THE PHELPS SCHOOL

FOR A BETTER MAN

73rd Year

COURSE CATALOG 2018-19

Curriculum Overview

The Phelps School's curriculum is designed to help boys succeed academically, personally, and socially in a positive, caring environment. Each student's course plan is tailored to his own educational needs, goals, and interests. Small classes, a disciplined atmosphere, and regular tutorial sessions provide consistent structure and support.

Beyond the classroom, social-emotional education is pre-eminent. School-wide assemblies, grade-level meetings, and special presentations focus on character and leadership development. Faculty advisors provide personal counseling, encouragement, and help with organizational skills and study habits. Through it all, Phelps boys learn how to learn, how to live lives of purpose and meaning, how to become better men.

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Graduation Requirements

Students must earn at least 22 credits beginning in ninth grade.

English/ESL	4	Social Studies	3	Arts	2
Mathematics	4	World Language	2	Electives	2
Science	3	Health/P.E.	2		

The "grade scale" generally used to convert *100-point scores* into letter grades:

A	93 – 100	B	83 – 86	C	73 – 76	D	63 – 66
A-	90 – 92	B-	80 – 82	C-	70 – 72	D-	60 – 62
B+	87 – 89	C+	77 – 79	D+	67 – 69	F	Below 60

GPA Conversion Scales

		AP Courses			AP Courses
A	4	4.3	C	2	2.3
A-	3.7	4	C-	1.7	2
B+	3.3	3.7	D+	1.3	1.7
B	3	3.3	D	1	1.3
B-	2.7	3	D-	0.7	1
C+	2.3	2.7	F	0	0

Academic Departments & Courses

Language Arts

Elements of Literature and Composition (Middle School)
Introduction to Genre I & II (grades 9 & 10)

American Literature	British Literature
AP Language & Composition	AP Literature & Composition
Writing Seminar	College Prep Composition

World Languages: Spanish I - IV, AP Spanish Language & Culture

Classes for English Language Learners:

ESL Reading & Writing 1 & 2	ESL Literature 1 & 2
ESL Listening & Speaking 1 & 2	Debate
TOEFL Prep	Science, History, Math courses by those departments

Social Studies

Geography	AP U.S. History
Ancient History	AP Comparative Government & Politics
World Cultures	Government
Civics & Economics	Psychology
American History	Sociology

Trimester Courses: Ethics, Economics, Introduction to Anthropology, Latin American Studies, Contemporary World Issues

Science

General Science	Chemistry (and AP Chemistry)
Earth and Space Science	Environmental Science (and AP Env. Sci.)
Life Science	Physics (and AP Physics 1)
Physical Science	Biology (and AP Biology)

Mathematics & Computer Science

General Math	Statistics
Pre-Algebra	AP Statistics
Algebra 1	AP Calculus AB & BC
Geometry	Intro to Computer Science (JavaScript)
Algebra 2	AP Computer Science Principles
Pre-Calculus	AP Computer Science in Java

Academic Support Program

Foundations of Reading & Writing, College-Prep Reading & Composition
American History I & II, World History
General Math, Pre-Algebra, Algebra 1A/1B, Algebra 1, Geometry, Algebra 2
General Science, Physical Science

Other Courses

Studio Art Health and SEL Graphic Design
Senior Seminars: Transition to College, Public Speaking, Personal Finance

Fitness/Weight Training	Independent Study and online course options

Typical Course Progression by Subject Area

Grade levels vary. Each student's course assignment is based upon previously completed work.

