LSU Dual Enrollment Program for Math
Math 1100 The Nature of Mathematics COURSE PROFILE 12-6-2025

LA BOARD OF REGENTS COMMON COURSE NUMBER: CMAT 1204 The Nature of Mathematics
ETEXT: *Thinking Mathematically, 8e, MyLab Math, Robert* Blitzer
HIGH SCHOOL COURSE CODE: 160350

CHAPTERS
1 – Problem Solving and Critical Thinking
2 – Set Theory
3 – Logic
5 – Number Theory and the Real Number System
8 – Personal Finance

The number in parentheses indicates the number of homework exercises on that topic in MyLab Math.

Chapter 1: Problem Solving and Critical Thinking

Section 1.1 Inductive and Deductive Reasoning (14)

Find a counterexample
Use inductive reasoning to identify a pattern
Use deductive reasoning to prove a conjecture

Chapter 2: Set Theory

Section 2.1 Basic Set Concepts (26)

Determine whether a collection is a set
Use three methods to represent sets
Identify and name special sets
Use symbols to represent "is an element of" and "is not an element of"
Determine a set's cardinal number
Identify and give examples of equivalent and equal sets

Section 2.2 Subsets (21)

Identify subsets and use the notation for subsets
Identify proper subsets and use the notation for proper subsets
List the subsets of a given set

Section 2.3 Venn Diagrams and Set Operations (28)

Use Venn diagrams to visualize relationships between two sets
Identify universal sets for given sets
Find the complement of a set
Perform operations with sets, including unions or complements
Determine sets involving set operations from a Venn diagram
Solve applications involving Venn diagrams and set operations

Section 2.4 Set Operations and Venn Diagrams with Three Sets (22)

Perform set operations with three sets
Use Venn diagrams to represent three sets
Use Venn diagrams to prove equality of sets

Chapter 3: Logic

Section 3.1 Statements, Negations, and Quantified Statements (25)

Identify English sentences that are statements
Form the negation of a statement
Express negations using symbols
Translate a negation represented by symbols into English
Write negations of quantified statements

Section 3.2 Compound Statements and Connectives (35)

Express compound statements in symbolic form given two simple statements
Express symbolic statements with parentheses in English
Express compound statements in symbolic form given three simple statements
Express statements in words or symbolic form using the dominance of connectives

Section 3.3 Truth Tables for Negation, Conjunctions, and Disjunction (25)

Determine truth values using the definitions of negation, conjunction, and disjunction
Construct truth tables
Indicate the conditions that make a compound statement true using truth tables
Determine the truth value of a compound statement for a specific case

Section 3.4 Truth Tables for the Conditional and the Biconditional (11)

Construct truth tables for conditional statements
Construct truth tables for biconditional statements
Determine whether a statement is a tautology, a self-contradiction, or neither
Determine the truth value of a conditional or biconditional statement for a specific case

Section 3.5 Equivalent Statements and Variations of Conditional Statements (10)

Show that statements are equivalent using a truth table
Write the converse, inverse, and contrapositive for a conditional statement

Section 3.6 Negations of Conditional Statements and De Morgan's Laws (12)

Write the negation of a conditional statement
Use De Morgan's laws to write equivalent statements

Chapter 5: Number Theory and the Real Number System

Section 5.1 Number Theory: Prime and Composite Numbers (23)

Use rules of divisibility to determine if one number is divisible by another number
Write the prime factorization of a composite number
Find the greatest common divisor of two numbers
Find the least common multiple of two numbers
Determine whether or not given numbers are perfect numbers
Determine whether or not given numbers are prime number

Section 5.2 The Integers; Order of Operations (24)

Use the symbols < and > to compare values
Find the absolute value of an integer
Perform operations with integers
Use the order of operations to simplify expressions

Section 5.3 The Rational Numbers (14)

Reduce rational numbers
Convert between mixed numbers and improper fractions
Convert between rational numbers and decimals
Perform operations with rational numbers

Section 5.4 The Irrational Numbers (18)

Simplify or evaluate square roots
Perform operations with square roots

Chapter 8: Personal Finance

Section 8.1 Percent, Sales Tax, and Discounts (20)

Express a fraction as a percent
Express a decimal as a percent
Express a percent as a decimal
Use the percent formula $A = PB$ to find the unknown

Section 8.3 Simple Interest (16)

Calculate simple interest
Use the future value formula to calculate the value of an unknown
Solve applications involving simple interest

Section 8.4 Compound Interest (20)

Use compound interest formula to calculate the value of an unknown
Calculate present value using compound interest
Find effective annual yield
Compare investments using different interest rates and compounding periods

Section 8.5 Annuities, Methods of Saving, and Investments (9)

Determine the value of an annuity
Determine regular annuity payments needed to achieve a financial goal