MODESTO CITY SCHOOLS
COURSE OUTLINE

Course Title	Algebra II OLL S1 Algebra II OLL S2
Course Number	OLL30191 OLL30192
Recommended Grade	☐ 7 ☐ 8 ☒ 9 ☒ 10 ☒ 11 ☒ 12
Duration	☐ Quarter ☒ Semester
Credit	☐ 2.5 ☒ 5 ☐ 10
Repeatable for Credit	☐ Yes ☒ No
Required for Graduation	☒ Yes ☐ No
Meets Graduation Requirement	☒ Yes ☐ No
CALPADS Course Number	9252
CALPADS Course Name	Algebra II
Meets UC/CSU Requirements	☐ Yes ☐ No If yes, which area? ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G
CTE Course	☐ Yes ☒ No
CTE Course Level	☐ Introduction ☐ Concentrator ☐ Capstone N/A
Part of a Course Pathway	☐ Yes ☒ No If yes, which pathway?
Credential Requirements	
Replaces	N/A
Recommended Prerequisites	N/A
Aligned to Standards Date	
Content Delivery Method	☐ Instructor Led ☒ 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: Algebra II v14

Course Credit: 1.0

Estimated Completion Time: 2 Semesters / 32-36 Weeks

Course Description: This course allows students to learn while having fun. Interactive examples help guide students' journey through customized feedback and praise. Mathematical concepts are applied to everyday occurrences such as earthquakes, stadium seating, and purchasing movie tickets. Students investigate the effects of an equation on its graph through the use of technology. Students have opportunities to work with their peers on specific lessons.
Algebra II is an advanced course using hands-on activities, applications, group interactions, and the latest technology.

Discussion-Based Assessments: One per module

Collaboration Activities: 2.02, 4.08, 6.05, and 7.07

Honors Lessons: There are a total of two honors assessments which are project-based and contain 20% summative and 80% formative tasks.

Course Profile:

Honors Assessments	2
Automated Quizzes	97
Project-Based Assessments	4
Labs	N/A
Writing Assignments	34
Graded Assessments	135
Non-Graded Assessments	65

Types of Assessments:

Multiple Choice	X	Essay	X
Worksheets		Collaborative	X
Web 2.0	X	Short Response	X
Project – Based	X	Labs	
Self - Check	X	Discussion-Based Assessments	X

Scope and Sequence:

Segment I Concepts

Module 1

- Algebra 1 Review
- Introduction to Functions
- Graphing Linear Equations and Inequalities
- Writing the Equation of a Line
- Comparing Functions

Module 2

- Rational Exponents
- Properties of Rational Exponents
- Solving Radical Equations
- Complex Numbers
- Operations of Complex Numbers

Module 3

- Review of Polynomials
- Polynomial Operations
- Greatest Common Factors and Special Products
- Factoring by Grouping
- Sum and Difference of Cubes
- Graphing Quadratics
- Completing the Square
- Solving Quadratic Equations
- Solving Quadratic Equations with Complex Solutions
- Investigating Quadratics

Module 4

- Polynomial Long Division
- Polynomial Synthetic Division
- Theorems of Algebra
- Rational Root Theorem

- Solving Polynomial Equations
- Graphing Polynomial Equations
- Polynomial Identities and Proofs

Module 5

- Simplifying Rational Expressions
- Multiplying and Dividing Rational Expressions
- Adding and Subtracting Rational Expressions
- Simplifying Complex Fractions
- Discontinuities of Rational Expressions
- Asymptotes of Rational Functions
- Solving Rational Equations
- Applications of Rational Equations

Segment II Concepts

Module 6

- Solving Systems of Equations Algebraically
- Solving Systems of Non-Linear Equations
- Graphing Systems of Linear Equations
- Graphing Systems of Non-Linear Equations

Module 7

- Exponential Functions
- Logarithmic Functions
- Properties of Logarithms
- Solving Exponential Equations with Unequal Bases
- Graphing Exponential Functions
- Graphing Logarithmic Functions
- Exponential and Logarithmic Functions

Module 8

- Arithmetic Sequences
- Arithmetic Series

- Geometric Sequences
- Geometric Series
- Sigma Notation
- Infinite, Convergent, and Divergent Series
- Graphing Series

Module 9

- Events and Outcomes in a Sample Space
- Independent Probabilities
- Conditional Probability
- Normal Distribution
- Models of Populations
- Using Surveys
- Using Experiments

Module 10

- Introduction to the Unit Circle
- Unit Circle and the Coordinate Plane
- Trigonometric Functions with Periodic Phenomena
- Pythagoras, Trigonometry, and Quadrants
- Functions of All Types