	Grade 6 & 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
English	Literature & Composition I	Literature & Composition II	Intro to Genre I	Intro to Genre II	American Literature or AP Language & Composition	British Literature or AP Literature & Composition
Social Studies	Geography	Ancient History	World Cultures	Civics & Economics	US History or AP US History	Psychology, Sociology AP Comparative Government & Politics
World Languages		Spanish 1 (optional)	Spanish 1	Spanish 2	Spanish 3	AP Spanish Lang & Culture AP Spanish Literature
Math	General Math Pre-Algebra	Algebra 1	Geometry	Algebra 2	Pre-Calculus Statistics	AP Statistics AP Calculus AB/BC
Computer Science	Web Design	Computing Ideas	Intro to Comp Sci in Python	Intro to Comp Sci in Javascript	AP Computer Science Principles	AP Computer Science in Java
Science	Earth & Space	Life Science	Physical Science	Biology	Chemistry, Biochemistry, or Environmental Science	Physics or Environmental Science or AP Bio, Chem, or Physics
Course and activities available at each grade level: Studio Art, Robotics, Weight Training, Chorus, Music (instrumental training)						
Other	Study Skills, Social & Emotional Learning	Study Skills, SEL	Health & SEL	Writing Lab (Electives)	SAT Prep (Electives)	Seminars: Transition to College Personal Finance Public Speaking

Advanced Placement (AP) Course Policy

Each AP course follows a syllabus approved by the College Board. Students must take the AP exam in May to be exempt from the final exam requirement. Failure to take the AP exam results in loss of the AP course designation and grade-weighting on transcripts. School final exams are modeled on AP exam formats in order to generate summative data for AP courses.

Language Arts Department

Courses in the Language Arts (English literature and composition, English as a Second Language, and Academic Support classes) are designed to develop confident communicators. Grammar lessons, vocabulary studies, research papers, creative writing, and oral presentations focus on effective expression. Reading strategies enhance comprehension. Literature studies train critical thinking and invite students to engage in the world's essential conversations. Assignments and coursework help develop organizational and study skills, responsibility, and time management.

English Courses

Elements of Literature and Composition (Middle School)

This foundational course focuses on Middle School students' reading comprehension, critical thinking, analytical skills, and writing. As they read short stories, novels, poetry, and nonfiction, students learn grammar, literary terminology, and vocabulary in context. Writing assignments introduce them to different rhetorical modes, and they receive feedback and encouragement through each stage of the writing process.

Introduction to Genre I (English 9)

This course develops language skills and introduces new concepts, strategies, and expectations in an overview of literary genres. Students examine works of fiction, non-fiction, poetry, and drama while developing their knowledge of grammatical and literary terms. Essay composition emphasizes diction, creative thought, and grammar. Students begin developing their own unique voices by giving oral presentations and participating in class discussions.

Introduction to Genre II (English 10)

As they continue studying fiction, non-fiction, poetry, and drama, students seek deeper understanding of each work's structure and meaning. Writing ability improves as students learn about and attempt different rhetorical modes. They continue building vocabulary and college-level study skills.

American Literature (English 11)

This course further develops reading and writing skills, prepares for college-level research and critical thinking, and provides an overview of literary movements and periods: Native American Writing, Puritanism, Rationalism, American Romanticism, Realism, Regionalism and Naturalism, the Harlem Renaissance, Modernism, and Contemporary Literature. Study of important works in various genres is linked to historical events and concepts in each literary age. Students analyze texts and think critically to develop arguments and craft essays or create projects based on these works.

British Literature (English 12)

This overview of genres covers six essential literary periods: Medieval, Renaissance, 17th & 18th Centuries, Romantic, Victorian, and The Modern Era. Emphasis is on essay writing, beginning with the college essay and moving through various rhetorical modes, as well as continued vocabulary building, note taking, and development of more sophisticated composition style.

AP Language and Composition

This course covers essential topics of rhetoric: close analysis, argument, and synthesis. Readings, largely non-fiction, spark discussion and written commentary. Students develop richer vocabulary and learn to use precise grammar, clear diction, appropriate syntax, variety of sentence structure, logical organization, consistent voice and tone, and balance of generalization and specific illustrative detail.

AP Literature and Composition

Students learn to interpret and write critically about literature in various genres (fiction, non-fiction, poetry, drama) and historical contexts. They develop understanding of works within significant literary

movements and in historical and philosophical contexts. The course is not about memorizing facts or information, but about honing skills in literary analysis required for the AP Exam and college courses.

Writing Seminar
Students learn about *structure* (introduction, body, conclusion), *purpose* (thesis, audience), *cohesion* (transitions, flow), *depth* (paragraph development, support), and *clarity of expression* (grammar, usage). Emphasis is on process, not just final product, with attention to stages of prewriting, outlining, drafting, editing, and revising. Students also read and analyze examples of well-written academic essays.

