuals of our own unique identities — faith, race, sexuality, gender, abilities, socioeconomic class — we each offer an irreplaceable opportunity to examine issues from new and innovate perspectives. The commitment to providing these opportunities equally to every member of our community is the force behind creating a diverse, ideal George Mason University.

The expanded version of this statement and more can be found here: https://diversity.gmu.edu/diversity