**Upper School Geometry
Yearlong 2020-2021**

Instructor: Peter Bradshaw
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1. Incoming Student Profile
2. Schedule
3. Office Hours
4. Course Description
5. Course Texts
6. Student Mastery Portrait
7. Foundational Goals
8. Student Assessment
9. Assignment Marks and Feedback
10. Academic Integrity
11. Virtual School Technology
12. About the Teacher

1. Incoming Student Profile

To do well in the course, students coming should have a few prerequisites. Make sure each of these things is true of you. If you are unsure, let's talk about it, and we can decide together whether or not the class will be a good fit for you. Ideally, every student who displays the following characteristics should be able to do well in the class.

- Has taken and understood the content of an Algebra I course

- Is comfortable thinking abstractly

- Displays academic tenacity and enjoys the challenge of working through problems

- Is able to take notes and keep an organized binder or notebook

- Keeps track of when assignments are due and does not fall behind in coursework

- Possesses basic computing skills: accessing assignments, scanning documents, emailing, and managing files without significant help from parents

2. Schedule

Class Times:

- Monday/Wednesday/Fridays 2:00pm EST (60-75 minutes)

Class Dates: 95 classes from September 7th-May 28th

September (10): 9, 11, 14, 16, 18, 21, 23, 25, 28, 30

October (13): 2, 5, 7, 9, 12, 14, 16, 19, 21, 23, 26, 28, 30

November (10): 2, 4, 6, 9, 11, 13, 16, 18, 20, [Thanksgiving Break], 30

December (8): 2, 4, 7, 9, 11, 14, 16, 18, [Christmas Break]

January (9): 11, 13, 15, 18, 20, 22, 25, 27, 29

February (9): 1, 3, 5, 8, 10, 12, 15, 17, 19, [Winter Break]

March (12): 1, 3, 5, 8, 10, 12, 15, 17, 19, 22, 24, 26, [Western Holy Week]

April (12): 5, 7, 9, 12, 14, 16, 19, 21, 23, 26, 28, 30

May (12): 3, 5, 7, 10, 12, 14, 17, 19, 21, 24, 26, 28

- In case of necessary or planned absences, I will plan to get a substitute or record the session ahead of time. Absences will not be a frequent occurrence.

3. Office Hours

Office hours are by appointment. Please email Mr. Bradshaw at p.bradshaw.scholeacademy@tutamail.com to schedule an appointment.

4. Course Description

This course will cover the first six books of Euclid's Elements. We will begin from the ground up, working though the father of Geometry's incredible work from the first propositions. The study of Euclid is valuable in and of itself; however, we also will supplement our study of Euclid with a study of modern Geometry. In this way, students will reason their way through the first six books of Euclid's beautiful and timeless work as well as learn how modern people have adapted his study and blended it with the study of Algebra.

5. Course Texts

We will be using two texts this year in our study of Euclidean and Modern Geometry. The text for Euclid must be purchased, whereas the other text is available online or as a PDF should the physical text prove too expensive.

<u>Course Texts:</u>
- *Euclid's Elements with Exercises* by Kathryn Goulding (ISBN: 978-0692925942)
- *Geometry* by Ray C. Jurgensen (ISBN: 978-0395977279)

<u>Other Required Materials</u>
- Digital writing tablet
  - We recommend Wacom Intuos tablets although similar products may be used.
- Dedicated notebook for class notes
- Paper for scratch-work and homework (white printer paper, notebook paper, or graph paper)
- Pencils
- Ruler, protractor, and compass (the circle drawing kind)

6. Student Mastery Portrait

Students completing this course will, as Abraham Lincoln said, "[find] out what demonstrate means." Euclid's *Elements* provides a thorough regiment in training a student to think straight. A student successfully in this course will have his/her mind sharpened as s/he reasons through Euclid's propositions. In addition, they will learn the fundamental concepts, skills, and equations which comprise the study of modern Geometry.

7. Foundational Goal

The goal of this class is to learn to love God and neighbor better through the study of Geometry. It is my hope and prayer that as students work through Euclid's text and the modern text, they will grow in patience, kindness, joy, and love.

8. Student Assessment

While completing Geometry through Scholé Academy will be restful, we also recognize the need to provide grades for students who will be using this course as part of their prepared college transcript. It's 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. I will assign the following overall course grades, depending on your student's level of achievement: magna cum laude (with great praise); cum laude (with praise); satis (sufficient, satisfactory) and non-satis (not sufficient).