Vocabulary and Usage (often incorporated into other English courses)
Focus is on vocabulary required for college-level reading, writing, and speaking. Students learn to use different visual, auditory, and kinesthetic methods to make associations and enhance word recall. Through this work, students have opportunities to consider areas of interest for future study as they are read and analyze college-level texts.

Spanish Courses

Spanish 1
Students learn the basics of Spanish vocabulary, grammar, and Spanish-speaking culture.

Spanish 2
Students continue building their linguistic skills and vocabulary, learning advanced tenses, syntactic constructions, and idioms. They write short paragraphs and essays to develop their presentation skills while applying Spanish-specific concepts. Spanish 2 emphasizes and requires more translation and aural/oral practice in class.

Spanish 3
Development of vocabulary and grammar continues. Students engage in higher level analytical work in Spanish. Varied texts, media, and native sources provide real-life application. Emphasis is on students' speaking and thinking in Spanish, in and out of class. Students conduct research in Spanish to prepare for the rigors of the college classroom.

AP Spanish Language and Culture
This rigorous course is taught almost exclusively in Spanish. Students are also encouraged to engage in conversation with native Spanish speakers outside of class. Modes of communication include interpersonal, interpretive, and presentational. Studies include literary and non-literary texts as well as Spanish newscasts, podcasts, movies, and music. The AP exam gauges students' ability to interpret texts, comprehend spoken Spanish, write clearly, and speak fluently on a variety of topics.

AP Spanish Language and Culture
This rigorous course is available for students who have completed the AP Spanish Language course.

English as a Second Language (ESL) Courses

Students are placed in ESL classes based on their TOEFL Jr. tests and teacher recommendations. They can eventually transfer into mainstream classes upon earning qualifying scores on the TOEFL. ESL students are encouraged but not required to study another foreign language (Spanish).

Level 1: Beginner	Level 2: Intermediate	Level 3: Advanced
Reading and Writing Listening and Speaking 1 ESL Science and History classes	Literature Studies Listening and Speaking 2 TOEFL Prep	Advanced Literature Debate TOEFL Prep (as needed)

Each ESL course develops all four language domains: reading, writing, speaking, and listening.

Reading and Writing

At this early stage, focus is on basic vocabulary, grammatical structures, and reading comprehension to build a strong foundation as international students advance through the ESL program. The *Oxford Q: Skills for Success* series includes eight units with relevant contemporary themes. Workbooks and online components provide reading and writing practice. Students learn to write sentences and paragraphs of increasing complexity and create theme-based projects to demonstrate mastery.

Listening and Speaking (1 & 2)

Students develop their English-speaking skills by answering questions, listening and responding to classmates, and making oral presentations. Emphasis is on spoken delivery, including pronunciation, eye contact, and body language. Students improve their auditory processing skills and their English comprehension by listening to lectures, conversations, music, and videos. The *Oxford Q: Skills for Success* text series provides speaking and listening practice, with text and online components.

TOEFL Prep

Students learn preparation strategies and test-taking tips for each of the four sections. Throughout the year, they take practice tests scored similarly to the TOEFL exam to assess strengths and weaknesses and develop personalized plans to improve their scores. Students use a variety of texts to increase their English vocabulary and general knowledge to make test material more accessible.

Literature Studies

This course emphasizes reading comprehension and academic writing and analysis. Students begin their transition from textbook-based coursework to direct engagement with literary works, progressing from short stories to plays and novels. Explorations into literature encourage students to "think big" about the world and themselves. They build their vocabulary and they work on writing creatively and analytically, attempting various genres and creating theme-based projects to demonstrate mastery. Class discussions and reading aloud reinforce speaking and listening skills.

Advanced Literature

Students read novels, plays, and poetry of increasing length and complexity, using comprehension strategies presented at the start of the course. Literature studies continue to improve students' English vocabulary as they broaden their perspectives and understanding. Class discussions and reading aloud continue to improve speaking and listening skills.

