

THE BAY SCHOOL ACADEMIC PROGRAM 2007-2008

Academic Philosophy

Teaching and learning at the Bay School grow naturally out of our mission and philosophy; our commitment to the stewardship of time, for example, suggests a bias towards depth rather than breadth. Accurate and elegant communication in more than one medium requires skill, training, and a great deal of practice. Scientific and cultural literacy result from engagement with and reflection on the difficult issues that challenge our global community.

The curriculum grows from a largely skills-based, integrated approach in the freshman and sophomore years to an increasing interplay between the requirements for college admission and the talents and enthusiasms of the students in grades eleven and twelve. Ethical and religious studies, integrated at the beginning into the humanities program, grow into courses ranging from traditional philosophy to those investigating the moral implications of such things as globalization and the communications revolution. Advanced foreign language classes may also qualify as courses in literature or history. Faculty members constantly challenge students to relate their learning to other disciplines and to the world in which they live.

Academic assessment is authentic and intentional. Because we value critical and independent thinking, as well as the thoughtful and thorough exploration of a topic, our assessment tools are varied and comprehensive. In all disciplines, assessment reaches beyond the test, grade, and comprehensive exam approach; major papers, multimedia presentations, dramatic presentations, and internships are also a part of each student's comprehensive portfolio of work.

Academic Program Overview

Our curriculum for freshman and sophomore years is based upon a broad foundation of basic skills, structured in an integrated approach that emphasizes the interrelationships between traditional academic disciplines. As students advance to their junior and senior years, the program is increasingly driven by their individual interests and talents. Curricular focus on the interrelationship between science, technology, ethics, and world religions prepares our students to meet the challenges of their future in the 21st century world.

Students, engaged and mentored by dedicated teachers, are encouraged in their mastery of the important skills of critical thinking, interpretation, and communication across many mediums. Specific course offerings each year

at the Bay School ultimately reflect the expertise and interests of our outstanding faculty. Therefore, this document is meant to serve as an overview of the 2007-2008 curriculum. A sample course progression outlining all four years of study is included at the end of the brochure.

The Bay School Graduation Requirements

1 Credit = 2 Trimester Courses (the equivalent of one year-long course)

Science	4 Credits	World Religions & Philosophy	1/2 Credit
Mathematics (4 Credits recommended)	3 Credits	Language (1 language) 3 Credits or (2 languages 2 credits each) 4 Credits	
Technology	1/2 Credit*	Electives (Including 1 credit visual or performing arts)	3 Credits
English	4 Credits	Senior Project	1 Credit
History	3 Credits		

Note: Students are required to fulfill a physical activities requirement each term by either playing on a school sports team or by participating in a noncompetitive physical activity. Completing the Bay School graduation requirements enables students to meet or exceed the admissions requirements of the University of California, and California State University systems, and virtually all other colleges and universities they might consider.

*Bay School students receive 1/4 credit for taking Digital Media Essentials and 1/4 credit for the technology components which are integrated into their core courses in 9th and 10th grades.

CURRICULUM OUTLINE

Science

The primary goal of the Bay School science program is to support the achievement of scientific literacy in our students. The magnitude of scientific and technological advancement in the 20th century invites a new approach to the structure of high school science programs—emphasizing the connection and overlap between traditional areas of scientific study. The conceptualization and understanding of modern, molecular-based biology is dependent on a working knowledge of chemistry, which is in turn built upon concepts of atomic structure, mass, and energy. These fundamental principles of science, which we consider the natural laws of the universe, are found in physics.

Therefore, the study of science at the Bay School begins with the study of conceptual physics, followed by chemistry, and culminating in a sophisticated, in-depth study of biology. Students are required to take a science course during each trimester of the freshman and sophomore years, thereby completing their study of conceptual physics, chemistry, and biology at the end of the sophomore year. Juniors and seniors choose from wide-ranging elective courses in the sciences, and are encouraged to take advanced courses in preparation for their senior projects.

Core Science Courses

- Conceptual Physics
- Chemistry
- Biology

Science Electives for 2007-2008

Applied Sciences. The focus of the Applied Sciences course involves the application of scientific principles to the examination of “real world” situations. This year-long class is project-based and challenges students to apply the information that they have learned in their introductory science and math classes. Students conduct a number of chemistry, biology, physics, and engineering labs related to the long-term projects that they will initiate, develop, and complete in areas such as chemical analyses and development of analytical instrumentation, environmental monitoring, techniques in biotechnology, design engineering and fabrication of devices for individuals with disabilities, electronics, programming, and product development.

During the course of their projects, students learn to write project proposals, develop working prototypes that address “real-world” needs, develop outside resources that provide more information and insight towards their work, write technical reports, and make formal technical presentations. Reflection papers that articulate what

each student has learned complete the requirements for this course. This class is not “taught” in the conventional sense, rather, the instructor acts more as a mentor than a teacher. Because of the nature of the course, enrollment is limited to 8-10 students.

Astrophysics I: Stellar Evolution and Our Solar System. Astrophysics: Stellar Evolution and the Solar System is a one-trimester course designed to integrate physics, chemistry, biology, and mathematics into the study of our solar system and other stars. From the creation of the stars to the creation of life on planet Earth, this course looks to the past, astronomical as well as historical, and explores the mysteries yet to be uncovered through modern research. By utilizing a strong foundation of laboratory work at the Bay School, students learn to apply fundamental principles of laboratory and field research to investigate the interdisciplinary nature of astrophysics, astrochemistry, and astrobiology. Building on a two-year minimum of mathematics classes, this course examines the development of mathematics in tracing the history of the Greek and Islamic empires’ quest for scientific knowledge. By performing authentic experiments that put them in the laboratories and observatories of Galileo, Eddington, and Newton, students combine technology and science unique to astrophysics in the 21st century to uncover the nature of our solar system and beyond.

