

## MA 2025 — BRIDGE TO ADVANCED MATHEMATICS (4-1)

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Prerequisite: None.

Text: Discrete Mathematics and Its Applications, 7th Edition, K.H. Rosen, WCB/McGraw-Hill 2012.

HOURS	TOPIC	SECTION
3-3	Propositional Logic and Applications	1.1, 1.2
2-5	Propositional Equivalences	1.3
2-7	Predicates and Quantifiers	1.4
2-9	Nested Quantifiers	1.5
2-11	Rules of Inference	1.6
3-14	Introduction to proofs	1.7
1-15	Proof Methods and Strategy	1.8
2-17	Sets	2.1
2-19	Set Operations	2.2
2-21	Functions	2.3
1-22	Exponential and Logarithmic Function	A.2
2-24	Divisibility and Modular Arithmetic	4.1
1-25	Integer Representations and Algorithms	4.2
1-26	Primes and Greatest Common Divisors	4.3
2-28	Sequences and Summations	2.4
3-31	Mathematical Induction	5.1
1-32	The Basics of Counting	6.1
2-34	The Pigeonhole Principle	6.2
2-36	Permutations and Combinations	6.3
7-43	Exams, Reviews, and Holidays	

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