Debate

Students develop skills in extemporaneous speaking and in presenting logical, coherent arguments. They practice basic public-speaking strategies for various situations and purposes; craft position papers to develop skills in research, writing, and citation; and learn to avoid logical fallacies and other weak argumentation. In various debate formats, they present prepared statements and extemporaneous rebuttals. Exploring contemporary issues and long-standing philosophical questions helps them better understand themselves and their world.

ESL Science 1 & 2

Each of these courses entails a full year of study. In *ESL Science 1*, students are introduced to various topics through exploration and inquiry. As they do so, they improve their English comprehension and writing skills. Physical science topics include the scientific method and metric system conversions; properties of matter (mass, volume, density); atomic structure, elements and compounds; the periodic table; Newton's laws of motion and acceleration; work, energy, and machines. Biological science topics

include microbiology and cellular structure; life kingdoms and classifications, simple to complex; invertebrates and vertebrates; and human body systems

The *ESL Science 2* course is a more rigorous, in-depth study of similar topics in physical science and biology, with the additional studies in chemistry and ecology. Projects and presentations are more challenging. Students also discuss and write about current scientific topics.

ESL History

This course examines historical events' impact on the American landscape -- political, economic, and social. As students work to improve their comprehension of English, they read primary sources, timelines, and graphs and learn to compare and contrast interpretations, recognize bias, question, analyze, interpret, and evaluate.

Social Studies Department

Social Studies courses teach students to inquire about history and the nature of mankind. The curriculum develops analytical and critical thinking skills and multicultural perspectives. Its overarching goal is to help students become productive citizens in a democratic society.

Courses develop historical literacy about world events, traditions, patterns, and changes; understanding of the human experience and how individual and group behaviors impact diverse populations; economic literacy and understanding of the allocation of resources. Students learn to conduct research to answer document-based questions (DBQs).

World Geography (Middle School)

This course examines the physical aspects of various continents and regions as well as human culture, government, politics, economics, and conflicts around the world. Students explore physical and climate characteristics, demographics, historical changes, economic activity, and land use. Students learn to question, read, analyze, interpret, and evaluate different forms of information.

Ancient History (Middle School)

This course examines ancient civilizations (2000 BCE to 1500 CE), their impact on one another, the reasons for their rises and falls, and the traces of their history and traditions that continue today -- as seen through discussion of selected current events. Higher order thinking is developed and assessed in various formats: tests, quizzes, essays, oral presentations, notebook checks, research projects, and reaction papers.

World Cultures

This course examines diverse cultures and the conditions that gave rise to them. Students use a variety of resources to develop their understanding of civilizations throughout history, leading to present-day family life and structure, social and community organizations, approach on education, religious beliefs and institutions, political movements, economic trends, and the intellectual and artistic achievements of men and women within their culture.

Civics and Economics

This course explores such fundamental principles as the growth of democracy, federalism, separation of powers, and checks and balances. Students discuss current events, government's impact on everyday life, the Constitution, the presidency, the Supreme Court, Congress, the making of domestic and foreign policy, state and local government, and federal branches. Coursework develops students' ability to read, question, analyze, synthesize, interpret, and evaluate information.

United States History

This course begins with a comprehensive view of America from colonization through the Civil War. Focus begins on relationships between colonies and how life, society, and culture evolved in different regions. It then turns to how the colonies compromised and overcame their stark differences, gained

their collective independence, formed a sovereign nation, and quickly impacted the world. Next, it examines the nation's cultural and political evolution and its development as a world leader from the Civil War through the Vietnam War. Assignments and projects entail significant research, analysis, and writing that develop higher-order thinking skills.

AP United States History
Relying on primary and secondary sources, students analyze differing views of history from 1492 to the present. They develop critical-thinking skills by questioning and analyzing information and arguments about American and national identity; migration and settlement; politics and power; work, exchange, and technology; America in the world; geography and the environment; and culture and society.

AP Comparative Government and Politics
This course introduces students to the rich diversity of political life outside the United States. The course uses a comparative approach to examine the political structures, policies, and political, economic, and social challenges among six selected countries: Great Britain, Mexico, Russia, Iran, China, and Nigeria. Additionally, students examine how different governments solve similar problems by comparing the effectiveness of approaches to many global issues.

