

HS COLLEGE-BOUND

Course offerings 2019–20

Weekly on-site classes

Tuesdays 8:30 AM – 4:30 PM

*Each Tuesday class supplemented by
one or more online sessions later in the week*

PLUS:

Online classes

open to students around the world



REGULAR BLEND COURSES

30 weeks of instruction: August 2019 – May 2020

HONORS SCIENCE

HONORS BIOLOGY WITH LAB

HONORS SCIENCE

HONORS PHYSICS WITH LAB

MATHEMATICS

ALGEBRA I

MATHEMATICS

GEOMETRY

HONORS LITERATURE

HISTORY & LITERATURE OF THE ANCIENT WORLD

LANGUAGE ARTS & LITERATURE

FOUNDATIONS OF WRITING / SHAKESPEARE

FOREIGN LANGUAGE

SPANISH I

ONLINE COURSES

30 weeks of instruction: August 2019 – May 2020

HONORS LANGUAGE ARTS

LOGICAL COMMUNICATION

HONORS LANGUAGE ARTS

ESSAY WRITING & APPRECIATION

The Blend

<http://hscollegebound.com>

info@hscollegebound.com

Honors Biology With Lab

In recent decades, our collective ken about the microscopic, molecular, and physical world has expanded incredibly. In this class each student will acquire both a deep understanding of biology and biochemistry and an appreciation of life's wonder and majesty.

Students new to science and those with previous knowledge are equally welcome. Each lecture begins with broad foundational concepts and then delves into the topic in greater detail. Lectures feature video, graphics, and PowerPoint presentations. Students will be provided with beautiful printed materials—graphics depicting cells, chemical compounds, biochemical processes—plus in-class note-taking sheets, and worksheets to be completed at home.

Topics

Among the topics covered in *Honors Biology With Lab*:

- **Semester 1**—molecular biology, basic chemistry, biochemistry (proteins, fats, carbohydrates, enzymes), the cell, cell membranes, osmosis, diffusion, protists, respiration, photosynthesis, meiosis, mitosis, DNA replication, protein synthesis.
- **Semester 2**—genetics (classical and molecular), phylogeny, anatomical systems (digestion, respiratory, nervous, endocrine, reproductive, muscular/skeletal), plants.

This honors-level class moves at quite a clip. The schedule alternates lectures with labs.

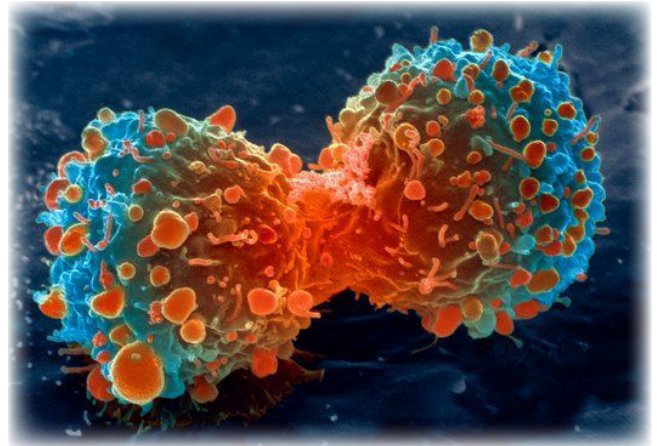
Class activities

- Periodic in-class quizzes will be administered in the form of solo and small-group activities and games. The objective of these quizzes will be learning and mastering the content, not generating a grade.
- Between classes, students will interact with the teacher and other students online, hear lectures, view images, and ask and answer questions.
- Students will be assigned three in-depth research projects and small topics to research independently.
- Tests are provided to parents to administer at home as they wish—open book, closed book, as a learning tool, as a grade generator, or any combination.

Students will be expected to complete four to five hours of work at home each week. Homework will consist of reading, annotating text, watching videos, completing worksheets, doing independent research, writing lab reports, and studying. — *Please note:* For those who wish to take the SAT II subject test, this course covers the majority of Biology E/M topics. Standardized testing is not required to take this class.

