

Algebra II Syllabus

Course Description

The purpose of this course is to satisfy the Algebra II requirement of the Common Core Mathematics Standards recently adopted by the State of Ohio. This upper level course fits into an overall program of mathematics studies with a rigorous academic core by extending what students have learned in the introductory-level mathematics courses as well as introducing more advanced topics. These advanced topics include linear equations, inequalities, and systems, quadratic, polynomial, exponential, logarithmic, and rational functions, equations, and expressions.

Pre-requisite Courses

Algebra I, Geometry, Strong background in basic skills

Textbook

Algebra 2, 2001 McDougal Littell Inc.

Instructional Philosophy

This course introduces students to key concepts and theories that provide a foundation for further study in mathematics (College Algebra, Pre-Calculus, Calculus, and beyond) and increases students' mathematic literacy, problem solving, and critical thinking skills. The problem solving and critical thinking skills that students learn in Algebra II are valuable tools that can be taken to and applied in other disciplines.

The kind of learning activities in which students will engage can be described as cooperative group investigations, partner collaboration, or individual work (depending on the topic and assignment.) All of which are designed to help students understand and explain the key concepts presented in this course, incorporating mathematical reasoning, analysis, communication skills, and real world applications. Students will learn will and apply the principles of Algebra 2 while employing 21st century skills, including creativity/innovation, communication, collaboration, critical thinking, problem solving, and decision-making. Students will experience hands-on activities and participate in class discussions with open-ended problem solving.

Course Goals

- Review linear equations, functions, and inequalities.
- Manipulate, solve, and graph systems with two equations and two variables
- Manipulate, solve, and graph systems with three equations and three variables.
- Manipulate matrices.
- Graph quadratic functions.
- Manipulate and solve quadratic functions by graphing, factoring, finding square roots, completing the square, and using the Quadratic Formula.
- Manipulate, solve, and graph polynomial and radical expressions and equations.
- Manipulate, solve, and graph exponential, logarithmic, and rational expressions and equations.
- Students will be expected to demonstrate skills that will be valuable not only in this course but in future educational and vocational settings including (but not limited to)

reading for comprehension, writing coherently, oral presentations, and technology usage.

- **Major Assignments/Projects**

- Homework will be assigned throughout each chapter, typically on a daily basis.
- Quizzes will be given throughout each chapter based on teacher discretion.
- Chapter reviews will more often than not precede chapter tests.
- There will be a test at the end of each chapter.
- Weekly reading assignments will be evaluated with a written summary.
- Students will be required to complete one weeklong project each semester.
- A cumulative exam may be given at the end of each semester.

To determine that students are achieving course goals at a proficient level, students are required to produce work at a proficient or advanced level. Students will demonstrate their proficiency by completing all homework assignments, reviews, quizzes, tests, reading assignments, projects, and exams. All of which will require students to apply, analyze, synthesize, and/or evaluate concepts, skills, and information learned (and discovered) in class, based on content standards. These assignments may also require students to decipher or produce graphs, tables, and/or charts.

Late or Missing Work Policy

Students are expected to turn in assignments as they are due. Late assignments will be given partial credit. Missing work will eventually turn into zero credit. Check with your teacher for more information.

Students with a verified excused absence are allowed to make up late work without penalty in accordance with the school policy published in the student handbook.

Extra-Help

Students are encouraged to seek additional help as needed. Extra help will also be available from your teacher by appointment before or after school or at a time convenient for all involved. Please email ekorey@fairview.k12.oh.us with any questions.