AP World History (not in 2018-19)
Students analyze historical evidence in eight chronological divisions: The Emergence of Human Communities, The Formation of New Cultural Communities, Growth and Interaction of Cultural Communities, Interregional Patterns of Culture and Contact, The Globe Encompassed, Revolutions Reshape the World, Global Diversity and Dominance, and Perils and Promises of a Global Community.

Psychology
This course introduces students to the history, major principles, and various types of psychology: clinical, abnormal, adolescent, developmental, environmental, experimental, forensic, community, counseling, and organizational. Topics include human development, abnormal behavior, research and development, perception, consciousness, cognition, motivation, and emotion. The course's scope is broader but less in-depth than the AP Psychology course.

Sociology
This course introduces students to the discipline of sociology, Readings, projects, and assignments reveal how societal groups interact and impact each other and influence everyday life. Students develop the capacity to view and understand their world from a sociological perspective.

Trimester Social Studies Elective Courses (Not all courses are offered each school year.)

Contemporary World Affairs - Students examine current social, political, and economic issues focusing on their historical context. To understand world events and become informed citizens, students write papers on selected topics. They develop an appreciation for the powerful influence of journalism and social media.

Economics - Beyond bear and bull markets, gross national products, and fiscal policy, economics addresses basic societal issues: root causes of unemployment; rising healthcare, tuition, and housing prices; increasing drug-related incarceration rates. This course's flipped-classroom approach facilitates discussion and collaborative projects such as film skits demonstrating economic concepts. Assessments focus on 21st century skills, teamwork, collaboration, creative projects, and classroom discourse.

Ethics - Students read traditional fables, discuss current events, and conduct historical research to consider universal ideas and timeless ethical questions. Assessment is based on class participation, research, vocabulary, and thoughtful attention to questions presented in classroom discussions.

Latin American Studies - This course explores the history and culture of Latin America, a richly diverse region that includes parts of South America, North America, and the Caribbean. Students learn about

the history of the region from the Pre-Columbian era to contemporary 21st-century Latin America. Analyzing primary and secondary sources, students reflect on identity, revolutions, nation-state formation, modernization, colonialism, and neo-colonialism in the region.

Introduction to Anthropology - This course is a study of culture and society, combining elements of biology, evolution, archaeology, language, and art. Students explore the foundations of human life, the evolution and impact of social institutions, and the many aspects of the human experience — gender, ethnicity, politics, and more.

Dystopian Futures- Students examine world issues through an imaginative lens. A combination of dystopian literature and film lays the foundation for discourse about our most fundamental beliefs. Students think critically about how current events could shape the distant future.

Mathematics Department

Students learn best through self-discovery. The math department therefore designs instruction to encourage both independent and collaborative work while integrating the use of technology in problem-solving. ASP math classes are scaffolded with differentiated instruction and assessments to support students' learning needs. Hands-on projects relate to real-world experiences, and students use technology and online resources to learn about graphing and other topics.

General Math

This course focuses on fundamental operations of addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals; ratio and proportion, percent, systems of measurement, and an introduction to geometry..

Pre-Algebra

Topics include equations, inequalities, integers, rational numbers, plane figure and solid calculations, ratios, percents, and probability.

ASP Algebra 1A

Students learn to represent linear functions graphically, algebraically, and numerically.

ASP Algebra 1B

Topics include linear inequalities, exponential functions, polynomials, factoring, and probability. Projects relate to real-world experiences.

Algebra I

Students learn to represent linear functions graphically, algebraically, and numerically. Other topics include linear inequalities, systems of linear equations, exponential functions, polynomials, factoring, and probability.

Geometry

Students learn to apply inductive and deductive reasoning to a variety of mathematical applications, including informal and formal proofs. Other topics include properties of triangles, including basic trigonometry, angle relationships, segment lengths in circles involving tangents and chords, perimeter, circumference, area, and similarity in a variety of plane figures leading into surface area, volume, and similarity for three-dimensional solids. Algebraic concepts are included in all geometric applications.