Texts

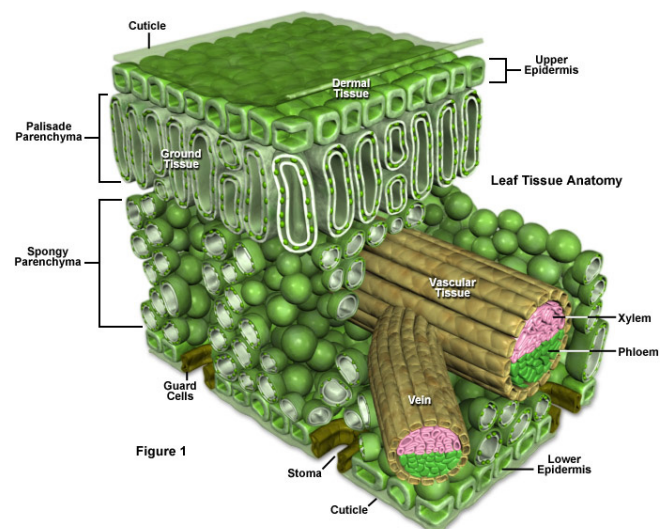
- **Biology**, 8th edition, by Neil Campbell & Jane Reece.
- **Exploring the Way Life Works**, reprint, Mahlon Hoaglan, Bert Dodson, Judy Hauck.
- **The Biology Coloring Book**, Robert Griffen & Cinthea Vadala, First edition.



LABS

Each lab will correlate to class content. Over the course of the year, students will:

- have a dozen lab sessions, each including one or more labs;
- use the scientific method to analyze data and draw conclusions in written reports.



Honors Physics With Lab



Physics is the study of forces acting on matter, and though we seldom realize it, it's an integral part of our everyday lives. When we drive a car, open a can of soda, turn on a blender, or even just take a walk outside, *forces* are at work, acting on *matter*.

Yet analyzing and comprehending those forces is often fraught with difficulty, the concepts seeming unclear or even indecipherable. The laws of physics can often seem counterintuitive: how is it that two objects of different masses fall at the same rate? — Or when a ball is thrown, why does it start falling immediately — as opposed to traveling horizontally for a while and then starting to fall?

Partly in reaction to the difficulty of physics concepts, high school and even college physics courses often “teach” the content by requiring that students memorize and apply formulas. Students who are whizzes at math or good at memorization do well in such classes; the rest are left confused.

HONORS PHYSICS at The Blend takes a different approach. Our students always begin by experiencing for themselves specific physical phenomena and understanding their underlying principles. Then and only then do they delve into the mathematical conceptualization of those principles and their algebraic applications.

For our students, this approach has two principal benefits:

- The beauty, logic, and elegance of the physical world are obvious.
- So are the formulas.

So in HONORS PHYSICS the students perform experiments and activities primarily to explore mechanics. — Below right is a list of the topics explored.

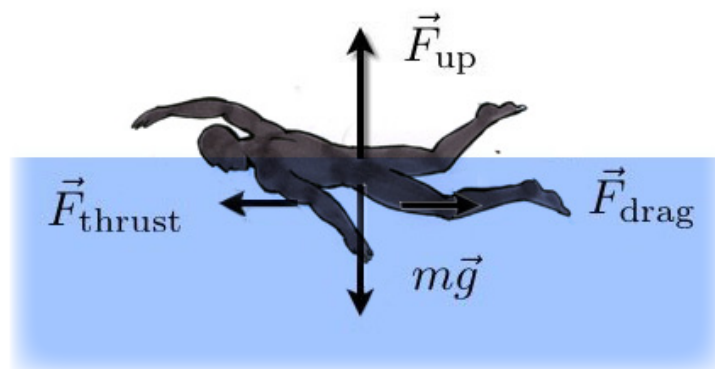
Each student will be required to keep a lab notebook, which will be routinely collected and corrected. Students will also be given periodic quizzes or tests, both to ensure mastery and to enable parents to generate grades.

Texts for this course:

- Giancoli, *Physics*, 6th edition
- Hewitt, *Conceptual Physics*, 10th edition

MATH PREREQUISITE

Your student must have completed Algebra II —specifically, the student must be able to properly manipulate algebraic expressions.



