***Algebra 2***

Yearlong 2022/2023

Sample Syllabus. Final Syllabus will be provided in August.

**Eligible Students:**

**Grades (10-11, 12th graders welcome):** Students who have successfully completed Algebra I and Geometry, students who are able to remain focused and diligent, reviewing information and

concepts on their own throughout the year.

**Orientation Date:** Monday, August 29th, 2022

**Class Dates:** Beginning Wednesday, September 7th, 2021 to Friday, May 26th, 2022

**Class Times: Monday, Wednesday, Friday: 8am-9:15 am (EST)**

**Instructor:** Alison Haley, M.Ed, M.S.

**E-mail:** alison.haley.education@gmail.com

**Schedule for *Algebra 2:***

**Class Sessions Dates:**

**Classes will take place on Monday, Wednesday, and Friday: 8:00 - 9:15am** (EST) **for 32 weeks. Breaks and holidays are noted on the school calendar below.**

See full Scholé Academy Calendar at: <https://scholeacademy.com/academic-calendar/>

Any cancelled classes will be made up at an alternate time by the instructor or a recording will be provided in accordance with Scholé policies.

***Algebra 2* Course Description:**

Classes are live and highly interactive, with students regularly interacting with their instructor and peers and participating in class discussion. **Students are expected to attend classes with their videos turned on and to function as a full participant in each class,** **contributing to the class dynamic and success of the entire cohort.**

We allow a maximum of 9 absences for yearlong courses that meet 3 times per week.

See full Student-Parent Handbook at <https://scholeacademy.com/student-parent-handbook/>

***Algebra 2 and Trig* Course Map:**

**Chapter 0**

Preparing for Advanced Algebra

**Chapter 1**

Linear Equations

**Chapter 2**

Relations and Functions

**Chapter 3**

Quadratic Functions

**Chapter 4**

Polynomials and Polynomial Functions

**Chapter 5**

Inverses and Radical Functions

**Chapter 6**

Exponential and Logarithmic Functions

**Chapter 7**

Rational Functions

**Chapter 8**

Statistics and Probability

**Chapter 9**

Trigonometric Functions

**Chapter 10**

Trigonometric Identities and Equations

**Required Course Texts:**

**Final Course Text is still under review, but for 2021/2022**

**this was the selection:**

**Glencoe Algebra 2, 2018 Edition**

Print Text

MHID: 0079039901

ISBN 13: 9780079039903

Digital Access

ISBN-13 : 9780078985218 | MHID : 0078985218

* Digital tablet. We recommend **Wacom Intuos** tablets. Similar products may be used.

*I use: Wacom CTL4100WLE0 Intuos Wireless Graphics Drawing Tablet with Software Included, 7.9" X 6.3", Pistachio*

[https://www.amazon.com/gp/product/B079J7DCXN/ref=ppx\_yo\_dt\_b\_search\_asin\_title?ie=UTF8&psc=1](https://www.amazon.com/gp/product/B079J7DCXN/ref%3Dppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1)

* Graphing Calculator is Required (**TI-84Plus CE**)
* Three-ring notebook dedicated to this course
* Tabbed dividers
* Access to a printer
* Notebook paper and graph paper
* Google account to log into free virtual products such as Desmos and Ziteboard.

***Algebra 2* Course Description:**

Mathematics, the universal language of the sciences, is a worthy focus of study on its own. Through the study of mathematics, the student begins to more deeply understand the order of creation that speaks the praise of our Creator and exemplifies His divine love and

majesty. During this course, we will seek to build upon the foundation laid in students’ studies of Algebra I and Geometry, continuing to explore linear, quadratic, polynomial,

rational and radical functions, while introducing trigonometric, exponential, and

logarithmic functions. Conic sections, probability, statistics, and matrices will also be examined, and some discussion of the history of algebra and mathematics in general will be included tangentially as well.

While we will seek to keep this course restful, mastery of Algebra 2 and Trigonometry does

take some time and practice. Those who not only actively participate in class discussion and exercises but also take time to review notes after class and work on practice problems will find the most success.

This course also seeks to simultaneously integrate facts, logic, expression, and applications with each topic covered. During class discussions, the Socratic Method will be employed and students will be encouraged to explain what they have learned back to the instructor and to the other students.

**Student Expectations: Executive Function Skills**

Students enrolling in Scholé Academy’s Algebra 2 and Trigonometry course will be expected to show development of Executive Function Skills throughout the year. Executive

Function Skills are a set of qualities and skill sets students can hone to better approach the

courses, lectures, readings and teachers they will face in their future academic coursework.

Each teacher will invariably have her own set of requirements and skills she requires

students to bring to their studies.

Generally speaking, there are five such qualities that are necessary for students in various subjects:

1. **An Engaged Student:** One who is focused and willing to step into the arena of class

discussion, ask questions, supply answers, and take in what is being discussed and

apply it to himself. Importantly, students should keep what they have learned in mind and bring in observations when they come to class.

2. **Note Taking:** A student who is an engaged participant in the class is able to note

important and relevant content in an organized fashion. His notes would then be consulted, independently, for application in assignments and assessments.

3. **Attention to Detail & Preparedness:** These are students who consistently adhere to

deadlines and submission requirements, confirm technology is working prior to the

start of class, take it upon themselves to reach out and determine how to proceed after

an absence, are responsible for consulting his course information and adjusting as the

class proceeds, etc.

4. **Employ Critiques:** These are the students who receive feedback to one of their

submissions, and then are self-motivated to apply that feedback to future assignments

and learn from mistakes. These students also glean information from the live class

critiques of fellow students and note mistakes to avoid by learning from others. The

student displays courage, humility and perseverance in learning and realizes that

mistakes are often an inseparable part of the learning process.

