I: Functions and Graphs
   Students will be able to:
   1. Find the slope between two points and of a line
   2. Sketch the graphs of algebraic functions (polynomials, rational, radical, piecewise-defined, and absolute value).
   3. Find the value of a function using the equation or the graph.
   4. Evaluate composite functions.
   5. Sketch the graphs of conics (circles, ellipses and hyperbolas).

II: Limits
   Students will be able to:
   1. Estimate the limit of algebraic and trigonometric functions using tables and graphs.
   2. Find the limit of algebraic or trigonometric functions using algebra (cancellation and rationalization).
   3. Determine when the limit of a function does not exist.
   5. Using the definition of continuity, determine whether an algebraic function is continuous.
   6. For functions that are discontinuous, determine whether the function has removable or non-removable discontinuity.

III: Differentiation
   Students will be able to:
   1. Find the derivative of an algebraic function by finding the limit of the secant line.
   2. Determine where an algebraic function is differentiable.
   3. Find the derivative of algebraic and trigonometric functions using basic rules, the product rule, and the quotient rule.
   4. Find the second and third (higher) derivative of a function.
   5. Find the derivative of composite algebraic and trigonometric function using the chain rule.
   6. Determine whether a function is written in implicit or explicit form.
   7. Find the derivative of a function using implicit differentiation.
   8. Find the derivatives of natural logarithmic and exponential functions.

IV: Applications of Differentiation
   Students will be able to:
   1. Find a related rate
   2. Use related rates to solve real-world problems
   3. Find a critical number of a function.
   4. Find the extrema on a closed interval using the first derivative.
   5. Apply Rolle’s Theorem in order to find all values of c in an open interval such that f’ (c) = 0.
   6. Apply the Mean Value theorem to find the all values of c in an open interval such that (c, f(c)) is on the tangent line at x = c.
   7. Determine the intervals on which a function is increasing or decreasing.
   8. Apply the First Derivative Test to find relative extrema of a function.
   9. Determine intervals on which a function is concave upward or concave downward.
   10. Find any points of inflection of the graph of a function.
   11. Apply the Second Derivative Test to find relative extrema of a function.
   12. Determine limits (finite and infinite) at infinity.
   13. Determine horizontal asymptotes, if any, of the graph of a function.
   14. Analyze and sketch the graph of a function.
   15. Solve applied minimum and maximum problems.
   17. Find the tangent line approximation of a function.
   18. Compare the value of the differential, dy, with the actual change in Δy.
   19. Find the differential of a function using differentiation formulas.

V: (OPTIONAL) Antidifferentiation
   Students will be able:
   1. Write the general solution of a differential equation.
   2. Find indefinite integral for antiderivatives.
3. Use basic integration rules to find antiderivatives.
4. Find a particular solution of a differential equation.
5. Draw a slope field.
6. Use Sigma notation to write and evaluate a sum.
7. Approximate the area of a plane region.
8. Find the area of a plane region using limits.
10. Evaluate a definite integral using properties of definite integrals.