Algebra II

Algebra II focuses on the concepts of functions and relations with emphasis on linear, quadratic, exponential, logarithmic, radical, and rational functions. Students apply algebraic concepts to a variety of real-world situations that can be modeled mathematically. All topics are approached through an exploration of numerical, algebraic, and graphical methods using a TI-84 graphing calculator.

Statistics

This introduction to statistical reasoning focuses on concepts rather than in-depth statistical methods. Students use TI-84 Plus calculators as they study topics that include sampling and experimentation,

descriptive statistics, probability, binomial and normal distributions, estimation, and inference of single sample and two sample hypothesis tests for means and proportions.

Pre-Calculus
This course covers algebraic topics ranging from polynomial, rational, and exponential functions to conic sections, as well as trigonometry concepts such as Law of Sines and Cosines. Students begin studying analytic geometry and calculus concepts such as limits, continuity and end behavior. Topics are approached through an exploration of numerical, algebraic, and graphical methods using TI-89 graphing calculators. The course prepares students for in-depth study of functions in calculus.

AP Statistics
Students are exposed to four broad conceptual themes: exploring data, sampling and experimentation, anticipating patterns, and statistical inference. Upon completing this course, students can construct an analysis of statistical data based on clear critical thinking. Students utilize TI-84 Plus calculators and learn to justify their answers and explain the statistical process.

AP Calculus AB
Major topics include limits and continuity, derivatives, integrals, and functions (logarithmic, exponential, logistic, trigonometric, and inverse trigonometric). Applications of derivatives include optimization, related rates, movement (position, velocity, acceleration). Applications of integration include slope fields, volume (cross sectional area, disk, washer) and accumulated rate of change. Students explore numerical, algebraic, and graphical methods using TI-89 graphing calculators.

AP Calculus BC
Topics include derivatives of inverse trigonometric functions and parametric, polar and vector forms. Integration applications include volume by shell method, arc length (parametric and polar), surface area (parametric and polar), area enclosed by polar curves, and distance traveled (vector). Integration techniques include integration by parts, partial fractions, and improper integrals. Specific series studied include geometric, harmonic, alternating, power, Taylor, and Maclaurin. Tests in determining convergence or divergence include root, ratio, direct comparison, limit comparison, and integral. Students explore numerical, algebraic, and graphical methods using TI-89 graphing calculators.

Computer Science

Introduction to Computer Programming (Middle School)
Younger students are introduced to object-oriented computer programming through the use of drag-and-drop platforms Scratch and ALICE. *Web Design* - In this project-based CodeHS course, students learn how to use HTML and CSS languages to build their own web pages that serve as portfolios of their work. *Computing Ideas* - This CodeHS course focuses on creativity and problem-solving as students explore important topics and their own ideas to develop an interest in computer science.

Introduction to Computer Science in JavaScript
Students examine foundations of computer science and basic programming with an emphasis on logical thinking and problem solving. They develop reasonable proficiency in JavaScript programming. Expectations are equivalent to a semester college introductory Computer Science course.

Introduction to Computer Science in Python
This new course presents the fundamentals of programming and advanced features of the Python language. It's the equivalent to a semester-long college introductory course in Python.

AP Computer Science Principles
Students explore foundational concepts of computer science more deeply, as well as the impact of computing and technology on society. They learn about the internet, digital information, programming,

and data, and they apply concepts through creative projects as they build their personal portfolios.

AP Computer Science in Java
This new course teaches students the basics of Java programming and prepares them for the AP Exam in Computer Science A.

Science Department

Courses explore scientific principles, concepts, and methodologies that explain the natural world. Students learn to conduct experiments, collect and analyze data, make calculations, interpret information, hypothesize and test predictions, and draw well-reasoned conclusions. Teachers scaffold lessons based on each student's needs, abilities, and interests. Projects address real-world scientific issues and challenge students to find possible solutions and assess relative risks. Courses incorporate laboratory work and inquiry-based field investigations to develop such 21st-century skills as collaboration, innovation, and critical thinking.

Earth & Space Science (Middle School)
This survey course introduces younger students to the disciplines of earth and space science, as well as basic aspects of physics and chemistry. Emphasis is on inquiry and hands-on activities to develop skills for laboratory investigations in high school.