Exploring mechanics

- | | |
|--------------------------|--------------------------|
| ▪ Analysis of Data | ▪ Energy, Work and Power |
| ▪ Vectors | Dynamics: Newton's Laws |
| ▪ Kinematics (motion) in | of Motion |
| one direction | ▪ Momentum |
| ▪ Kinematics in two | ▪ Gravity |
| directions | ▪ Circular Motion |

Exploring electricity

- | | |
|----------------------|-------------------|
| ▪ Electrostatics | ▪ Electric Fields |
| ▪ Electric Potential | ▪ DC Circuits |

Algebra I

Tools for understanding math

Algebra is the study of mathematical *relationships*. Its study is considered essential for learning not just advanced mathematics, but for learning science or engineering, medicine or economics.

In algebra, students substitute letters—or symbols—for numbers. Working through algebra involves using logic. For some students, thinking abstractly is a new skill—one that will be strengthened by the demands of algebra.

In studying algebra, students learn to perceive the relationships the symbols have with one another. By omitting numbers and using symbols instead, students strengthen their understanding of two things:

- the rules that govern the manipulation of numbers;
- the **relationships** among values expressed as equalities (in equations) or inequalities.

Many algebra courses emphasize the mechanics of solving problems: *first do this; then do that...* — At The Blend, we aim to teach an understanding of the *why*: why certain relationships exist; why we solve problems the way we do.

During class, we address a variety of math concepts, and to keep students engaged and motivated, we use a variety of instructional tools and methods, such as games and competitions.

Workload

This course will require four hours of instruction per week, with an average of 3-4 hours of independent homework.

Materials to purchase

Students will need the Algebra “Desk Reference Set” from VideoText Interactive.

Prerequisites

Incoming students will sit for an initial assessment to ensure the suitability of this course for the student’s level. — Incoming students should be comfortable with operations using fractions, decimals, and percents. They should also know how to find least common multiple and greatest common factor. They should be familiar with place value, as well as associative, distributive, and commutative properties.

Geometry

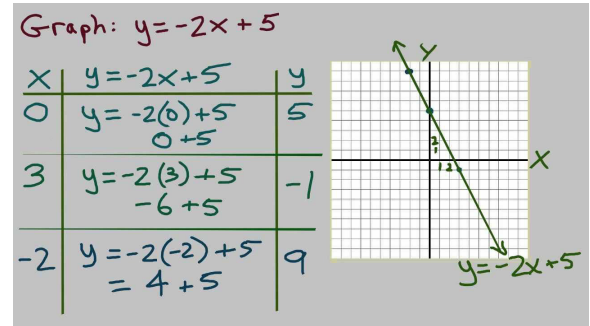
Reasoning in space

In geometry, many students recognize for the first time the beauty and power of *logic*. They also discover a new and practical application for the algebra they’ve already learned: in geometry, students create chains of reasoning, often using simple algebra to build knowledge from just a few givens — and the power of math becomes obvious.

Equally important, when solving geometric problems, students practice skills important for understanding the world:

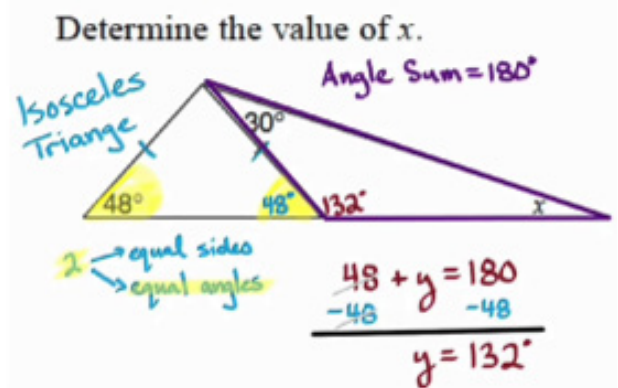
- deductive reasoning;
- spatial understanding;
- problem-solving.

Along the way, they strengthen a variety of mental muscles like visualization and sustained concentration.



Among the topics explored in *Algebra I*

- The language of math.
- Solving for one, two, and three variables.
- Linear functions, including graphing.
- Scientific notation.
- Polynomials.
- The feared word problems — students will learn how to approach them systematically and solve them successfully.



