

MODESTO CITY SCHOOLS COURSE OUTLINE

Course Title	AP Calculus AB OLL S1	AP Calculus AB OLL S2
Course Number	OLL30301	OLL30302
Recommended Grade	<input type="checkbox"/> 7 <input type="checkbox"/> 8 <input checked="" type="checkbox"/> 9 <input checked="" type="checkbox"/> 10 <input checked="" type="checkbox"/> 11 <input checked="" type="checkbox"/> 12	
Duration	<input type="checkbox"/> Quarter <input checked="" type="checkbox"/> Semester	
Credit	<input type="checkbox"/> 2.5 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 10	
Repeatable for Credit	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Required for Graduation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Meets Graduation Requirement	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
CALPADS Course Number	9268	
CALPADS Course Name	Advanced Placement (AP) Calculus AB	
Meets UC/CSU Requirements	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, which area? <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G	
CTE Course	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
CTE Course Level	<input type="checkbox"/> Introduction <input type="checkbox"/> Concentrator <input type="checkbox"/> Capstone N/A	
Part of a Course Pathway	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, which pathway?	
Credential Requirements		
Replaces	N/A	
Recommended Prerequisites	N/A	
Aligned to Standards Date		
Content Delivery Method	<input type="checkbox"/> Instructor Led <input checked="" type="checkbox"/> Online Provider Modesto Virtual Academy	
Other Information		
Board Approval Date		
Implementation Date	Fall 2020	

Course Description:

Required Text(s): (Title, Publisher, Year):

Supplementary Materials(s):



Course Name: AP Calculus AB v20

Course Credit: 1.0

Course Estimated Completion Time: 2 segments/32-36 weeks

Course Description: In AP Calculus AB, students walk in the footsteps of Newton and Leibnitz. This interactive course framework combines with an exciting on-line course delivery to make calculus an adventure. The course includes a study of limits, continuity, differentiation, integration, differential equations, and the applications of derivatives and integrals. This course consists of a full high school year of work that is comparable to calculus courses in colleges and universities. It is expected that students who take an AP course in calculus will seek college credit, college placement, or both, from institutions of higher learning. Most colleges and universities offer a sequence of several courses in calculus, and entering students are placed within this sequence according to the extent of their preparation, as measured by the results of an AP examination or other criteria.

Prerequisites: Algebra I, Geometry, Algebra II, Pre-Calculus or Trigonometry/Analytical Geometry.

Honors Lessons: No

Course Profile (Includes Honors, if applicable)

Type of Assessment	Quantity	Location(s)
Teacher-graded	18	
Auto-graded	63	
Partial Auto-graded	8	
Discussion-Based (DBA)	8	One per module (optional); One per segment (required)
Collaboration	2	03.11, 07.09
Project-based	0	03.11, 07.09
Total Assessments	89	

Types of Assessments (Includes Honors, if applicable)

Type of Assessment	Available	Type of Assessment	Available
Multiple Choice	Yes	Essay	Yes
Worksheets	No	Collaborative	Yes
Web 2.0	No	Short Response	Yes
Project - Based	Yes	Labs	No
Self - Check	Yes	DBAs	Yes

Scope and Sequence

Segment 1:

- Properties of Limits
- Determining and Estimating Limit Values Algebraically and from Graphs and Tables
- Limits Involving Infinity
- Continuity and Discontinuity
- Intermediate Value Theorem
- Rates of Change
- The Derivative
- Rules of Differentiation
- Trigonometric, Exponential, and Logarithmic Functions
- Implicit Differentiation
- Inverse Functions
- Distance, Velocity, Acceleration, and Rectilinear Motion
- Related Rates
- Linearization
- L'Hôpital's Rule

Segment 2:

- The Mean-Value Theorem
- Function Behavior and Curve Sketching
- Optimization
- Area Approximation and Riemann Sums
- The Fundamental Theorem of Calculus
- Introduction to the Definite Integral
- Integrals and Antiderivatives
- Integration Using Substitution
- Integration Using Long Division and Completing the Square

- Differential Equations
- Slope Fields
- Separation of Variables
- Exponential Models

- Average Value of a Function and Rectilinear Motion Revisited
- Finding the Area Under and Between Curves
- Volumes with Discs
- Volumes with Washers
- Volumes with Cross Sections