Life Science (Middle School)
This survey course introduces topics in biology: cells, genetics, plant and animal diversity, and human systems. Emphasis on inquiry and hands-on activities develops skills needed for higher-level laboratory science courses in high school.

Physical Science
This introductory course integrates physics and chemistry into studies of the exosphere (solar system and universe), hydrosphere, geosphere, and atmosphere. Students investigate how each of these "spheres" interact with each other and how the laws of physics and the intricacies of chemistry help us understand our planet and its systems. Coursework includes hands-on lab activities, discussion of current events in fields of science, research, and written responses, all of which help develop organizational skills..

Biology
This required course prepares students for higher-level life science courses by considering a number of themes: science as a way knowing, continuity and change, how advances in technology impact influence our world and understanding of the biosphere, the diversity and interdependence of living things, and the organization of living things. Significant laboratory work develops students' practical skills and their knowledge base.

AP Biology
This demanding elective course requires college-level work. Topics include science as a process, interactions of organisms, animal behavior, the diversity of life, classification of organisms, biochemistry, evolution, cellular processes, bioenergetics, and genetics. Students conduct numerous investigations (many student-designed) and report their findings in notebook entries, formal laboratory reports, and peer-reviewed presentations.

Biochemistry
In our science curriculum progression, this course links the inanimate world of chemistry and the living world of biology. Students may take biochemistry after successfully completing the biology course. Here, they explore the structure and role of essential biological molecules, focusing on carbohydrate, lipid, nucleic acid and protein chemistry. They study the physiological conditions of living organisms and the chemical and molecular events involved in biological processes. Topics include the structure and

function of biomolecules; the relationship of bioenergetics to an organism's physiology; the chemistry of metabolic reactions, regulation of metabolic pathways, nutrition and metabolism; enzyme structure and catalysis; DNA, RNA, and protein synthesis; and the role of DNA in inheritance.

Chemistry
In this required course (for students who have completed Algebra I), students learn about the classification and properties of matter, mixtures and pure substances, the scientific method, and fundamental concepts of energy, mass, mathematics of counting, and the "mole." Students learn about the periodic table; how elements are classified and named; the structure of the atom; and chemical equations, reaction rates, and chemical equilibrium. Significant laboratory work includes formal lab reports and inquiry-based assessments.

AP Chemistry
[Students must complete a standard high school chemistry course before taking AP Chemistry.]
In this rigorous college-level class, topics include Stoichiometry, Empirical Chemistry, Gas Laws, Chemical Kinetics, Molecular Orbitals and Bonding Theory, Reaction Classification and Construction, Equation Schematics, Thermochemistry, Periodicity, Equilibrium, Acid-Base Chemistry and Electrochemistry. There is significant laboratory work required in this course.

Physics
In this elective course (for students who have completed Algebra II), students begin by studying mathematical definitions and applications of position, velocity, acceleration, force, energy, work, and momentum to describe linear and rotational motion. They learn about wave mechanics and electromagnetism. Significant laboratory work includes formal lab reports and inquiry-based assessments.

AP Physics
This rigorous college-level course focuses on conceptual more than mathematical aspects of physics, but students must still have a sound mathematical comprehension of formulae and theories. Topics include dimensional analysis, linear mechanics, vector addition and construction, dynamics, energy classification, work and power calculation, linear momentum, rotational motion, gravitational theory, oscillation and wave mechanics, circuits and electric force.

Environmental Science
In this elective course, students learn to identify and analyze environmental problems both natural and man-made. Environmental science is interdisciplinary, embracing a wide variety of topics from different areas of study. The curriculum draws upon biology, earth science, and physical science. (The course does not satisfy the laboratory science graduation requirement.)

AP Environmental Science may be offered to students who have the desire and capability to complete college-level coursework in these same topic areas.

Earth Science
This elective course for upperclassmen has no math prerequisites. It's a college-preparatory survey of astronomy, meteorology, oceanography, geology, and environmental science. Emphasizing organization, research, oral presentation, and writing skills, the course include hands-on laboratory activities but does not satisfy the laboratory-science course requirement for graduation.