Astrophysics II: Cosmology and Life in the Universe. Astrophysics: Cosmology and Life in the Universe is a one-trimester course designed to integrate physics, chemistry, biology, and math into the study of the universe. From the creation of the universe to the creation of life on planet Earth, this course looks to the past, astronomical as well as historical, and explores the mysteries yet to be uncovered through modern research. By utilizing a strong foundation of laboratory work at the Bay School, students learn to apply fundamental principles of laboratory and field research to investigate the interdisciplinary nature of astrophysics, astrochemistry and astrobiology. Building on a two-year minimum of mathematics classes, the course examines the development of mathematics in tracing the history of the Greek and Islamic empires’ quest for scientific knowledge. By performing authentic experiments that put them in the laboratories and observatories of Einstein, Hubble, and Drake, students combine technology and science unique to astrophysics in the 21st century to uncover the nature of the universe.

These two one-trimester courses in Astrophysics may be taken independently, or together as a year-long Science course. The year-long Astrophysics course (I and II) has been approved as an Honors laboratory science class by the University of California.

Bioethics. Is the cloning of a human being morally acceptable? What are the pros and cons of genetically engineered salmon? Should insurance companies be given access to the results of a person’s genetic tests? The

Bioethics course identifies and examines contemporary issues involving values, morals, and ethics—considering situations in which scientific understanding can, and cannot, inform social and personal decision-making.

The class begins with an introduction to a variety of ethical frameworks that can be applied to difficult decision-making, and then applies the frameworks to specific cases drawn from ethics textbooks, the Internet, our own experience, and Randy Cohen’s “The Ethicist” column in *The New York Times Magazine*. Thereafter, students delve into a number of current scientific topics including stem cell research, human and animal cloning, genetic engineering, pesticide safety, genetic screening, vivisection (use of lab animals in research), biodiversity and ecosystem stability, natural resource depletion, and the use of placebos in medical research. Students will be tested on their mastery of the scientific information as well as papers exploring the scientific and ethical dimensions of each topic.

The course is available to juniors and seniors who have successfully completed the introductory Physics/Chemistry/Biology sequence; no additional knowledge of biological topics is assumed. Students are advised that this is a writing-intensive course. It is expected that the course will be offered in alternating years (2007-2008, 2009-2010).

Biology II. Biology II is an advanced-level laboratory course designed for students who have an expressed interest in pursuing Biology at the college level and who have already completed the Bay School’s required courses in Conceptual Physics, Chemistry, and Introductory Biology. The course has been approved by the University of California as an Honors laboratory science class. While the course is not specifically designed to prepare students for the A.P. Biology exam, an equivalent level of intellectual rigor is expected.

The purpose in the design of the course is to capture most (but not all) of the breadth of a typical A.P. Biology course while allowing for greater opportunity to explore a few topics of special interest in greater depth. These topics are selected on the basis of (a) their suitability in providing appropriate review and extension of topics and lab skills taught in Biology I; (b) the anticipated needs and interests of juniors and seniors focused on science majors and science careers; and (c) the opportunities to create explicit links to social and ethical issues, as prioritized in the Bay School’s mission statement. Each of these units includes a formal test and several laboratory exercises culminating in student-designed experimental investigations and research symposia.

The core units of Biology II are: Biochemistry; the Biology of Disease; Molecular Genetics and Biotechnology; Physiological Adaptations of Plants and Animals; Evolution and Behavior; and Conservation Biology and Population Modeling.

Biotechnology. The Biotechnology and Molecular Biology upper-level elective course builds and expands upon the basic principles of biotechnology first introduced in the freshman/sophomore introductory biology course. This upper level course challenges students to incorporate classroom concepts into experimental design and laboratory work. The bulk of the course work focuses on molecular biology and genomics. Proteins, proteomics, and advanced techniques in biotechnology are also covered. The final unit of the course discusses other applications of biotechnology with a bend towards environmental remediation and restoration work.

Students engage in a trimester-long research lab that is performed as a series of smaller labs. Each lab emphasizes a different topic related to the overall project. Students will present their research findings to their peers, and their work will be subject to peer review. As a final facet of the lab, students will propose research for future classes to undertake.

Chemistry II. Chemistry II is an advanced-level laboratory course designed for students who have an expressed interest in pursuing Chemistry at the college level and who have already completed the Bay School's required courses in Conceptual Physics, Introductory Chemistry, and Biology. Chemistry II has been approved by the University of California as an Honors laboratory science class. While the course is not specifically designed to prepare students for the A.P. Chemistry exam, an equivalent level of intellectual rigor is expected.

The purpose in the design of the course is to capture most (but not all) of the breadth of a typical A.P. Chemistry course while allowing for greater opportunity to explore a few topics of special interest in greater depth. These topics were selected on the basis of (a) their suitability in providing appropriate review and extension of topics and lab skills taught in Introductory Chemistry; (b) the anticipated needs and interests of juniors and seniors focused on science majors and science careers; and (c) the opportunities to create explicit links to social and ethical issues, as prioritized in the Bay School's mission statement. Each of these units includes a formal test and several laboratory exercises culminating in student-designed experimental investigations and research symposia.

The core units of Chemistry II are: Chemical Foundations; States of Matter; Chemical Reactions; Chemistry of Solutes and Solutions; Chemical Kinetics and Equilibrium; and Thermodynamics.

