

# Math 1332 Course Syllabus

Mathematical Excursions by Aufmann, Lockwood, Nation, and Clegg

<u>Required Sections</u>		<u>Suggested Homework Exercises</u>
§1.1	Inductive and Deductive Reasoning	§1.1
§1.2	Problem Solving with Patterns	§1.2
§1.3	Problem-Solving Strategies	§1.3
§2.1	Basic Properties of Sets	§2.1
§2.2	Subsets	§2.2
§2.3	Set Operations	§2.3
§2.4	Applications of Sets	§2.4
§2.5	Infinite Sets	<i>(optional)</i> §2.5
§3.1	Logic Statements and Quantifiers	§3.1
§3.2	Truth Tables and Applications	§3.2
§3.3	The Conditional and the Biconditional	§3.3
§3.4	The Conditional and Related Statements	§3.4
§3.5	Arguments	§3.5
§3.6	Euler Diagrams	<i>(optional)</i> §3.6
§4.1	Early Numeration Systems	§4.1
§4.2	Place-Value Systems	§4.2
§4.3	Different Base Systems	§4.3
§4.4	Arithmetic in Different Bases	<i>(optional)</i> §4.4
§4.5	Prime Numbers and Selected Topics From Number Theory	<i>(optional)</i> §4.5
§4.6	Additional Topics from Number Theory	<i>(optional)</i> §4.6
§7.1	Modular Arithmetic	§7.1
§7.2	Applications of Modular Arithmetic	§7.2
§7.3	Introduction to Group Theory	§7.3
§8.1	Basic Concepts in Euclidean Geometry	<i>(optional)</i> §8.1
§8.2	Perimeter and Area of Plane Figures	<i>(optional)</i> §8.2
§8.3	Similar Triangles	<i>(optional)</i> §8.3
§8.5	Non-Euclidean Geometry	<i>(optional)</i> §8.5
§8.6	Fractals	<i>(optional)</i> §8.6
§9.1	Traveling Roads and Visiting Cities	<i>(optional)</i> §9.1
§9.2	Efficient Roads	<i>(optional)</i> §9.2
§9.3	Planarity and Euler's Formula	<i>(optional)</i> §9.3
§10.1	Simple Interest	§10.1
§10.2	Compound Interest	§10.2
§10.3	Credit Card and Consumer Loans	§10.3
§11.3	Probability and Odds	<i>(optional)</i> §11.3
§11.6	Expectation	<i>(optional)</i> §11.6