

COURSE TITLE: Calculus
COURSE LENGTH: 1 year
COURSE CREDIT: 1 credit

COURSE TYPE: elective
GRADE LEVEL: 12
PREREQUISITE: Pre-Calculus

COURSE GOALS:

1. Students will review how to find, graph, and compare mathematical models for different data sets.
 2. Students will describe how to find limits of functions analytically, graphically, and numerically.
 3. Students will use limits to find slopes of tangent lines to graphs.
 4. Students will use calculus to analyze graphs of functions and use limits to identify any asymptotes of the function's graph.
 5. Students will evaluate the areas of a wide variety of regions by using the limit process.
 6. Students will analyze functions and see how they can be used to define the natural logarithmic function.
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COURSE CONTENT:

1. Graphs and Models
2. Limits and their properties
3. Differentiation
4. Application of differentiation
5. Integration
6. Logarithmic, exponential, and other transcendental functions