Field Biology. Field Biology is a one-trimester science elective structured around hands-on and skills-based investigations into the biology of the Presidio and its ecosystems. The class spends as much time as possible outside in the field studying birds, plants, aquatic and marine organisms, terrestrial animals, soil and soil organisms, environmental history, hydrology, local ecosystems, and restoration ecology. Skill development emphasizes ecological census techniques, operation of computer-based probes and sensors, use of dichotomous keys for

organism identification, development of effective monitoring protocols, mapping and orienteering, evaluation of satellite images, data management, and experimental design. The course is directly linked to the physical and social communities of the Presidio and the broader Bay Area, and culminates in a presentation of student research findings to members of the Presidio Trust. Field Biology will not be offered in 2007-2008.

Geology of the Western U.S. Geology of the Western U.S. is a 1 trimester science elective that investigates geological issues, especially as they apply to California and the San Francisco Bay region. The trimester is divided into three units, each centered on a specific question. The first unit studies minerals and mineral deposits, rocks, tectonics, mining, and the environmental consequences of mining, considering the question “Why is there so much gold in the Western U.S. but not in New England?” The second unit examines geodynamics, plate tectonics, seismology, volcanism, erosion processes, and it will be centered on the question “Where is it safe to live in California?” The third and final unit will study paleontology, stratigraphy, paleogeography, geochemistry, and global change. The question is “How does the record of the past inform us about our future in the context of global warming?”

The course goal for students is to develop basic skills in geology including the ability to identify rocks and minerals, building the skills to read and interpret stratigraphic and geologic maps, and to develop the ability to read technical scientific papers. Importantly, students will develop an appreciation for how the record of the past can enable them to make decisions in the future. Each unit will conclude with a different form of assessment including formal oral presentations, and formal scientific papers.

Hydrology. Water Resource Sustainability is a 1 trimester science elective designed to investigate hydrology and water resource issues, especially as they apply to the San Francisco Bay Area (water quality, flood prevention, irrigation, wildlife preservation, urban hydrology...). The course begins with the study of basic hydrological topics such as the water cycle and water budgets, water quality, the definition and description of watersheds, and water flow patterns. The class then progresses to more integrated topics such as groundwater and potential pollution issues, watersheds as systems, irrigation and saltification, urbanization and flood control, water pricing and economics.

The class spends as much time as possible outside working in the field, and includes studies of local watersheds nearby in the Presidio as well as along the Sacramento River and the San Joaquin Valley. The goal for students is to develop skills in experimental design (e.g. measuring Darcy coefficients for various soils in the lab, measuring flow rates on bodies of water), as well as skills in scientific research (e.g. a three week student-lead research

project on an aspect of water management in the San Francisco Bay Area). The course culminates in a formal presentation to members of the Bay School community and to water management officials.

Physics II. Physics II is a year-long course introducing students to calculus-based physics. This course focuses on the development of physics specifically related to the use of differential and integral calculus. Enrollment in the class requires a three year pre-requisite in mathematics. The course utilizes the development of mathematics through algebra, geometry, trigonometry, and calculus to trace the modern interconnection of mathematics and science. Utilizing their strong foundation in laboratory work, students apply fundamental principles of laboratory and field research to investigate the physical dynamics of mechanics and electromagnetism. Performing authentic experiments that put them in the laboratories of Galileo, Faraday, and Hooke, students combine technology and science unique to physics in the 21st century to uncover the fundamental nature of mechanical and electromagnetic forces.

SF Bay I. In the San Francisco Bay I upper-level course students investigate the waters of the San Francisco Bay and surrounding region from the standpoint of the physical sciences. This trimester-long course is offered to students who have completed the freshman/sophomore introductory Physics, Chemistry, and Biology sequence, and builds upon many of the principles learned in these courses.

The course content during the first eight weeks of the class focuses on the formation of the San Francisco Bay basin and investigates the atmospheric, geologic, and oceanographic forces that influence the Bay. Students begin their study of these major topics by considering global examples; class discussion time focuses on examining the connections between the macro and local levels. During the final third of the trimester, students focus on the capstone experience: a 5-day, 4-night research trip aboard the sailing research vessel Seaward in the San Francisco Bay and waters outside the Golden Gate. In preparation for the trip students propose experiments which they wish to conduct while aboard the vessel. During the voyage they will gather samples and run experiments. Upon their return to shore, students analyze their data. As a final course project, students will prepare formal presentations of their research, presenting their work to their peers, instructor, and members of the crew of the ship. Students will also engage in a symposium about the current health of the Bay and the implications for its future.

SF Bay II. In The San Francisco Bay II course students investigate the waters of the San Francisco Bay and surrounding region from a biological standpoint. Students may elect to take the course following successful completion of the San Francisco Bay I course, or by petition. The course begins with a review of the principle abiotic factors of the San Francisco Bay, and will lead to open-ended questions about how these factors influence life

in the area. These questions then serve as the cornerstones of the students' investigations for the remainder of the trimester. The first two units allow students to build their understanding of global concepts and classifications in the realm of marine science; the final three units of the course ask students to apply these ideas to three distinct environmental regions of the San Francisco Bay. Several student-directed labs will be ongoing throughout the trimester; additionally, students will participate in the Rocky Intertidal Monitoring Project for the Gulf of the Farallones National Marine Sanctuary. At the end of the trimester students are asked to research and make a presentation about a current topic that has biological implications for the San Francisco Bay.