Ideally, every student working diligently should do praiseworthy work (cum laude). Those who excel beyond this expectation will be the magna cum laude students. Students who do adequate but not praiseworthy work are designated satis. Non-satis means lacking sufficiency or adequacy.

Inasmuch as you might be fully on board with this grading method in theory, there will undoubtedly be the need to complete a college transcript with either a numeric or traditional letter grade. Traditional percentage grades will be provided and will be readily accessed on the Geometry Schoology page. Additionally, I will provide a transcript of that grade to the requesting parent at the end of the academic year.

9. Assignment Marks and Feedback

I will communicate with students regarding assignment feedback and grading through Schoology. Students will also receive feedback for each assignment submitted. At certain times, students will be given the opportunity to correct individual homework assignments to replace a lower grade.

10. Academic Integrity

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 which assumes the personal cultivation of Student-Virtues described in the Student-Parent Handbook.

Additionally, plagiarism on any assignment is a serious and punishable offense. Students may not consult any outside solution manuals or copy the solutions of others. A plagiarized assignment will result in a failing grade. Moreover, all work and necessary steps to solve a problem should be shown.

11. Virtual School Technology

We will be using the free online "virtual classroom" software provided by Zoom, one of the leading companies that provides such software. The virtual classroom will provide students with interactive audio, text chat and an interactive whiteboard in which texts, diagrams, video and other media can be displayed and analyzed. We will provide students with a link (via email) that will enable students to join the virtual classroom.

Specific information regarding the technology used by Scholé Academy (including required technology) can be found by visiting the Technology in the Classroom section of the Student Parent Handbook.

Students will submit documents by scanning and uploading them to their personal computer, then attaching those files as .pdfs to an email. They will submit their work to the Geometry Schoology assignment page (access granted after enrollment is secured).

12. About the Instructor

Peter grew up on land in the warm chaparral of Southern California. He was introduced to the great works of the Western world through a Great Books program in high school. Peter studied English Literature at Covenant College and hopes to complete his Master's in Classical Christian Studies through a distance program at New Saint Andrews in the Summer of 2020. Since graduating from Covenant, Peter has taught a range of subjects over the past six years. When not in the classroom enjoys painting, poetry, guitar, and watching the little unnoticed things of the world. He and his wife just had their first child: Gabriel. He currently lives in Cairo, Egypt and is planning on beginning a Fluency in Ancient Greek program offered by Polis Institute in Jerusalem in the near future.

Peter is eager to teach Geometry as he will be returning to something he has always loved and
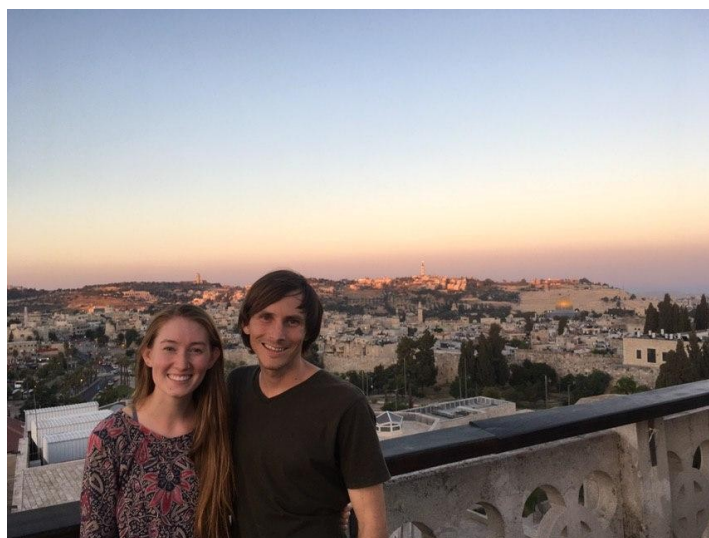
understood but with the much-widened perspective my studies in Classical education has given me. The plan for the course is to have the first six books of Euclid's Elements serve as the skeleton. His previous experience teaching formal logic will be greatly beneficial, as there is a keen similarity between Aristotelian Logic and Euclidean Geometry. Euclid's first six books are actually numberless and based primarily in abstract reasoning. Another element of the course will be spent synchronizing Euclid with what students taking the ACT and SAT can expect to face regarding Geometry. That material will be taught on top of Euclid's Elements throughout the course. The third strand of the course will entail an historical/theological look at the material: students will learn the story of math as it developed in the ancient Greek world as well reflect on what Geometry teaches us concerning God and His creation.