

# High School Syllabus

**Department:** Mathematics  
**Course Title:** Introductory Calculus

**Course #:** 40441X

**DESCRIPTION OF COURSE:** The introductory calculus course is for the advanced student in mathematics. Students will review the basic concepts relating to functions and graphs as needed throughout the course and will learn rules for differentiation, antidifferentiation, calculating limits, and determining continuity. Individually or in small groups, students will use appropriate technology to analyze and solve problems involving limits, continuity, optimization and displacement, velocity and acceleration. Achievement will be demonstrated through completion of graphing calculator activities, tests, quizzes, and homework assignments requiring problem-solving skills. Students will take the Introductory Calculus final exam at the end of the course.

REQUIRED TOPICS OF STUDY	SUGGESTED INSTRUCTIONAL TIME	STANDARDS/ ELIGIBLE CONTENT
Exponential and Logarithmic Review	2 weeks	<i>CC.2.2.HS.C.1, CC.2.2.HS.C.2, CC.2.2.HS.C.3, CC.2.2.HS.C.5, CC.2.2.HS.D.2</i>
Overview of limits, derivatives, and integrals	3 weeks	<i>EU:1.1, 1.2, 2.1, 2.2, 2.3,3.1, 3.2, 3.3</i>
Properties of Limits	3 weeks	<i>EU:1.1, 1.2</i>
Derivatives and antiderivatives	3 weeks	<i>EU: 2.1, 2.2, 2.3</i>
Derivatives of products, quotients, and trigonometric functions.	4 weeks	<i>EU: 2.1, 2.2, 2.3</i>
Definite and Indefinite Integrals	3 weeks	<i>EU: 3.1, 3.2, 3.3</i>

**RESOURCES:** Foerster, Paul. Calculus: Concepts and Applications. Berkley: Key Curriculum Press, 2005 2<sup>nd</sup> Edition.  
Graphing Calculator: TI 84/84C

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