Mathematics

The core mathematics courses take students through a four-year, integrated program which replaces traditional courses in Algebra 1, Geometry, Algebra 2, and Precalculus. These courses are based on a program developed by the Core-Plus Mathematics Project and contain three major content strands: Algebra and Functions, Geometry and Trigonometry, and Statistics and Data Analysis—culminating with a capstone project. Upon completion of *Analysis of Functions*, students will be prepared for Calculus. Juniors or seniors may choose, however, to take other math electives in addition to, or instead of, Calculus.

Core Mathematics Courses

Math I. This course explores topics including: organizing and interpreting data, data distribution, measures of variation, coordinate graphs, algebraic formulas, linear and nonlinear functions, linear equations, properties, modeling data, algorithmic problem-solving, critical path analysis, properties of space shapes, geometric theorems, exponential functions and modeling, and simulation models.

Math II. This course explores topics including: matrix models and operations, coordinate planes, designing and programming algorithms, solving systems of equations, isometric transformations, correlation, linear least squares models, variability, direct and inverse power variation, fractional powers, radical expressions, vertex-edge graph models, optimization, geometric form and function (triangular linkages; sine, cosine, and tangent ratios; linear velocity, periodic change; radian measure), and probability distributions and their graphs.

Math III. This course explores topics including: Law of Sines and Cosines, solution of systems of equations and inequalities, linear programming, formalization of the function concept, nonlinear models (polynomial, exponential, and rational), field properties of real numbers and their application to re-expressing algebraic expressions and solving equations and inequalities symbolically, algebraic proof, deductive and inductive reasoning, proof by counterexample, theorems involving angle measure, proving similarity and congruence of

triangles, arithmetic and geometric sequences and series, finite differences, linear and nonlinear recurrence relations, and function iteration.

Analysis of Functions. Analysis of Functions is designed to serve as the bridge between the Bay School's core courses and a college-level calculus course. As such, Analysis of Functions focuses on deepening students' understanding of advanced functional characteristics (including location and multiplicity of zeros, end behavior, and continuity), algebraic manipulation of complex expressions and equations, basic function families and transformations thereof, the behavior and usage of trigonometric functions, and proof by algebraic identity. Students also extensively study functional inverses and logarithms, including the number e , the natural logarithm, and the use of logarithms in solving exponential equations. The course introduces complex numbers, the complex plane, and properties of this number system. Graphing calculators are used extensively throughout the course.

Elective Courses—2007-2008

Calculus. This is a course in single-variable calculus. It covers differentiation and integration and their applications, including differential equations. Key units include: the derivative; differentiation formulas and techniques; applications of differentiation; the definite integral; constructing anti-derivatives; techniques of symbolic integration; applications of integration; building Riemann sums; and modeling with differential equations.

Game Theory. This course is designed as an advanced Mathematics elective, to be taken after students have finished at least the first two of their core sequence Mathematics courses. Students in this course will examine the theoretical aspects of Game Theory, and will then, through case-studies and a project, examine the ways in which Game Theory can be applied to areas such as biology, foreign affairs, military strategy, anthropology, and other situations that involve competition for resources.

Probability and Simulation. In this course, students explore the major mathematical ideas of probability. Probability and Simulation is taught in an investigation-based manner similar to that used in Math 1, Math 2, and Math 3. It makes heavy use of technology (TI's and software) as well as traditional mathematical techniques. Major topics include: simulation models, waiting time distributions, binomial distributions, and Monte Carlo methods and Markov processes.

Statistics. The course will model the research skills necessary for many college majors. Students will learn how to design experiments, organize data into tables and graphs, model sampling distributions, and test hypotheses. Students will apply their skills in a multitude of contexts that draw from existing data and data generated

from student experiments and surveys. For example, students will investigate sports statistics, medical data, and social phenomenon. In doing so, they will learn to evaluate evidence, debate, and critique studies. The course goal is for students to understand the many connections between mathematics and their own lives, and ultimately become informed consumers. The statistical methods taught in this course are ideal for students interested in pursuing studies in the social sciences, sciences, business, and communication fields.

Technology

The Bay School takes a broad view of technology, defining it not only in terms of computer and information technology, but also encompassing the design and creation of tools to meet human needs. If technology is defined as the application of scientific knowledge to facilitate change, it is then also important to consider the appropriate uses of technology and the impact of its application. Media literacy is a core component of technology instruction, and use of technology is integrated throughout the curriculum.

Digital Media I—Media Essentials

All students begin 9th grade with a trimester course that meets twice per week, providing an introduction to fundamental computer hardware, (laptops, desktops, and peripherals, using both Windows XP and Mac OSX), and software, (Microsoft, Macromedia & Adobe suites), E-commerce, multimedia, and the Internet, (e-mail, basic Web design). This class also includes two mini-courses in study skills and information literacy that are taught by our director of Learning Services and librarian, respectively.

This initial foundation of core computer concepts should assure that each Bay School student will possess knowledge of, and familiarity with, the current tools necessary to communicate effectively, authoring original content in our digital society.

The successful completion of this class is required of all students serving as a general prerequisite for all advanced digital media courses.

Digital Media Electives—2007-2008

Computer Science I. Using Java, this course teaches the basics of computer science and object oriented programming. Students develop on Windows XP using the Eclipse IDE. Students analyze, design, and implement a handful of small windows applications. Through these projects students learn the fundamentals of abstraction, encapsulation, and inheritance, and are introduced to common patterns such as observer, delegate, and proxy. For the final project students are required to design and implement a recursive algorithm to solve a Sudoku puzzle.

Also Offered in 2007-2008

- Computer Science II
- Web Design I
- Web Design II

Humanities I & II

Humanities I & II, taken in 9th and 10th grades, is an interdisciplinary program that integrates the study of literature, history, world religions and belief systems, ethics, and the arts. The two-year course examines the human condition in a historical context asking essential questions aimed at understanding our core experiences as human beings. For example, how do different peoples/cultures perceive their worlds? Where do they find importance and place value? How do differing world views affect their behavior?