Academic Support Program

ASP helps students face learning challenges by providing more than modifications and accommodations suggested by IEPs. ASP teachers provide instruction and learning activities in light of each learner's unique needs. Students are allowed multiple attempts and repetitions to develop essential skills and

master course material. ASP has a recursive focus. Practice and progress are the goals. Forward movement is accompanied by "circling back" to key concepts in reading, writing, grammar, literature, science, and history.

In all subject areas, classes follow mainstream course goals and progression but in a smaller class environment that provides more structure and support for specific individual needs.

Foundations of Reading & Writing (grades 6-9)
Foundations of College-Prep Reading & Composition (grades 10-12)

In both levels, students benefit from direct, systematic instruction to improve comprehension as they learn to read critically and study more effectively. They analyze and discuss American, British, and world literature, focusing on decoding, fluency, prosody, vocabulary development, and higher order thinking skills. Composition work emphasizes reflection and synthesis. Students build portfolios as they learn to write clearly in different formats, with correct grammar and usage. Since writing is a recursive process, students are grouped by skill level rather than grade level.

ASP World History

This course focuses on civilizations, cultures, and conflicts throughout the world from ancient times to the modern era. Focus on early civilizations in various geographic regions helps students better understand differences and similarities among peoples and nations today.

ASP American History

In a comprehensive study of colonization period through the Civil War, students learn about the colonies' relationships and differences, about the many challenges of attaining and maintaining independence as a sovereign nation, and about how the development of the United States impacted the world. Next, students examine U.S. growth internally and on the world scene, through the Vietnam War and after, with particular focus on conflicts that shaped our nation.

ASP General Science

This survey course introduces topics in physics, chemistry, and earth science as it develops students' science-learning and inquiry skills through various hands-on activities and laboratory investigations.

Study Skills (primarily grades 6-9)

The course helps students develop practices in time management, organization, concentration, and active listening. They discuss what it means and what it takes to become a successful, confident student, and they come to understand their own learning strengths and needs.

Other Courses

Studio Art

Students experience diverse genre of creative art, working in a variety of media such as clay, paint, collage, and colored pencils. They explore the fundamentals of artwork by designing projects that emphasize self-expression, including some elements of Graphic Design, using programs such as Photoshop, Indesign, and Illustrator to edit photographs, produce magazines, design logos, and create their own marketing brand identity.

Health and SEL

This required course focuses on life skills and essential topics for well-being: nutrition, human body systems, social and emotions learning, and healthy relationships.

Fitness and Weight Training

Students learn about and engage in physical conditioning, plyometrics, basic weight and circuit training, cardiovascular and overall body fitness.

SAT Prep
Students (primarily juniors) become familiar with the SAT's format and practice strategies in critical reading, sentence completion, grammar and usage, as well as algebra and geometry -- with instructor feedback. Much work is with College Board's on-line program with Kahn Academy.

Senior Seminars: Trimester Courses

Transition to College - Students explore a variety of topics related to the transition from high school to college. Some class time is used as needed to prepare and submit college applications and to explore techniques to improve time management, goal setting, study habits, and relaxation. Students use various tools to learn more about themselves, about how to take full advantage of their academic and personal strengths and how to improve upon their weaknesses.

Personal Finance - Seniors learn about managing money and making fiscal decisions that lead to financial independence. They learn core skills in creating budgets, developing long-term financial plans, and making responsible choices about income and expenses. Real world topics include opportunity costs, interview skills, establishing credit, entrepreneurism, frauds and scams, identity theft, insurance, taxes, and investing. Students learn about credit and debit cards, purchasing and leasing, and paying rent versus a mortgage. The course culminates with a *personal budget project.* Each student forecasts his occupation, income, and living expenses to see the requirements of being self-sufficient.

Public Speaking - Seniors analyze examples of effective speeches to determine essential components, write short speeches that contain those components, and deliver their speeches before fellow students in class. They discuss and practice their delivery -- voice, speed, posture, eye contact, and body language -- to develop confidence in both planned and impromptu speaking situations. (Each senior delivers two speeches at the end of the school year All seniors deliver speeches at graduation.)