

LSU Dual Enrollment Program for Math

Math 1029 Contemporary Math COURSE PROFILE 9-15-2026

BOARD OF REGENTS COMMON COURSE NUMBER: CMAT 1103 Contemporary Math

ETEXT: Thinking Mathematically, 8e, MyLab Math, Robert Blitzer

HIGH SCHOOL COURSE CODE: 160347

CHAPTERS

7 – Algebra: Graphs, Functions, and Linear Systems

11 – Counting Methods and Probability Theory

12 – Statistics

14 – Graph Theory

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

Chapter 7: Algebra: Graphs, Functions, and Linear Systems

Section 7.1 Introduction to the Rectangular Coordinate System (19)

Plot points in the rectangular coordinate system

Graph equations in the rectangular coordinate system

Section 7.2 Graphing Linear Equations (17)

Use intercepts to graph a linear equation

Graph horizontal lines

Graph vertical lines

Use the slope and y-intercept to graph a linear equation

Section 7.3 Systems of Linear Equations in Two Variables (32)

Determine whether an ordered pair is a solution of a linear system

Solve linear systems by graphing

Solve linear systems by the substitution method

Solve linear systems by the addition method

Section 7.4 Linear Inequalities in Two Variables (24)

Graph a linear inequality in two variables

Graph a system of linear inequalities

Section 7.5 Linear Programming (16)

Write an objective function describing a quantity that must be maximized or minimized

Use inequalities to describe limitations in a situation

Solve applications involving linear programming

Chapter 11: Counting Methods and Probability Theory

Section 11.1 The Fundamental Counting Principle (27)

Use the Fundamental Counting Principle to find the number of possible outcomes in a given situation

Section 11.2 Permutations (34)

- Use the Fundamental Counting Principle to count permutations
- Evaluate factorial expressions
- Evaluate expressions involving the permutation formula
- Solve applications involving permutations
- Find the number of distinct permutations when duplicate items exist

Section 11.3 Combinations (27)

- Distinguish between permutation and combination problems
- Use the combination or permutation formula to evaluate expressions
- Solve problems involving combinations
- Use combinations, permutations, or the Fundamental Counting Principle to solve problems

Section 11.4 Fundamentals of Probability (46)

- Compute theoretical probability
- Compute empirical probability

Section 11.5 Probability with the Fundamental Counting Principle, Permutations and Combinations (23)

- Compute probabilities with permutations
- Compute probabilities with combinations

Section 11.6 Events Involving Not and Or; Odds (50)

- Use the complement rules to find the probability of an event
- Find the probability of one event or a second event occurring
- Find the odds for or against an event
- Use odds to find the probability of an event

Section 11.7 Events Involving And; Conditional Probability (44)

- Find the probability of one event and a second event occurring
- Compute conditional probabilities

Section 11.8 Expected Value (12)

- Compute expected value
- Use expected value to solve applied problems

Chapter 12: Statistics

Section 12.1 Sampling, Frequency Distributions, and Graphs (33)

- Organize and present data
- Select an appropriate sampling technique
- Construct and interpret frequency distributions
- Construct and interpret histograms and frequency polygons
- Construct and interpret stem-and-leaf plots
- Determine what is misleading about a visual display of data

Section 12.2 Measures of Central Tendency (45)

- Determine the mean for a data set
- Determine the median for a data set
- Determine the mode for a data set

Determine the midrange for a data set
Solve applied problems involving measures of central tendency

Section 12.3 Measures of Dispersion (32)

Determine the range for a data set
Find the mean, deviation from the mean, and sum of deviations for a data set
Determine the standard deviation for a data set
Solve applied problems involving measures of dispersion

Section 12.4 The Normal Distribution (45)

Find scores at a specified standard deviation from the mean
Use the 68–95–99.7 Rule
Convert a data item to a z-score
Solve applied problems involving normal distributions
Find and interpret percentiles

Section 12.5 Problem Solving with the Normal Distribution (19)

Find percentages of items in normal distributions that lie above, below, or between z-scores
Solve applied problems involving normal distributions

Chapter 14: Graph Theory

Section 14.1 Graphs, Paths, and Circuits (43)

Model relationships using graphs
Solve applied problems involving graphs, paths, and circuits
Analyze and draw conclusions from graphs

Section 14.2 Euler Paths and Euler Circuits (38)

Use Euler's Theorem to determine if a graph contains Euler paths or Euler circuits
Use Fleury's Algorithm to find possible Euler paths and Euler circuits
Solve applied problems involving Euler paths and Euler circuits

Section 14.3 Hamilton Paths and Hamilton Circuits (33)

Find the number of Hamilton circuits in a complete graph
Find the weight of edges and Hamilton circuits in a weighted graph
Use the Brute Force Method to solve traveling salesperson problems
Use the Nearest Neighbor Method to approximate solutions to traveling salesperson problems
Solve applied problems involving Hamilton paths and Hamilton circuits

Section 14.4 Trees (31)

Find a spanning tree for a connected graph
Find the minimum spanning tree for a weighted graph
Solve applied problems involving trees