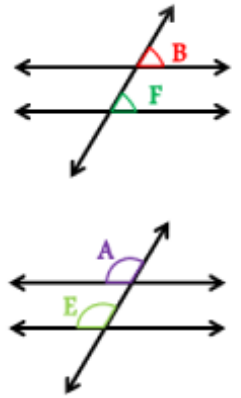
Course content

Geometry at The Blend is a fast-paced yet focused study that emphasizes the math topics and operations most frequently encountered in other high school courses — like chemistry and physics. The course also addresses topics that frequently appear on standardized tests like the SAT and ACT.

Among the topics covered:

- Geometric lexicon
- Angle and segment relationships
- Proofs
- Geometry in the coordinate plane
- Similar Figures
- Trigonometry

The instructor will periodically assess the students with in-class quizzes and with regular examinations. Homework usually requires 2 – 3 hours per week.



FOREIGN LANGUAGE

INSTRUCTOR: MONICA KIEHNLE

Spanish I

Vocabulary, grammar, pronunciation & culture

Among the many challenges of homeschooling through high school is finding adequate foreign language resources. Computer-based programs often claim that the student will simply absorb the language through repeated contextual instruction. Meanwhile, they provide few explanations of any kind and leave the student unequipped to handle language fundamentals like grammar, usage, spelling, and pronunciation.

Our program

HS College-Bound Blend is proud to offer a high-school-level foreign language program that covers vocabulary, grammar and usage, and Mexican culture. *Spanish I* is taught by Monica Kiehnlle, a native speaker born and raised in Mexico, and this is her third year for teaching Spanish at The Blend.

Monica strongly believes that the best learning happens when students are having fun. So to engage students and prevent tedium, she makes creative use of group activities and one-on-one dialogue exercises. Most important, she models correct pronunciation and works with students on reproducing the trickier sounds (like the Spanish “rr”).

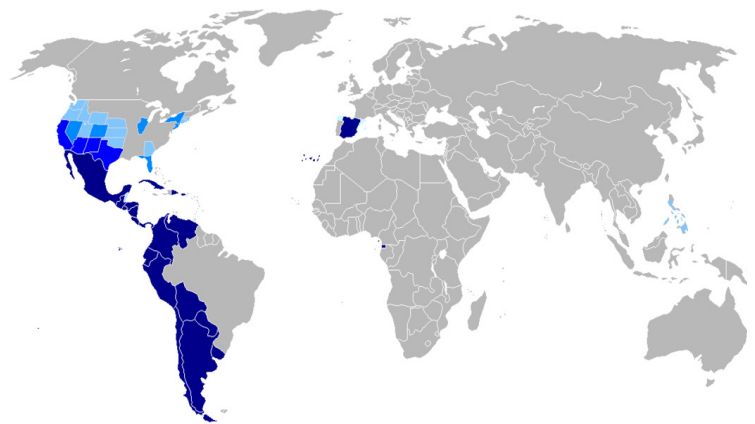
The class takes place over two semesters of 15 weeks each and includes:

- two weekly class sessions — one in-person class and one online;
- weekly reading assignments, memorization, or writing exercises;
- projects requiring research or translation followed by in-class student presentations;
- interactive classes that make use of songs, dialogues, and pronunciation exercises;
- classroom activities and games to make the learning engaging.

Course content

In *Spanish I*, students will:

- master the most common expressions in Spanish—the ones people use practically every day;
- practice the most common Spanish verbs, conjugations, and tenses;
- master the most common (and useful) nouns and adjectives, along with workouts on number, gender, and agreement;
- play grammar and vocabulary games that require both speaking and writing Spanish;
- take part in simple conversation with other students;
- read excerpts from Spanish novels and stories;
- watch excerpts from Spanish movies;
- sing in Spanish.



Foundations of Writing

Our grammar-&-usage bootcamp — **PLUS:** Close reading of Shakespeare

This course puts in place the skills and knowledge foundational to clear writing. It serves as a precursor to our writing course *Logical Communication*.

