

LSU Dual Enrollment Program for Math

Precalculus COURSE PROFILE 09-23-2026

ETEXT: *Calculus for Business, Economics, Life, and Social Sciences, 14e Digital Update, MyLab Math*, Barnett, Ziegler, Byleen

HIGH SCHOOL COURSE CODE: 160348

Units-

1 – Basic Review

2 – Equations

3 – Functions

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

Unit 1: Basic Review

Homework: Basic Number Concepts (18)

Multiply and divide fractions

Add and subtract fractions

Simplify using order of operations

Graph inequalities on number lines and write them as intervals

Homework : Exponents and Radicals (19)

Use properties of exponents

Simplify radicals

Use radicals and rational exponents

Unit 2: Equations

Homework: Linear Equations (25)

Solve linear equations

Write linear equations

Graph linear equations

Solve systems of linear equations in two variables

Homework : Quadratic Equations (18)

Factor trinomials

Solve quadratic equations using the square root property

Solve quadratic equations by factoring

Solve quadratic equations using the quadratic formula

Homework: Other Types of Equations (14)

Solve equations with variable(s) in the denominator

Solve equations with radical

Solve equations of quadratic type

Unit 3: Functions

Homework: Functions: Domain, Range, and Evaluation (29)

- Determine whether sets, mappings, or tables define a function
- Determine whether a graph defines a function
- Find the domain and range of functions
- Find function values from a graph
- Evaluate functions
- Find the average rate of change of a function, and graph the associated secant line
- Solve applications involving functions.
- Find the difference quotient of a function

Homework: Functions: Properties of Functions (22)

- Find the domain of a function
- Determine whether an equation defines a function and, if so, find the domain
- Find the value of a function
- Identify the graph of a function
- Use a graph to find where a function is increasing, decreasing, or constant
- Use a graph to find if a function is even or odd
- Use a graph to locate local maxima and local minima
- Find local maxima and minimum
- Determine where a function is increasing or decreasing
- Find the average rate of change of a function

Homework: Graphs of Basic Functions and Polynomials (21)

- Find the equation of lowest degree that has a given graph and intercepts
- Analyze graphs of basic functions
- Graph piecewise-defined functions
- Graph and analyze quadratic functions
- Sketch and analyze the graphs of polynomial functions
- Describe the end behavior of the graph of a polynomial function
- Factor polynomial functions and sketch their graphs
- Find a polynomial function with real coefficients which satisfies given conditions

Homework: Functions: Transformations and Compositions (23)

- Graph functions using transformations
- Find composite functions
- Find the domain of composite functions
- Decompose functions

Homework: Rational Expressions (21)

- Divide rational expressions using long division
- Simplify rational expressions
- Add and subtract rational expressions
- Simplify complex rational expressions
- Rationalize numerators and denominators

Homework: Rational Functions (20)

- Simplify complex rational expressions

Solve rational equations

Find equations of asymptotes and graph rational functions

Sketch graphs of rational functions and estimate function values

Homework: Exponential Functions (19)

Graph exponential functions

Graph exponential functions using transformations

Use compound interest formulas

Write an exponential function for a given graph

Solve applications involving exponential functions

Homework: Logarithmic Functions (36)

Evaluate logarithms using properties of logarithms

Evaluate logarithms using technology

Apply laws of logarithms to express as a sum, difference, and/or product

Apply laws of logarithms to express as a single logarithm

Solve exponential equations

Solve logarithmic equations

Homework: Common Algebra Applications in Calculus (16)

Solve perimeter, area, and volume problems

Solve percent increase and percent decrease problems

Solve simple interest problems

Solve applications involving exponential growth and exponential decay.