Humanities I. Students examine the variables of nature and nurture as they relate to the development of societies. Particular emphasis is given to the roles of geography and human nature and the manner in which they shape both people's world views and cultures' belief systems. The students focus on early civilizations, examining their origins and what these civilizations look like in today's society. Through learning about the geography, history, literature, politics, religion, and cultural norms of a range of global regions, the students will also understand and broaden their own views.

Humanities II. Humanities II is an exploration of the religious, cultural, and philosophical values that have shaped the world's civilizations as depicted in art, literature, philosophy, and historical documents. During the first trimester students investigate the history and cultures of the Middle East and the belief systems underlying contemporary conflicts. During the second trimester students engage in a comparative study of political and social systems in early modern Europe and East Asia. In the third trimester students focus on the upheavals of the 20th century, beginning with the Russian Revolution and ending with the Chinese Cultural Revolution.

Some of the texts to be read and discussed include: *Siddhartha*, *Antigone*, *Guns, Germs, and Steel*, *Lord of the Flies*, *Things Fall Apart*, *Bhagavad-Gita*, *Richard III*, *Animal Farm*, *Galileo*, and *All Quiet on the Western Front*, as well as selected short pieces of fiction and nonfiction, and a customized historical reader produced by the Humanities faculty.

Writing & Research Courses

Writing Workshop is a required one-trimester course for all freshmen. The course includes structured work in vocabulary development as well as exercises in reading, research, and writing in essay form. Topic/subject areas

include a broad spectrum ranging from ancient Greek mythology to issues of contemporary physics, culminating with an in-depth research project on a topic related to a current regional conflict in the world.

Research and the Community is a required one-trimester course for all sophomores. The course builds a foundation of research skills while opening students' eyes to the needs and issues of their community. Students learn and apply "Big 6" research principles, strive to better understand the historical background of the issues facing their neighborhoods today, and work with local agencies and companies, many of them located in the Presidio, to produce work that will serve community needs.

English

The English curriculum is a literature-based program, serving as the foundation for intensive reading, writing, speaking, listening, and critical thinking. Students read from a wide range of fiction and nonfiction, works of literary integrity that reflect history as well as diverse cultures. Continuing emphasis is placed on the student's ability to express himself or herself clearly as an essential skill. Through exposure to a wide range of literature, students build an understanding of themselves and their world.

English Electives for 2007-2008

Advanced Composition: Memoir, Criticism, and Fiction. This course focuses on deep examination of the craft of writing within three broad genres: memoir, literary criticism, and fiction. In this course students read numerous samples of writing from authors who specialize in these genres, understand the various approaches authors take when working within these genres, and compose pieces of their own using these generic traits. Students spend about three to four weeks on each topic and compose three to four major pieces of writing by the end of the term.

During the study of memoir, students read selections from *The Writer's Presence* as well as excerpts from well-known contemporary writers (Sedaris, Burroughs, Walker, Dahl, Jimenez, Soto, Uchida, Angelou, Wiesel, and selections from multicultural literature anthologies), and they will both distinguish differences among the writers within memoir as well as distinguish the differences between this broad genre and the short-story genre. Students will also read a longer memoir, James McBride's *The Color of Water*, and will analyze the differences between longer memoir and short memoir.

When studying fiction and literary criticism, students focus on understanding how literary critics discuss significant works of literature. Through reading J.D. Salinger's *The Catcher in the Rye* and contemporary criticism, students examine how critics choose a focus and an argument, how they support their argument using the novel and other critics' work, and how they construct a coherent and organized critique with a substantial use of support. Students then read a range of short fiction by authors who specialize in this craft and one work of long fiction of literary merit.

American Literature. This course focuses on the roots and evolution of American literature in conjunction with the thematic units taught in U.S. History. In this course, students will explore "What it means to be an American" in relation to the following questions: How did we get here? Who has power? How do we identify/define ourselves? How do others identify us? Students read accompanying works of literature that respond to these questions, examine varying literary responses over the course of U.S. history, and analyze the literary trends and movements that accompany these responses. Students will conduct independent research, practice writing college-level compositions, and will learn to complete close readings of primary documents, literary essays, poetry, fiction, and nonfiction prose. Major projects include a research paper, literary analysis, poetry explanation, and projects based on course themes.

Dramatic Literature: Ethical Dilemmas from Ancient Greece to Modern America. This course focuses on the fundamental features of drama. Through both writing and reading, students develop an understanding of the ways in which drama differs from other forms of literature. They read plays from a variety of time periods and cultures. A number of the plays include characters who face ethical dilemmas, thereby illuminating the human condition. Students also gain an appreciation of some of the religious roots of western drama.

Life and Times: The Biographer's Craft. This course focuses on the literary craft of biography. Students read notable examples of three forms of biographical writing: the historical/political biography; the literary biography; and the personal profile. Students will seek to identify, analyze, and discuss the elements of style, point of view, voice, theme, and structure that produce compelling results in each form. Students will enrich their responses to the readings through class discussions, small group work, the composition of analytical and expository essays, and the creation of their own works in each form.

Literature of Forgiveness. This course focuses on fundamental features of forgiveness. Through both writing and reading, students will develop an understanding of how or why people forgive themselves and one another. They will read fiction, non-fiction, and drama to explore questions such as the following: What is forgiveness? How does it compare to mercy or reconciliation? What is the difference, if any, between forgiving oneself

and forgiving another? Does forgiveness require forgetting or understanding or both? The literature presents characters who must wrestle with these same questions. Works to be studied include: *The Death of Ivan Ilyich*, *The Scarlet Letter*, *The Merchant of Venice*, *Bel Canto*, and several articles and excerpts.