5. **Initiative/Maturity:** This student would hear the teacher’s comments, be able to

assess whether or not the teacher was describing his work, and then take the initiative

to schedule office hours with his teacher if necessary.

**Student Expectations In Action**

In this class, students will be expected to listen attentively, participate actively in class discussions and exercises, and be respectful of others during discussion. Students are expected to arrive to class on time, with all assigned material completed ahead of time and

an appropriate time spent studying. The instructor will facilitate learning opportunities for the student, but the responsibility for staying up-to-date with classwork and assignments.

Please Note: Course work is designed such that students should be able to complete work

independently, however, students are encouraged to discuss what they have learned with their family to build confidence, receive encouragement, and perhaps even teach concepts to their parents! I ask that students show steps used to solve problems, as this will help me provide the most helpful feedback.

**Submission of Assignments**

All assignments will be due into the appropriate Schoology Assignment folder prior to the start of class each day unless otherwise noted. Students turning in late work will earn **a 50% penalty for a late assignment.** Students will submit their work by scanning their homework pages and uploading it into the Schoology assignment window. We discourage the use of photos for assignments. Consider using the app Genius Scan for a cleaner scan from a mobile device.

**Student Evaluation: Grading**

Grades are a feedback mechanism from the teacher to the student as to their level of mastery. While exploring Algebra 2 and Trigonometry through Scholé Academy will be “restful” (and hopefully a discovery of a most eloquent “language!”), we also recognize the need to provide grades for students who will be using this course as part of their prepared transcript for college application. It is a delicate balance to achieve both restful learning and excellent academic performance. Earning a specific grade should not overshadow achievement goals for mastery of this discipline. In their studies of Algebra 2 and

Trigonometry, students not only grapple with more abstract and complex concepts that

provide an ever clearer picture of creation, but also build upon a foundation for greater

understanding of the mathematical language behind many technical and scientific

disciplines. In that sense then, mastery of more complex functions is a reward in and of

itself.

For Algebra 2, we will be using a 10 point grading scale. Mastery is considered greater than 80%.

**Student Evaluation: Mastery Portrait**

Mastery portrait: Students entering Algebra 2 are honing the skills gained in their studies of Algebra I and Geometry. Students who are prepared to take this class are typically adolescents approaching young-adulthood, and perhaps even considering studying mathematics or science at the undergraduate level. As such, this course seeks to provide the academic tools necessary to achieve mastery and skills associated with analytical thought, as well as assist students in the development of their moral virtues. These three aspects of the course would comprise the “learning target”.

• At the completion of this course, students will understand the characteristics and behavior of

algebraic and trigonometric functions, as well as understand the basics of analytic geometry.

Students will have a working knowledge of statistics and probability and how they are applied in the real world.

• Students will have grown in their skills of being able to “read” and interpret an equation, then

be able to identify necessary steps in solving a problem.

• Students will grow in wonder, humility, patience, and perseverance as together with their classmates wrestle with the concepts presented.

**Student Evaluation: assignments, Types & Weights**

Mrs. Haley will communicate with students regarding assignment feedback and grading through the free online grading system, Schoology.

Student’s grades will be roughly comprised of:

Homework 25%

Assessments 40%

Projects 20%

In Class Work 15%

**Student Evaluation: Academic Dishonesty**

Students will often take assessment tests and/or quizzes privately at home. Students are on their honor to abide by [Scholé Academy’s Learning Philosophy](http://www.scholeacademy.com/student-parent-handbook/) which assumes the personal cultivation of Student-Virtues described in the Student-Parent Handbook.

Additionally, plagiarism is a serious and punishable offense. Proper citation of all sources is essential to the academic endeavor. Remember to cite any source if the information is not common knowledge or is an opinion obtained through any source. A plagiarized assignment will result in a failing grade. Students should consult their chosen style manual (see Student Expectations above) for specific direction on obtaining, quoting and paraphrasing sources.

**The Virtual Classroom:**

We will be using the free online “virtual classroom” software provided by Zoom. The virtual classroom will provide students with interactive audio, and an interactive whiteboard in which texts, diagrams, video and other media can be displayed and analyzed. The class link will be posted in Schoology.

Specific information regarding the technology used by Scholé Academy (including required technology) can be found by visiting the [Technology in the Classroom](http://www.scholeacademy.com/student-parent-handbook/) section of the Student Parent Handbook.

Students will submit documents by scanning and uploading them. They will submit their work to the *Algebra 2* Schoology assignment page (access granted after enrollment is secured).

**About the Instructor:**

**Alison Haley** earned a M.S. in Mathematics and Reading in 2011 and has earned a M.Ed. in Curriculum and Instruction with an emphasis in Mathematics in 2020. She is well equipped as a student of the classical tradition and emphasizes the importance of a liberal arts foundation in a STEM culture. Growing up in a rural area, she has a heart for making dynamic, classical education accessible to those who desire its fruit regardless of geographic or socioeconomic hurdles. Alison has homeschooled her four children and worked extensively in serving the homeschooling community. Beyond school and work, her family enjoys soccer, basketball, and music.

She believes cultivating educational virtue is a foundation for student success. As a math instructor, her desire is to promote wonder that leads to worship while students connect abstract concepts with tangible representations. Restful diligence is necessary for students to reap the fruit of the art of number, and seeing God’s nature through mathematics gives students a more complete understanding of our Creator. She believes that all students can be successful and offers classroom environments of engagement, participation, and growth. Alison is serving Scholé Academy in the math department and as a private tutor in many disciplines. Reach out to her at alison.haley.education@gmail.com.