



Course Title:
Advanced Algebra

Instructor:
Mr. McKern- mckernk@wlwv.k12.or.us

Course Description: This course is the study of functions, including a quick review of linear and quadratic functions. We continue with higher order polynomials, exponential, logarithmic, rational functions and trigonometric functions.

Major Units:

Semester 1

Chapter 0 – Foundational Skills
Chapter 1 – Linear Functions & Systems
Chapter 2 – Quadratic Functions and Equations
Chapter 3 – Polynomial Functions

Semester 2

Chapter 4 – Rational functions
Chapter 5 – Rational Exponents & Radical Functions
Chapter 6 – Exponential & Logarithmic Functions
Chapter 7 - Trigonometric Functions

Learning Goals and Objectives: Upon completion of this course, students will be able to

- Describe key features of functions and transformations of functions
- Solve Systems of Equations
- Write quadratic functions in three forms and solve for the roots
- Extend properties of exponents to rational exponents
- Classify numbers as rational or irrational
- Perform arithmetic operations on polynomials
- Understand that polynomials form a system closed under the operations of addition, subtraction and multiplication
- Factor and solve polynomial equations and find their roots
- Graph Rational Functions
- Rewrite simple rational expressions in various forms
- Add and subtract rational expressions
- Apply rules of exponents and logarithms to convert expressions
- Utilize special right triangle relationships as well as trigonometric ratios to solve triangles
- Convert between degree measure and radian measure and find arc length and area of sectors

Standards of Mathematical Practice:

The student will:

- ✓ Make sense of problems and persevere in solving them.
- ✓ Reason abstractly and quantitatively.
- ✓ Construct viable arguments and critique the reasoning of others.
- ✓ Model with mathematics.
- ✓ Use appropriate tools strategically.
- ✓ Attend to precision.
- ✓ Look for and make sense of structure.
- ✓ Look for and express regularity in repeated reasoning.

All math courses are designed to meet the requirements of the WLWV Mathematics Curriculum and the Oregon Mathematics Standards.

Materials for Advanced Algebra:

- *Graphing Calculator**

- One 3-ring binder
- Pencils/Pens

- Colored Pencils/ highlighters (Optional)
- Notebook Paper and Graph Paper

****NOTE: A TI-83 plus or TI-84 Graphing Calculator is suggested for this course and for higher level mathematics courses.***

**Content contained in this syllabus is subject to changes.*

Classroom Expectations:

All guidelines and rules of West Linn High School will be followed.

The Student is expected to:

Be On Time. *Please be respectful of our time together and use it wisely.*

Come to class prepared. *Please bring your supplies to class each day.*

Respect the speaker. *This includes your classmates, guests, and Mr. McKern.*

Act Responsibly. *Both inside and outside of the classroom.*

Help Others Learn. *Give sincere assistance, but please do not distract others.*

***Please turn off all cell phones/electronic devices and place cell phones in the holder at the front of the room. We will utilize various forms of technology throughout the course, just not social media ☺.**

~NO FOOD OR DRINKS WILL BE ALLOWED IN THE CLASSROOM. (Bottled water is ok).

~Restroom breaks will be granted for emergencies only. Please make good use of your passing time/breaks.

~No restroom breaks during the first or last 10 minutes of class. Thank you!

Consequences of not meeting classroom expectations:

I. Discuss the behavior with the student (verbal warning).

II. Conference with the student (seat change/detention/ incident report/ parent contact)

III. Conference with the student (behavioral plan/ parent contact/ restorative meeting)

IV. Referral to administration (Mr. McKern will go directly to this step if necessary)

Classwork/Homework Expectations:

- Each student will be expected to complete all assignments. Each assignment has been specifically designed to increase the opportunity for each student to be successful in this course. Student work is expected to be neat and organized. Students should complete all assignments in pencil. Students will take daily notes and will be expected to retain these notes throughout the school year. Homework Quizzes will be completed weekly and graded for accuracy.

Test/Quiz Expectations:

Students will be offered opportunities to demonstrate their understanding of the content each week. Students are given tests/quizzes on each chapter as well as one cumulative semester final each semester. Cheating will not be tolerated. Please be sure to complete your own work, no test or quiz is worth compromising your character. *Graded student tests are not to leave the classroom at any time during the school year.*

Grading Policy: Grades will be assigned as follows:

Grading Cutoffs:

A: [100, 90]

B: (90, 80]

C: (80, 70]

D: (70, 60]

F: (60, 50]

- Grades will not be rounded up.
- No extra credit.**
- All assessments must be completed in order to earn credit for the course.

Grading Breakdown:

Tests 50%

Quizzes & Projects 20%

Classwork 10%

Final Exam 20%

Policy for Students with D's or F's:

Students who are earning a grade of a "D" or an "F" at any time throughout the semester, will be expected to come in for extra assistance before school at least two times per week or until work has been completed and assessments have been taken to bring up his/her grade. If a student is not able to attend the before school extra assistance opportunities, then they will need to make arrangements with Mr. McKern to get assistance either during lunch or after school.

Makeup Policy and Long Term Project Policy:

- If you are absent, then please email Mr. McKern as soon as possible and check Google Classroom for missing assignments.
- Test/Quiz make-ups should be arranged the first day back from any absence or via email.
- Long Term Projects are due on the published due date.

Excused and Unexcused Absences:

- Parents must contact the WLHS attendance office to excuse an absence.
- Class time missed due to Unexcused absences should be made up either before school or during lunch. Please check Google Classroom for missing assignments and complete missing work ASAP.

Extra Assistance Information:

Students: If you need extra assistance, please make an appointment with Mr. McKern either before school or during lunch as soon as possible.

Parents/Guardians: If you have any questions or concerns, please feel free to contact me anytime, preferably by email. Thank you for your time and support.

Materials Checklist for Advanced Algebra:

- _____ (1) TI-83 plus or TI-84 Graphing Calculator
- _____ (1) 3-ring binder
- _____ Pencils
- _____ Red Pens (at least one)
- _____ Notebook Paper and Graph Paper
- _____ Colored Pencils/Highlighters (optional)
- _____ One box of tissue paper/Kleenex (Thank you!)

Student Name _____

Date _____ **Period** _____

PLEASE SIGN AND RETURN THIS PORTION

I have read the above course statement and understand its contents. I agree to participate in class and complete the course work. I also agree to follow the guidelines set forth in this course outline.

Parent/Guardian _____

Print name

Signature

Date

Student

Print name

Signature

Date