How it works

Both the on-site and the online classes are 90 minutes each:

- **On-site: English fundamentals.** In the on-site class, students master language fundamentals. They work through the entirety of our proprietary text, *The Writer's Guide to Grammar*.
- **Online: Shakespeare.** In the online class, they are introduced to close reading of extraordinary writing. In the process, they learn skills attendant on close reading and annotating difficult texts.

1) English fundamentals (on-site classes)

To produce clear writing, students must feel at home with English sentence structure, know the rules of English punctuation, and also have at their fingertips the vocabulary needed to express nuanced thoughts. This course enables students to:

- master the most important points of English grammar and usage;
- perceive with little effort both the *structure* of a sentence and how proper *punctuation* enhances that structure;
- employ with dictionary-precision a rich arsenal of English words.

Students in *Foundations of Writing* undergo a kind of boot-camp in English grammar, usage, and punctuation, in which grammar is taught not for its own sake, but to lay groundwork for writing tools and for understanding how the language works. The program also includes vocabulary work in which students learn to distinguish a *misconception* from a *misnomer*, a *compliment* from a *complement*, *reticent* from *reluctant*, and *simplified* from *simplistic*.

2) Close reading of great literature (online classes)

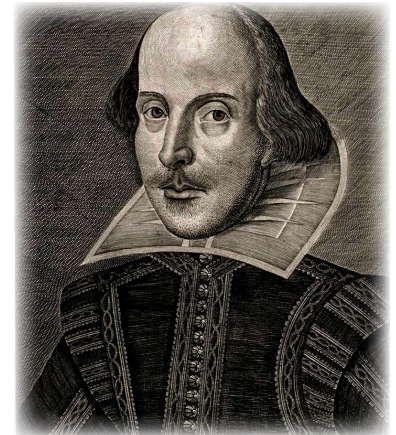
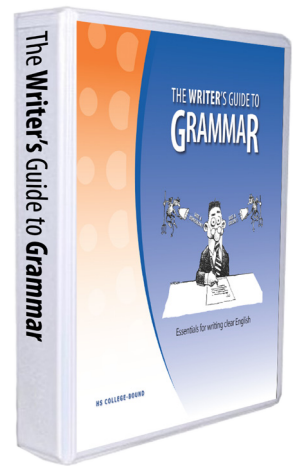
In addition to studying the essentials of English, students in *Foundations of Writing* undergo intensive study of Shakespeare, reading three plays in their entirety and in great depth:

- *Romeo & Juliet* (10 sessions)
- *Hamlet* (10 sessions)
- *Macbeth* (7 sessions)

In the process, students learn important study skills like close reading and annotation. Equally important, they discover *why we read great literature*. Shakespeare is the greatest writer in English, and no other writer so handsomely rewards close study — line by line, and even word by word.

Workload & texts

Homework: 3 to 4 hours per week on homework. All grammar materials are provided by the instructor; Shakespeare texts must be purchased separately.



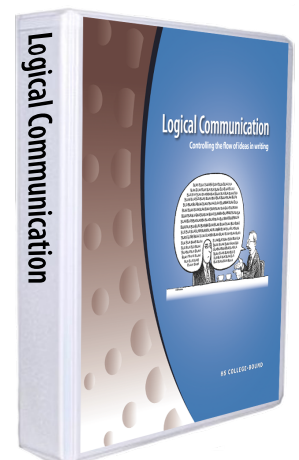
Logical Communication

Writing efficiently and with a clear train of thought

To produce clear writing, students must first produce clear thoughts and ideas, and then arrange them into a logical flow. This course, accordingly, focuses on the *thinking* part of the challenge. It serves as both the follow-up to *Foundations of Writing* and a prerequisite for *Essay Writing & Appreciation*.

Among the skills this course builds in its students:

- analyzing fine essays 1) for meaning, and 2) to understand *how it's done*;
- discerning in an essay the flow of an argument or the progression of ideas;
- mindmapping points and ideas on a given topic;
- writing a draft based on a mindmap;
- creating strong openings & strong conclusions;
- using punctuation and sentence structure as writing tools, to enhance impact;
- distinguishing and using the different types of transitional devices and expressions.



