PROPOSED LECTURE SCHEDULE FOR MATH 1H03

Part I – Finite Math (Custom Courseware)

PROPOSITIONAL AND PREDICATE CALCULUS - 3 Lectures
(Sections are from "Discrete Mathematics and It's Applications", Fourth Edition by Kenneth H. Rosen)

Section 1.1 - Logic (1 lecture)
Section 1.2 - Propositional Equivalences (1 lecture)
Section 1.3 - Predicates and Quantifiers (1 lecture)

NAIVE SET THEORY - 2 Lectures
(Sections are from "Discrete Mathematics and It's Applications", Fourth Edition by Kenneth H. Rosen)

Section 1.4 - Sets (just basic definitions; 1/2 lecture)
Section 1.5 - Set Operations (Set identities, generalized unions and intersections, computer representation of sets; 1 and 1/2 lectures)

COMBINATORICS AND COUNTING - 3 Lectures
(Sections are from "Discrete Mathematics and It's Applications", Fourth Edition by Kenneth H. Rosen)

Section 4.1 - The basics of counting (the product rule, tree diagrams, two event inclusion exclusion; 1 lecture)
Section 4.3 - Permutations and Combinations (permutations, combinations, binomial theorem, combinatorial identities - 1 lecture)
Section 4.6 - Generalized permutations and combinations (permutations and combinations with repetition, permutations with indistinguishable objects, distributing objects into boxes)

BASIC PROBABILITY - 6 Lectures
(Sections are from "Probability and Statistics for Engineering and the Sciences", Fifth Edition by Devore)

2.1 - Sample Spaces and Events (just basic definitions; 1/2 lecture)
2.2 - Axioms, Interpretations, and Properties of Probability (1 lecture)
2.4 - Conditional Probability (conditional probability, general multiplication rule, law of total probability, Bayes Rule; 1 and 1/2 lectures)
2.5 - Independence (very short section; 1/2 lecture)
3.1 and 3.2 - Random Variables and Probability Distributions for Discrete Random Variables (3.1 is just basic definitions, and can be incorporated into 3.2; 1 lecture)
3.3 - Expected Values of Discrete Random Variables (Expected value, variance and properties; 1 lecture)
3.4 - Binomial Distribution (1/2 lecture)

REVIEW – 2 Lectures

Part II – Linear Algebra (Anton/Rorres)

Chapter 1 – Systems of Linear Equations and Matrices – 7 lectures

Chapter 2 – Determinants – 4 lectures

Chapter 3 – Vectors in 2-space and 3-space – 5 lectures

Sections 10.1-10.3 – Complex Numbers – 3 lectures

REVIEW – 2 Lectures