

Math II : 2022-23

Welcome to Math II! You will find it a fun-filled and challenging educational experience! The course has two primary purposes:

1. Build a general set of skills and thinking skills students can use for the rest of their lives. Students will practice how to be effective communicators, analytical and creative thinkers, adept navigators of technology, inquisitive and persistent problem solvers, and reflective explorers of ideas. We will strive to make many mistakes and see them as opportunities for growing our brains. Students will build flexibility with numbers and sharpen their estimation skills.

2. Build mathematical proficiency around a specific set of Math II concepts. We will reinforce prior core ideas and work on new and more sophisticated algebra and geometry. Students will deepen their knowledge of linear and exponential relationships, and then add quadratic equations to their toolkit of functions. They apply and prove key formulas such as the Pythagorean theorem in different ways, and will learn new geometry such as triangle trigonometry. Additionally, students will further develop topics from middle school math courses, including surface area, volume, and probability. Priority is always given to the most important topics that will come up in future classes, entrance/placement exams, life, etc.

Mission Statement: This class will seek to follow the Orchard View mission statement to “empower all students to develop a passion for life-long learning by engaging them in a learning process that is designed to challenge their intellect and support their emotional growth and natural curiosity.”

Topics

Unit 0 – The How & Why of Math, Problem Solving

Unit 1 – Algebra Review, Exploring Patterns, Linear & Exponential Functions

Unit 2A – Intro to Quadratic Functions

Unit 2B – Quadratic Equations

Unit 3 – Similarity, Dilations, Scaling (Also: Geometry Review, Proofs Debate)

Unit 4 – Right Triangle Trigonometry

Unit 5 – Solid Geometry, Surface Area, Volume, Scaling 3D Objects

Unit 6 – Coordinate Geometry

Unit 7 – Circles, Polygons

Unit 8 – Probability

**Our units are from Illustrative Math’s Algebra and Geometry curriculum. We may use a student workbook for part of the year, but for the most part our content is on handouts and digital activities.*

Required Materials

Please have the following supplies **everyday**:

- 3-ring binder with some dividers to separate calendars, kickoff, HW, CW, notes, and tests
- Book (Illustrative Math softcover write-in textbook)
- Pencil (with eraser)
- *Highly Recommended: Basic TI-30xIIs scientific calculator... [only \\$12 on Amazon.](#)*
- *Optional: personal laptop or Chromebook. We will often do digital activities in class. This is not required in class, as there are shared computers at school for students to use.*

Coursework

Homework. Homework is checked regularly but is graded primarily for completion. Students learn to see homework as a way to self-assess their current understanding of material. Homework is essential practice and is given every class. If you have a question on one or two problems, write those problem

numbers at the top of your HW to request that we review those. It is your responsibility to try to get help on these problems during the homework review/presentation, during math tutorial, or outside of class. Late HW can receive partial credit up until the time we have our test for that unit. If you are absent, you will be allowed to have the same amount of time everyone else had to complete the assignment, but you need to take responsibility and show me your completed work.

Assignments, Projects, and Presentations. Students will often do a project or task at the end of each unit. The goal is to organize your thinking for a viewer. Students have the choice to do creative projects through a variety of media. Projects can often be turned in as a “hard copy” in class or submitted digitally through Google Classroom. Each student will give one homework presentation per semester. *Students can redo their presentation for a higher grade.*

Individual Tests. There will be in-class tests after most units. The best way to prepare for tests is to *practice*--not “study”—but *practice*. Redo practice problems from the homework, reviews, and partner practice tests. Tests assess for the retention of key facts and skills, the ability to strategize and apply mathematical tools appropriately, and the ability to explain one’s thinking and show connectivity among topics. *Tests are meant to be ongoing learning tools; students may be able to retake a few test questions at the end of the semester to raise their grade.*

Extra Credit and Extension Problems. You can turn in extra credit problems anytime to improve your grade and challenge your thinking around interesting math ideas. *Turn in via Google Classroom.*

Assessment System. Grades are on the percentage scale, so even though points are used to assess assignments, it is the percent and type of assignment that matters. For example, 5 points for a project is much more important for your overall grade than 5 points on homework. The categories used to determine your overall semester grade are weighted to the following percentages:

- 50% - Tests and Quizzes
- 35% - Projects
- 15% - Homework Effort/Completion

Aeries. Grades on some assignments are posted to Google Classroom, but in order to see a updated, accurate grade and a full breakdown of all assignments by category, students and parents should check Aeries.

Grade	Minimum
A+	98.0%
A	93.0%
A-	90.0%
B+	87.0%
B	83.0%
B-	80.0%
C+	77.0%
C	73.0%
C-	70.0%
D+	65.0%
D	60.0%
D-	50.0%
F	0.0%

Attendance/ Participation

Attendance is crucial to your success in this class. ***It is very difficult to catch-up if you miss class or fall behind since we don’t just follow a book.*** Talk with me if you know you are going to miss class. I may be able to provide you with videos or other links to help.

Extra Help

On-campus math tutorial is on Wednesdays from 2:15-3:15. I may also available other afternoons, usually after 2pm. I do not work on Friday (as I am 80% of full-time).

Course Agreement

I have read the syllabus for Math II and understand the expectations for the course.

Student Name

Signature

Date

Parent/Guardian Name

Signature

Date