Native American Fiction. This course focuses on fundamental features of Native American Literature. Through both writing and reading, students will develop an understanding of how written tribal stories (short and long fiction) have various relationships to oral stories. They will read fiction from a variety of 20th century tribal perspectives. The fiction will include characters who show courage and creativity in facing ethical dilemmas caused from inside and outside their tribal worlds. Works studied include *Fools Crow* by James Welch, *The Surrounded* by D'Arcy McNickle, *Dead Voices* by Gerald Vizenor, *Ceremony* by Leslie Silko and several selected short stories and films.

Poetry: The Holy Trinity of Sound, Image and Metaphor. This course introduces and/or reinforces fundamental features of lyric poetry. Through both writing and reading poetry students will gain a sense of how poetry differs from prose. They will read poems from a variety of forms, cultures, and time periods. The cultures represented include China, Japan, Europe, British Isles, North America, and Latin America.

Prose Fiction: Novels of Redemption and Forgiveness. This course focuses on long prose fiction—i.e., the novel. Thematically, it contains stories that address redemption and forgiveness. Each of the four novels involves characters who, individually or collectively, encounter wrongdoing and work towards repair of the damage. While examining characters' opinions and actions in these situations, the course develops an appreciation for distinctive ways in which novels encourage empathy and deepen our understanding of complex human stories. Novels studied in 2007-2008 will include: *Snow Falling on Cedars*, *The Scarlet Letter*, *Beloved*, and *Ceremony*.

Prose Fiction: Unlikely Heroes of 20th Century American Literature. Students in this course use Joseph Campbell's *Hero's Journey* paradigm as a foundation for understanding how characters in American fiction serve as heroes and/or antiheroes within the context of each novel. This course focuses most specifically on character development, but students also examine how plot, setting, theme, and point of view impact the novels as well. Students read a range of short and long fiction as well as view films that reflect Campbell's paradigm in visual media. Students learn how to craft a range of analytical compositions connected to each unit. Work focuses on posing arguments, supporting those arguments with sufficient textual evidence, and reflecting logical organization and a mastery of conventions. In addition, students also craft their own narratives (print and/or visual) that reflect their understanding of these elements of prose fiction.

The Red Badge: War and Literature. This course examines, through the works of selected novelists and poets from the Western canon, the phenomenon of warfare and its impact on combatants and non-combatants alike. Through close textual analysis and explication of sophisticated works of fiction and of verse, students will deepen their understanding of the sources and complexities of organized conflict as an enduring element of the human experience. Works to be studied include: *The Red Badge of Courage*, *All Quiet on the Western Front*, *For Whom the Bell Tolls*, *Catch 22*, *The Oxford Book of War Poetry*, and several supplemental sources.

Shakespeare and His World. This course focuses on close, textual analysis of four plays and selected sonnets by William Shakespeare. There will be additional readings to further illuminate Shakespeare's life and times and the Elizabethan world view. The class as a whole reads three plays (a history, a comedy, and a tragedy). In addition, each student is assigned to a smaller group which will select a fourth play from a list provided by the instructor. Each small group will work, with considerable independence, through its selected play, striving to respond to questions involving character, theme, and dramatic technique.

This San Francisco Life: Text and Radio. This course focuses on the craft of memoir and creative non-fiction. In this course students will read numerous samples of writing from authors who specialize in these genres, understand the various approaches authors take when working within these genres, and how to distinguish these genres from strict journalism. Students will compose pieces of their own using the traits inherent to memoir and creative non-fiction. They will explore the techniques of story-telling through reading, interviewing others for their stories, writing creative non-fiction, and recording their work using hand-held recording devices and digital audio editing equipment. Students will have composed three to four major pieces of writing at the end of the term and will have recorded and digitally edited at least two of their pieces, submitting at least one for publication.

History and Social Science

The History curriculum focuses on the importance of the core standards in providing students with the necessary skills to understand our cultural and historical roots. Courses build student understanding and appreciation of the wide divergence of social, cultural, religious, and intellectual experiences that make up the global, interconnected world of the 21st century.

Required Course

U.S. History and Government. We will explore the following eight key themes in United States history: the immigrant experience, political participation, gender relations, race relations, religion and secularism, foreign

policy, the economy, and the American Dream. Each unit begins by briefly examining a contemporary topic that exemplifies the theme under consideration. As we consider these current manifestations of the theme, we will formulate essential questions to guide our historical inquiry. Next, we turn to the history of the theme to chronologically investigate related events and periods. Analysis of a wide variety of primary and secondary sources is central to this work. We end each unit in the present, using our newly gained historical knowledge to revisit and better understand examples of the theme in our world today. We demonstrate our understanding by completing challenging projects that require authentic skills. Consistent with the Bay School's mission, the following curricular emphases are interwoven throughout the course: diversity and community, ethics and spirituality, and science and technology.

List of Electives for 2007-2008

Global Issues. Global Issues introduces students to the patterns and problems facing citizens and leaders in an increasingly interdependent world. The course is designed to provoke students to think critically and creatively about the larger social, economic, and ecological problems that will impact their futures. Upon completion of the course, students should emerge with a more sophisticated understanding of core concepts (e.g., sovereignty, national identity, resource allocation, income distribution, development, sustainability), and a greater awareness of global challenges (e.g., population growth, poverty, environmental degradation, corporate consolidation), and with a confidence in their own ability to articulate informed positions on important issues.

