

# Discrete Mathematics (Math 2000)

## Class info:

MW 2-3:20pm in Wooten Hall 313

## Instructor:

Dr. Sean Griffin

Assistant Professor

GAB 409

sean.griffin@unt.edu

## Office hours (in GAB 409):

Mon 9-10am and 3:30-4pm

Wed 9-10am

Fri 3-3:30pm

Also by appointment.

## Textbook (required):

*Discrete Mathematics With Applications*, 5th edition, by Susanna Epp

## Important Dates:

Jan 12 - First day of class!

Jan 16 - Last day to add

Jan 24 - Last day to drop without a W

Feb 20 - Last day to switch to Pass/No Pass

April 10 - Last day to drop

May 4 - Final Exam

## Course description:

This objectives of this course are two-fold: To introduce you to the world of discrete mathematics, with all of its intricacy and beauty, and to teach you how to write carefully crafted and logical proofs. For many students in this class, their previous interaction with proofs was way back in geometry class. The proofs in this class will often be less straightforward and sometimes more mystifying. For example, we will give rigorous proofs of the fact that the square root of 2 is irrational and that there infinitely many prime numbers. Be prepared to step out of the comforting world of computations and number crunching and into the world of logical reasoning, number theory, probability, and combinatorics.

Learning objectives:

- Chapters 1-3: Set notation, relations, formal logic
- Chapter 4: Number theory and proofs
- Chapter 5: Sequences, induction, recursions
- Chapter 6: Set theory
- Chapter 7-8: Functions and relations
- Chapter 9: Probability and Combinatorics
- Chapter 10: Graphs and Trees
- Depending on time, we may explore other topics like combinatorial/graph theory algorithms, Platonic solids, Ramsey Theory and/or chromatic polynomials of graphs.

#### **ODA accommodations:**

If you have ODA accommodations, please let me know early so that we can figure out the best way to accommodate you. We can discuss further by appointment (see more info below).

#### **Exams:**

There will be 2 midterm exams and 1 final exam:

- Midterm 1, in class on **Wed, Feb 18**
- Midterm 2, in class on **Wed, April 8**
- Final Exam (cumulative), in our usual classroom on **Monday, May 4, 12:30-2:30pm**

You will **not** be allowed to use notes or a calculator on the exams and quizzes.

#### **Homework/Quizzes:**

Each week, there will be homework due on **Wednesdays at start of class**, except on exam weeks.

There will be **5 mini quizzes** (10-15 min) on the following Wednesdays in class that will be based on the homework:

Jan 21, Feb 4, March 4, March 25, and April 22

Week 1: No HW due.

Week 2: HW due on Wednesday at start of class, and a 10 min quiz in class on Wednesday

**\*Your lowest 2 homework grades and your lowest (only 1) quiz grade will be dropped.\***

You are expected to solve homework problems using the material that was presented in lecture up to the time the homework was assigned, and not use additional material not covered in class up to that point.

### **GenAI policy:**

Use of Generative AI (e.g. ChatGPT, Gemini, etc.) or other online aids like Chegg to solve the specific problems assigned as homework is **NOT** allowed in this class.

However, using it to study for quizzes and exams is allowed in this class. Just be aware that if you do use GenAI to study for quizzes/exams, you are responsible for verifying whether its explanations are accurate or not. Generative AI is known to hallucinate and fill in its knowledge gaps with false information, so use it at your own risk for studying.

### **Grades:**

Grades will be broken down with the following percentages:

- Quizzes + Homework: 20%
- Midterm 1: 20%
- Midterm 2: 20%
- Final Exam: 40%

If your overall score falls in the following percentage ranges, you are guaranteed at least the letter grade listed below. (These ranges might be curved during the semester to benefit you depending on class performance on the exams)

- A:  $\geq 90\%$
- B:  $\geq 80\%$
- C:  $\geq 70\%$
- D:  $\geq 60\%$
- F: Below 60%

### **Attendance:**

Attendance outside of quizzes and exams is not required, but obviously I strongly encourage you to come to class!

### **Late homework/missing exams**

A penalty of 10% (of the overall point total) per day will be deducted for each day your homework assignment is late.

If you need to miss a quiz or an exam because of an [authorized absence](#), please let me know as soon as possible.

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Other important things:

**Academic integrity:**

Please review the academic integrity policy here:

<https://policy.unt.edu/sites/policy.unt.edu/files/06.003%20Student%20Academic%20Integrity.pdf>

**ODA (expanded):**

The University of North Texas makes reasonable accommodation for students with disabilities. Students needing a reasonable academic accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the student will request their letter of accommodation. ODA will provide faculty with a reasonable accommodation letter via email to begin a private discussion regarding a student's specific needs in a course. Students may request reasonable accommodations at any time, however, ODA notices of reasonable accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to meet with faculty regarding their accommodations during office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, refer to the Office of Disability Access website.