The readings in this course comprise examples of great prose from essayists like George Orwell, C. S. Lewis, H. L. Mencken, Max Beerbohm, Steven Pinker, Maria Konnikova, Diana Athill, Danny Heitman, Stephen Greenblatt, and William Zinsser, as well as scientists like Mark Miodownik, Alan Lightman, and Oliver Sacks, plus many others.

A closer look

Logical Communication develops in students the ability to perceive *the flow of ideas* in writing. Developing this ability leads to a core writing skill — one that's underestimated in academic writing training and, partly for that reason, underdeveloped in many adults — and that ability is perceiving the train of thought in one's *own* writing. The ultimate aim is that our students produce writing that is logically organized, is highly readable, and forms a cogent argument.

This one ability is key to writing effective essays of all kinds — not just literary analysis, but college admissions essays, research reports, and many, many other forms of writing. It is also critical to writing effective speeches, designing effective presentations, and crafting other types of communication, like a business letter or a webpage.

Writing assignments

Students in this course produce writing of several kinds:

- **Brainstorming/mindmapping.** The students produce mindmaps — basically, sketching ideas for essays.
- **Essays.** They write at least three major essays.
- **Editing.** They revise their own work, sometimes repeatedly, with each draft targeting a different kind of improvement or applying a different kind of editing tool.
- **Writing & editing workouts.** Students carry out targeted writing exercises, and those exercises take many forms—for a single essay, students might be asked to produce three *different* openings, each employing a different strategy for engaging readers. — Other exercises involve:
 - *sentence editing* — re-structuring sentences to improve readability, alter emphasis, or use parallel structure;
 - *paragraphing* — re-working paragraphs to strengthen their impact, clarity, or logical unity.

LANGUAGE ARTS / HONORS WRITING

INSTRUCTOR: ROY SPEED

Essay Writing & Appreciation

Reading great essays and finding your own voice in writing

This course is the follow-up to *Logical Communication* — a course that emphasizes logical flow, organization of ideas. The emphasis of this course, by contrast, is *insight*: those fleeting, intuitive leaps and connections we all make at some point — magic glimpses of understanding, and even wisdom.

In our daily lives, we seldom capture our insights, seldom record them or explore them. Yet they make for splendid essays. Students in this course, accordingly, are trained, first, to notice and record their own observations and insights; second, to explore them in the form of essays.

The problem with the academic approach

In schools, the essay is usually presented to students as a peculiar artifact of the classroom, unrelated to the outside world. Students come to know the essay as an unpleasant but necessary academic chore, one properly conducted in a rigid and tedious form, like the five-paragraph essay. Equally alarming, students are usually asked to write essays before they've actually *read* any.

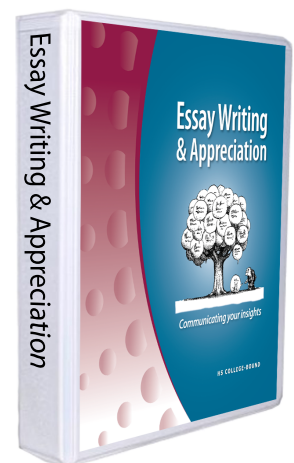
In the real world, essays provide a forum for sharing insights or discoveries or for discussing controversies. In virtually every field of human endeavor — science, economics, history, law, foreign policy, you name it — the leaders or pioneers in the field invariably turn to the essay as the medium of choice for discussing new developments out on the frontiers of discovery. So in every field, the most important discussions and debates take place in the form of essays.

Understanding the form

It's no accident that this course is called *Essay Writing & Appreciation*: our students read some of the finest essays ever written and come to a profound appreciation of what can be accomplished in this versatile form. The purpose of the course is to equip students to write essays themselves — to express their own thoughts and insights in writing.

Our approach to writing emphasizes the following features, all closely related:

- clear thinking;
- logical flow;
- clarity of expression;
- economy of expression;
- impact;
- insight.



How our students learn

Students' class activities and homework include:

- reading and analyzing essays by great writers;
- maintaining a notebook of observations & insights;
- sketching out (or mindmapping) essay ideas;
- drafting their own essays;
- revising those essays;
- workouts with tools for efficient editing;
- reading and critiquing other students' essays.

