0701M240

Introduction to Discrete Mathematics

Instructor: TBA
Time: Monday through Friday (June 15, 2020 - July 17, 2020)
Office Hours: 2 hours (according to the teaching schedule)
Contact Hours: 60 (50 minutes each)
Credits: 4
Location: Huiquan Building
Office: Huiquan Building 518
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)

Discrete and Combinatorial Mathematics, 5ed, by Ralph P. Grimaldi, Pearson, ISBN-13: 9780201726343.

Prerequisites

Pre-calculus Math.

Course Hours

The course has 25 sessions in total. Each class session is 120 minutes in length. The course meets from Monday to Friday.

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:
- Course Introduction
- 1. Fundamental Principles of Counting.
- 2. Fundamentals of Logic.
- 3. Set Theory.

Week 2
- 4. Properties of the Integers: Mathematical Induction.
- 5. Relations and Functions.
- 6. Languages: Finite State Machines.

Week 3
- 7. Relations: The Second Time Around.
- 8. The Principle of Inclusion and Exclusion.
- 9. Generating Functions.
- Mid-term Exam

Week 4
- 10. Recurrence Relations.
- 11. An Introduction to Graph Theory.
- 12. Trees.

Week 5
- 13. Optimization and Matching.
- 14. Rings and Modular Arithmetic.
- 15. Boolean Algebra and Switching Functions.
- Final Exam

Grading Policy

Midterm	20%
final exam	20%
Homework	15%
Project	15%
Quizzes	20%
Total	**100%**

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

Attendance

Attendance is mandatory in the class. It would be recorded each class and forms part of students' participation record. Students should inform the instructor at the earliest opportunity if they need to ask for a leave. All absences may have negative effect on students' final grades. Any students with more than three unexcused absences will automatically fail the course.

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.