暨南大學 JINAN UNIVERSITY

2025

0701M240

Introduction to Discrete Mathematics

Time: December 22, 2025 - January 9, 2026; Mon.-Fri., 1:00pm-4:20pm

Office Hours: 2 hours (according to the teaching schedule)

Contact Hours: 60 (50 minutes each)

Credits: 4

Location: Online, Zoom

Instructor: TBA

E-mail: TBA

Course Description

This course is an introduction of the foundations of discrete mathematics. Topics include functions, relations, sets, simple proof techniques, Boolean algebra, fundamentals of logic, partial orders, elementary number theory and the fundamentals of counting etc.

Required Textbook(s)

Susanna S. Epp, *Discrete Mathematics with Applications,* fifth edition,

ISBN: 978-1-337-69419-3

Prerequisites

Pre-calculus Math.

Course Schedule

Please note that the schedule is meant to give an overview of the major concepts in this course. Changes may occur in this calendar as needed to aid in the student's development.

Week 1

- Fundamentals of Logic: sections 2.1, 2.2, 3.1, 3.2
- Properties of the Integers; Mathematical Induction: section 4.1, 4.3, 5.2
- Recurrence Relations: section 5.6
- Set Theory: section 6.1
- Functions: sections 7.1, 7.2
- Quiz 1

Week 2

- Relations: sections 8.1, 8.2, 8.3
- Fundamental Principles of Counting: sections 9.1, 9.2
- The Principle of Inclusion and Exclusion: section 9.3
- Rings and Modular Arithmetic: section 8.4
- An Introduction to Graph Theory: sections 10.1, 10.2
- Quiz 2
- Mid-term Exam

Week 3

- Trees: section 10.4, 10.5
- Optimization and Matching: section 10.6
- Boolean Algebra and Switching Functions: section 6.4
- Languages: Finite State Machines: section 12.1, 12.2
- Generating Functions
- Quiz 3
- Final Exam

Grading Policy

Quizzes	30%
Exams	50%
Homework	15%
Participation	5%

Attendance

You are expected to log in to Zoom to attend class and actively participate in discussions. Attendance will be recorded for each session and will contribute to students' participation records. Students should inform the instructor as early as possible if they need to request a leave of absence. All absences may negatively impact students' final grades. Attendance will be taken at both the beginning and end of each class. If you arrive more than 10 minutes late or leave more than 10 minutes early, your attendance will not be recorded. You are expected to actively participate in class discussions. During the session, you may be randomly selected to assist in solving examples to assess your understanding of core concepts. Additionally, you should be prepared to work through assigned examples during practice time.

Grading Scale

The instructor will use the grading system as applied by JNU:

Definition	Letter Grade	Score
Excellent	A	90~100
Good	B	80~89
Satisfactory	C	70~79
Poor	D	60~69
Failed	E	Below 60

Academic Integrity

As members of the Jinan University academic community, students are expected to be honest in all of their academic coursework and activities. Academic dishonesty, includes (but is not limited to) cheating on assignments or examinations; plagiarizing, i.e., misrepresenting as one's own work any work done by another; submitting the same paper, or a substantially similar paper, to meet the requirements of more than one course without the approval and consent of the instructors concerned; or sabotaging other students` work within these general definitions. Instructors, however, determine what constitutes academic misconduct in the courses they teach. Students found guilty of academic misconduct in any portion of the academic work face penalties that range from the lowering of their course grade to awarding a grade of E for the entire course.

Exam Proctoring

Both the midterm and the final exam in this course must be **visually proctored**. For most students, that will mean visual proctoring via Zoom where students will be required to show their immediate testing area to the proctor. Students may also use an approved Testing Center at a college or university if online proctoring is unsuitable. Contact the instructor at the beginning of the semester if you need an alternative to online proctoring.