

MATH 100 OUTLINE

SURVEY OF COLLEGE MATH

TEXT: Mathematical Ideas, 15th Edition, Miller/Heeren/Hornsby/Heeren

Approved: November 2024

Effective: Fall 2025

MATERIAL TO BE COVERED	SECTIONS FROM TEXT	TIME LINE
Problem Solving: inductive and deductive reasoning, problem solving with patterns, problem solving strategies, calculating, estimating and reading graphs.	1.1 - 1.4	5 hours
Set Theory: basic properties of sets, subsets, set operations, applications of sets, infinite sets, Venn diagrams ^[1] .	2.1 – 2.4	6 hours
Logic: logic statements and quantifiers, truth tables and applications, the conditional and the biconditional, the conditional and related statements, arguments, Euler diagrams.	3.1 – 3.6	7 hours
Counting Methods: counting by systematic listing, using the Fundamental Counting Principle, using permutations and combinations, using Pascal's Triangle, counting problems involving "not" and "or".	10.1 - 10.5	5 hours
Probability: basic concepts, events involving "not" and "or", conditional probability, events involving "and", binomial probability, expected values.	11.1 - 11.5	6 hours
Statistics: visual displays of data, measures of central tendency, measures of dispersion, measures of position, the Normal Distribution.	12.1 - 12.5	6 hours
<u>At Least Two of the Following Topics Must Be Covered (per COR):</u> Historical Numeration Systems Arithmetic in Different Bases Modular Arithmetic Non-Euclidean Geometry and Topology Chaos and Fractal Geometry Graph Theory Voting Apportionment	4.1 or 4.2 4.4 or 4.5 E.8-E.16 9.7 9.8 14.1 15.1-15.2 15.3-15.4	4.5 hours

[1] Extra time allotted to complete Venn diagram packet located on department website with department course outlines.

3-unit class: hours total 42.5 (15 x 2 hours 50 minutes) – 3 hours for exams + 2.5 hour final
 [This outline allows for 3 hours of exams.]

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Math Department Policy is available on the Math & CSCI Website under resources: www.mtsac.edu/math