The class explores the state of the world at the beginning of the 21st century from an interdisciplinary perspective, focusing on three major areas, all aspects of globalization: (a) economic development and poverty; (b) labor and migration: rural-urban divides, migration and immigration; and (c) globalism and particularism: global vs. tribal culture.

Introduction to Political Economy. The first part of this course will ground students in the fundamental principles of micro and macroeconomics. Thereafter, the course explores the relationship between politics and economics and how that relationship has changed over time. The course includes a historical focus, tracing the evolution of economic systems (mercantilism, capitalism, Marxism, socialism), followed by an examination of the modern world economy in the 19th and 20th centuries. Students will examine the emergence of the Neoliberal economic model in the second half of the 20th century. They will also explore the creation and the role of the international economic framework following World War II. Students will investigate variations of the Neoliberal model in developing and developed nations. Finally, students will gain a critical understanding of globalization, economic interdependence, and problems of resource allocation.

U.S. Foreign Policy. This course is intended as an introduction to the basic concepts, themes, and issues in U.S. foreign policy. This course will familiarize students with trends in U.S. foreign policy from the Cold War to present and introduce them to the patterns of post-WWII international relations and U.S. overseas interventions. We will specifically focus on the power structures and relationships that grew out of the Cold War and analyze to what extent those dynamics inform contemporary geopolitics. Employing a case study approach, we will look at the short- and long-term effects of U.S. policy on different regions, debate America's role in world affairs, and assess the costs and consequences of this role at home and abroad. Specifically, this course examines several key aspects of United States foreign policy towards East Asia, Latin America, Africa, and the Middle East.

Utopia/Dystopia. This upper level social studies elective will examine the origin and development of the concept of "utopia" through the study of literature, historical texts, philosophy, and film. Our focus will be on the interaction between real-world systems (political, social, religious, economic) and fictitious or philosophical utopian visions throughout Western history, from ancient Greece to today. Particular emphasis will be paid to how distorted depictions of the ideal society function as powerful vehicles of social change. Throughout the course of the trimester students will individually research contemporary manifestations of the utopian impulse and will prepare and present lessons based on their findings.

Western Civilization. Western Civilization is a two-trimester, interdisciplinary survey course that critically examines the ideas, values, and trends of Western culture from the Greco-Roman period to the mid 20th century. Adopting a chronological framework, the course explores some of the most influential writings, works of art, and ideas that have shaped the intellectual and cultural heritage of the Western world. Students will acquire a broad knowledge of the Western historical and cultural heritage through analyzing and evaluating primary and secondary sources. Students also will develop an ability to accurately and critically read, weigh evidence, make judgments, draw conclusions, and interpret historical writings in their political, social, religious, and cultural contexts. Through projects and writing assignments students will clearly, cogently, and concisely express these findings and insights. This course may be taken as a year-long (two-trimester) course, or either half may be taken as a one-semester elective.

Senior Social Studies Seminar. The senior seminars in Social Studies are discussion and research-based courses which prepare students for advanced, college-level work in history and the social sciences. Students explore the philosophy of the discipline and read advanced level texts written by historians and political scientists. Students enrolling in Modern Latin American History should be ready to explore how history is written, to delve into debates among historians, and to engage with historiographical concepts and trends. Students enrolling in

Comparative Government and Politics should be prepared to learn about the main concepts and relationships in comparative politics, to explore political culture, and to grapple with complex theoretical concepts. Students in both seminars will apply their new understanding of the discipline to generate their own scholarly work. Student initiative and independent inquiry skills are essential to success in the senior seminars. The prerequisites for these courses are reflective of the level of rigor expected. Below is a more detailed description of Comparative Government and Politics, our seminar offering for 2007-2008:

Comparative Government and Politics. The primary goals of this course are to familiarize students with various types of political systems and cultures; to help them think, read, and write critically; and to prepare them for successful university study and responsible citizenship. The course will begin with a foundational unit in American democracy and democratic traditions, followed by comparative country studies (Mexico, France, China, and Iran). The students will be asked to conduct their own country studies independently and to present their findings during the last two weeks of the course.

Philosophy & World Religions

The overall focus of the Philosophy & World Religions curriculum is on the major world religions and cultures. The program includes study of cultural thought and belief systems, historical events, and philosophical movements. Through the Philosophy & World Religions curriculum, students explore principles of decision-making, inquire into the spiritual dimensions of life, and examine a variety of religious traditions. Students build an individual understanding of the meaning of interconnections—with self, with others, with their own spirituality, and with the universe. The study of world religions is integrated into the Humanities I and II courses for the 9th and 10th grades.

Elective Courses—2007-2008

African American Spirituality and Philosophy. During their freshman and sophomore years, the students in Humanities explored the manner in which humans have sought to make meaning of their existence and the world around them. Two of the questions which tended to guide our discussion of such issues were: How do we perceive the world? How do we behave as a consequence? With the premise that environment, perception, and behavior are inextricably linked, the African American Spirituality and Philosophy course will examine the African American experience with a particular emphasis upon the following: African American perceptions of the world around them from their arrival to America as slaves to the modern day; the development of African American spiritual and philosophical traditions as they have sought to make meaning of their world. The course

will begin with a brief overview of African traditions prior to the advent of the slave trade, and we will spend the term primarily examining African American interpretations of Christianity, Islam, Judaism, as well as the development of Rastafarianism.