History & Literature of the Ancient World

From pre-history to the fall of Rome

This is a course in close reading of ancient writers. All readings are introduced within a historical framework, beginning with the most recent glacial period, proceeding to the rise of early civilizations in Mesopotamia, and then on to the Golden Age of Greece, and finally the rise and fall of the Roman Empire. Among the topics covered:

- **Pre-history** — what cave paintings and drawings reveal about early Western peoples; the spread of Indo-European languages into the Middle East and Europe; the transition from hunting-&-gathering to the domestication of animals and finally agriculture; the rise of the first city-states; the creation of the earliest writing systems.
- **Mesopotamia** — the early Mesopotamian city-states, with particular emphasis on the Sumerians, the development of cuneiform, and the *Epic of Gilgamesh*, with a brief look at the Babylonian, Assyrian, and Hittite peoples;
- **Early Greece** — the rise and fall of the Minoan and Mycenaean civilizations; the role of Homer's epics in the evolution of Greek culture;
- **Greece from the Golden Age to decline and conquest by Rome** — the blossoming of the polis (city state), Athenian democracy, the arts, philosophy, and science; readings in *The Histories* of Herodotus, with an emphasis on the rise of Persia and the Persians' attempts to conquer Greece; readings in Thucydides' *Peloponnesian War*.
- **The Roman Republic** — the rise of the republic, its early expansion and overseas conquests, and its remarkable leaders and achievements; with readings from Julius Caesar, Plutarch, and others;
- **The Roman Empire** — Rome's expansion under the emperors, followed by its decline; its engineering and architecture, the rise of Christianity, the split into Eastern and Western Empires; with selected readings from Tacitus and other Roman authors.

The course emphasizes map work to instill in students an appreciation of geography's importance in understanding both 1) the development of early civilizations and 2) the writings of ancient authors.

In this course, students are assigned independent research on specific historical issues, culminating in their presenting their findings to the class. To support these efforts, students are instructed in annotating texts and in presentation design & delivery.

Periodic in-class quizzes are administered. Some quizzes take the form of small-group activities and team competitions.



About the instructors

Diane Speed

SCIENCE
MATH

Honors Biology With Lab
Geometry

Diane is the founder of The Classical Kids Network and co-founder of The Blend. She has a B.S. from Drexel University, majoring in biology with a minor in chemistry. Before marrying, Diane worked in laboratories at:

- SmithKline Pharmaceuticals (antibiotic development);
- Temple University Research labs (hemophilia/clotting factors);
- the Philadelphia Water Department (water purity).

This is Diane's sixth year teaching science to homeschooled highschoolers.

Monica Kiehnle

SCIENCE
MATH
FOREIGN LANGUAGE

Honors Physics With Lab
Algebra I
Spanish

Monica received a degree in Industrial Engineering in Cuernavaca, Mexico. For seven years, she worked for Orto de Mexico, a manufacturer of control instruments and accessories for electrical transformers. In addition to various engineering responsibilities, her job included supporting customers from the United States, Mexico, South America, and Europe in matching accessories for transformers to the desired electrical characteristics.

In high school, Monica fell in love with math and physics. She decided to pursue engineering in college as a way to combine the analysis of the physical world with the practical application of theory. After moving to the United States, Monica began homeschooling her children with the aim of imparting a love of learning with a deep, profound understanding of all content. Monica eschews superficial learning and rote memorization and brings those values to her teaching of Spanish, science, and math at The Blend.

Roy Speed

HISTORY/LITERATURE
LANGUAGE ARTS/WRITING

History & Literature of the Ancient World
Foundations of Writing/Shakespeare
Logical Communication
Essay Writing & Appreciation

Roy is a writing consultant in the corporate world. As a home-schooling dad, he has worked with his own children and, for more than a decade now, has taught classes to homeschooled students on history, literature, Shakespeare, writing, and grammar. Among his recent course offerings: *History & Literature of the Ancient World*; *Novels by Women*; *History and Literature of the Middle Ages*; *Logical Communication*; and *Essay Writing & Appreciation*. His online classes in Shakespeare have been acclaimed by homeschooling students and parents across North America, and in high schools around the U.S. his articles on key study skills—like annotating a text—have been assigned by English teachers as required reading for their students.