

## Calculus 1 Learning Objectives<sup>1</sup>

1. Demonstrate an understanding of the concept of a limit; evaluate limits of functions, including indeterminate forms; use the limit definition to determine if a function is continuous;
2. State the limit definition of the derivative; use it to calculate simple derivatives;
3. Use derivative laws to calculate the derivatives of rational, trigonometric, inverse-trigonometric, exponential, and logarithmic functions; calculate derivatives for composite and implicit functions;
4. Use derivatives to linearly approximate functions near a value; write equations for the tangent lines of functions;
5. Use derivatives to identify local and global maxima and minima of graphs; use the second derivative to describe the concavity of functions;
6. Formulate and solve problems involving the application of concepts in derivative calculus from various fields such as physics, economics, biology, etc.

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<sup>1</sup>This list was approved by the department on 01/07/2019