



ALGEBRA 31

Teacher Name

Room Number

School Year

Period

Email

COURSE DESCRIPTION

Building on the work with linear, quadratic, and exponential functions from Algebra, students in Algebra 31 will extend their repertoire of functions to include polynomial, rational, and radical functions. Students work closely with the expressions that define the functions, and continue to expand and hone their abilities to model situations and to solve equations, including solving quadratic equations over the set of complex numbers and solving exponential equations using the properties of logarithms. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

COURSE OBJECTIVES

Students should:

- Use properties of rational and irrational numbers.
- Perform arithmetic operations with complex numbers.
- Use complex numbers in polynomial identities and equations.
- Perform arithmetic operations on polynomials
- Understand the relationship between zeros and factors of polynomials.
- Use polynomial identities to solve problems.
- Extend the properties of exponents to rational exponents.
- Understand solving equations as a process of reasoning and explain the reasoning.
- Understand the concept of a function and use function notation.
- Analyze functions using different representations.
- Build a function that models a relationship between two quantities.
- Build new functions from existing functions.
- Understand independence and conditional probability and use them to interpret data.
- Use the rules of probability to compute probabilities of compound events in a uniform probability model.
- Use probability to evaluate outcomes of decisions.
- Understand and evaluate random processes underlying statistical experiments.
- Make inferences and justify conclusions from sample surveys, experiments, and observational studies.
- Summarize, represent, and interpret data on a single count or measurement variable.
- Extend the domain of trigonometric functions using the unit circle.
- Model periodic phenomena with trigonometric functions.
- Prove and apply trigonometric identities.

UNITS OF STUDY

- Rational and Polynomial Functions
- Exponential Functions
- Probability
- Statistics with Random Processes
- Sequences and Series
- Introduction to Trigonometric Functions

COURSE POLICIES AND REQUIREMENTS

GRADING

Summative Assessments:	90%
	Tests, Quizzes, Projects
Formative Assessments:	5%
	Graded Homework and Assignments
Behavioral Characteristics:	5%
	Homework and Participation

Insert Additional Grading Information Here

MATERIALS

Insert Additional Grading Information Here

EXPECTATIONS OF STUDENTS

Insert Course Expectations Here

EXTRA HELP

Insert Course Expectations Here

Insert Additional Information Here