

Algebra 2

Tuesdays and Thursdays at 12pm

Instructor: Nicholas Thorp

nickthorp@nickthorp.com

I. Rationale:

In this class, students will develop their algebra and geometry skills with more challenging topics. Functions will also be applied to real world problems like the physics of gases and compound interest in finance.

II. Course Aims and Outcomes:

A. Aims:

This class will establish the fundamentals of working with functions, equations, and variable unknowns to be further developed in more advanced mathematics.

B. Specific Learning Outcomes

By the end of this course, students will be able to:

- Apply and solve a wide variety of mathematical equations and formulas, such as polynomials, averages, and exponents
- Represent equations with graphs and understand how changes in each affect the other
- Connect formulas to real world problems of motion and probability
- Confidently explain mathematical concepts to a group of fellow students

III. Format and Procedures:

Class time will be spent reviewing difficult homework problems and lectures/discussions. Students will regularly be asked to teach lessons to the class to practice leadership and responsibility. As a result, students also should also have some method of clearly solving a math problem on camera, such as a small, physical whiteboard, sharing their screen, or whatever is convenient to show their process and explain their thinking. Students are expected to keep their cameras on during class and microphones muted unless speaking to keep background noise to a minimum.

IV. My Assumptions

Being able to lead a discussion and teach a topic is an important part of learning. Students should also be able to understand math conceptually and be able to consider its application outside of the context merely of answering homework or test questions.

V. Course Requirements:

1. Prerequisites: Have knowledge of the basics of algebra and be familiar with geometry
2. Class attendance and participation policy: Students are expected to attend class regularly and participate in discussions, asking questions and seeking clarification on topics that they don't understand.
3. Course readings: Saxon Math Algebra 2, Third Edition; only the textbook is necessary. It is most affordable when bought used.
4. Some method of solving math problems on camera (see Format and Procedures)
5. A graphing calculator is not required. For advanced graphing, there are a number of free online graphing calculators such as Desmos.

VI. Expectations for Parents

- Set aside a calm, quiet, distraction-free space for your child(ren) to work every day.
- Ensure virtual learning equipment is available and charged.
- Establish routines and expectations and a basic schedule for completing classwork.
- Help students 'own' their learning.
- Check Edmodo for communications from teachers and help students print off resources that are provided.
- Stay abreast of teacher feedback in the form of grades or other messages.
- Proctor tests, quizzes, or other assessments as scheduled by the teacher. Parents ensure academic integrity because they are on the "live" side of the screen.
- Communicate with teachers regularly via email or Edmodo regarding any questions or issues that arise.
- If your child is having trouble completing work, email teachers to schedule a time for an online meeting.

VII. Grading Procedures

Grades will be weighted on the following scale:

- 4 – Exceeds expectations
- 3 – Meets expectations
- 2 – Below expectations
- 1 – Significantly below expectations

The following categories will be weighed in evaluating students:

- Homework (completion)

- Participation (asking for clarification, answering questions posed, etc.: the focus being on quality over quantity)
- Test/quizzes

VIII. Academic Integrity

Each student in this course is expected to abide by the Cornell University Code of Academic Integrity. Any work submitted by a student in this course for academic credit will be the student's own work.

You are encouraged to study together and to discuss information and concepts covered in lecture and the sections with other students. One great way to assess what you know is to teach the idea to a peer! You may also work together on problem sets and give "consulting" help to or receive "consulting" help from your peers. However, this permissible cooperation should never involve one student having possession of a copy of all or part of work done by someone else, in any form (e.g., email, Word doc, Box file, Google sheet, or a hard copy). Assignments that have been previously submitted in another course may not be submitted for this course.

Should copying occur, both the student who copied work from another student and the student who gave material to be copied will both automatically receive a zero for the assignment. Penalty for violation of this Code can also be extended to include failure of the course and University disciplinary action.

During examinations, you must do your own work. Talking or discussion is not permitted during the examinations, nor may you compare papers, copy from others, or collaborate in any way. Any collaborative behavior during the examinations will result in failure of the exam and may lead to failure of the course and University disciplinary action.

IX. Tentative Course Schedule

Each week will cover approximately 4-5 lessons (2 on Tuesday, 2 or 3 on Thursday). This gives some wiggle room to allow for more time on difficult topics and review. Because of the incremental method of Saxon Math, however, we may accelerate through less difficult lessons.