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## 01006718 DISCRETE MATHEMATICS

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### I. TEXT AND COURSE MATERIALS

- **Textbook:**  
Discrete Mathematics and its applications 6th or 7th or 8th edition by Kenneth H. Rosen, McGrawHill.

### II. COURSE DESCRIPTION

Basic set theory, theory and techniques of counting, properties of integers, mathematical induction, recursive definitions, recurrent equations, sequences and summations, relations, graphs, and trees

### III. COURSE OUTLINE

This schedule is tentative and could be changed depending on actual progress during the semester. Changes will be announced in the class. Students are responsible for updating their syllabus.

Week	Dates	Topics
1	Nov 26, 2024	<ul style="list-style-type: none"><li>• Overview of Discrete Mathematics</li><li>• Introduction to Set Theory</li></ul>
2	Dec 3, 2024	<ul style="list-style-type: none"><li>• Mathematical Proof</li></ul>
3	Dec 10, 2024	<ul style="list-style-type: none"><li>• No class</li></ul>
4	Dec 17, 2024	<ul style="list-style-type: none"><li>• Mathematical Proof</li></ul>
5	Dec 24, 2024	<ul style="list-style-type: none"><li>• Mathematical Induction</li></ul>
6	Dec 31, 2024	<ul style="list-style-type: none"><li>• No class</li></ul>
7	Jan 7, 2025	<ul style="list-style-type: none"><li>• Graphs and Trees</li></ul>
8	Jan 14, 2025	<ul style="list-style-type: none"><li>• Relations</li></ul>
9	Jan 28, 2025	<ul style="list-style-type: none"><li>• <a href="#">Functions</a></li></ul>
10	Feb 4, 2025	<ul style="list-style-type: none"><li>• <a href="#">Number Theory</a></li></ul>
11	Feb 11, 2025	<ul style="list-style-type: none"><li>• <a href="#">Counting techniques</a></li></ul>
12	Feb 18, 2025	<ul style="list-style-type: none"><li>• <a href="#">Recurrence relations</a></li></ul>
13	Feb 25, 2025	<ul style="list-style-type: none"><li>• <a href="#">Recurrence relations</a></li></ul>
14	Mar 4, 2025	<ul style="list-style-type: none"><li>• <a href="#">Recursive Definitions and Structural Induction</a></li></ul>
15	Mar 11, 2025	<ul style="list-style-type: none"><li>• <a href="#">Recursive Definitions and Structural Induction</a></li></ul>