The Bible and Popular Culture. This course reads and studies the Bible as a piece of literature—an enormously influential work that has shaped and informed Western culture for thousands of years—considering its meaning and implications in depth. The class will then investigate the myriad ways in which the Bible appears in and shapes Western popular culture today. Along the way, close reading, hypotheses, exploration of texts, and discussion will be emphasized. Works studied will include: *The New Oxford Annotated Bible*, *Who Wrote the Bible?* (Friedman), *Religion and its Monsters* (Beal), and examples from music, literature, and film.

Comparative Philosophy. This course grounds students in the study of philosophy and explores central questions within a comparative framework. Students read a wide range of responses to shared concerns, largely centering around the following three core questions: What is the good life? (What does it mean to be human? Why be good? What is happiness?) What is the role of the individual in society? (What is his/her responsibility? What does society owe the individual? How should we relate to others?) What is justice and the role of judgment within it? (What constitutes freedom, liberty, and justice? What is the just state?) To address these questions, students read classical and contemporary philosophers from the East and West and draw upon film and literary selections as supplemental texts. Students will pursue a separate inquiry of their own central question as their final project.

Homer and Aristotle: Applied Ethics in Popular Culture. This course introduces the branch of philosophy known as Ethics, and examines the many ways in which basic ethical conflicts animate both drama and humor in modern life as seen in popular culture. The course will concentrate on *The Simpsons* because this series is familiar to students, and is one of the most intelligent and allusive comedies on television.

The primary text used in the course is *The Simpsons and Philosophy*, a collection of 18 essays that connect the characters and conflicts with the thinking of Socrates, Marx, Camus, Sartre, Heidegger, Kant and other key philosophers. The book includes a chronology of philosophers including their original writings. This will be supplemented by primary philosophic texts, critical interpretations, online resources including college seminars, and even *Simpsons* episodes. Students will write short papers exploring ethical issues, and as a final project they will write a longer paper that describes and defends (or attacks) the ethics portrayed in an artifact of popular culture such as a TV show, movie, magazine, music video, or album.

The Problem of Evil. What constitutes evil and why does it exist? This course focuses on these important questions through studying the liabilities of freedom. The path takes us through literature, philosophy, and theology, as students examine how people try to explain the existence of evil in the world. Works studied will include: *The Problem of Evil: Oxford Readings in Philosophy*, *The Doors of the Sea: Where was God in the Tsunami?* (Bentley), *All My Sons* (Miller), *Dark Nature: A Natural History of Evil* (Watson), and excerpts from articles, journals, music, literature, and film.

Languages

Recognizing the Bay School’s commitment to the global community, we believe that the study of another language, and its associated culture, is essential. The overall objectives of the program include the development of language skills, both oral and written, and a cultural objective, i.e., an acquaintance with and appreciation of a different people, their history, civilization, and customs.

Spanish and Mandarin Chinese are the two core foreign languages taught at the Bay School. Students who have previously studied French are given entrance placement tests to confirm their readiness to continue their study of French on a second year, high school level. Latin will be offered in future years based upon the level of student interest.

- Spanish 1
- Spanish 2
- Spanish 3
- Spanish 4
- Spanish 5
- Mandarin Chinese 1
- Mandarin Chinese 2
- Mandarin Chinese 3
- Mandarin Chinese 4
- Mandarin Chinese 5
- French 2
- French 3
- French 4
- French 5

Elective Courses—2007-2008

France et la Provence. Taught entirely in French, this twelve week course examines and explores the French PACA region, Provence-Alpes-Côte d’Azur, and compares and contrasts its various landscapes, lifestyles, arts, and industries to the other regions of the country.

The course introduces students to the history, geography, and culture of La Provence through the study of literature, film, music, art, and cuisine. Students will read a variety of novels and view films by: Marcel Pagnol, (“le Chateau de Ma Mere,” “La Gloire de Mon Père,” “Jean de Florette” “Manon des Sources”), Alphonse

Daudet, (“Lettres de Mon Moulin”), and Peter Mayle, (“Une Année en Provence” and “France Toujours”) as the basis of their study. The literary readings and films focus on the 5 regions of La Provence with an emphasis on the cities of Nice, Marseille, Aix-en-Provence, Avignon, Nîmes, Orange and Arles. The novels will be accompanied by a historical outline and review of Ancient and Gallo-Roman Provence, Medieval and the Golden Age Provence, Classical Provence and the Belle Époque, and Pre and Post-War Provence. Students will learn about the culture and the traditional ways of Provençal life through the study of film and art work by Cezanne, Chagall, Picasso, Matisse, Renoir and Van Gough. Hands-on activities such as playing a game of boules, preparing regional dishes, planting flowers and herbs, making perfumes and soaps, and building a traditional Provençal village will give students an opportunity to experience samples of the Provençal life.

Occupational Spanish. Occupational Spanish is an advanced level language class, taught entirely in Spanish, which teaches students the necessary skills and tools that they will need to communicate and work effectively and elegantly in a professional setting with Spanish-speaking supervisors, clients, customers, and co-workers.

The course focuses on spoken and written Spanish as used in four different professional fields: medicine, the law, business and finance, and the hotel and tourism industry. Students will be exposed to a variety of authentic materials and situations through completing online interactive activities, listening and responding to dialogs and narratives simulating genuine work experiences, improvising through role play, reading and analyzing professional journals and periodicals, interpreting legal documents, writing formal letters, and by creating and directing their own business. These activities will enable students to expand and enrich their verbal skills as well as their knowledge and understanding of how the Spanish language is used commercially, professionally, and in industry throughout the world.

Prerequisite: Successful completion of 3 years of French/Spanish at the Bay School. In addition, the advanced level language electives are offered to native French/Spanish speakers who have completed their 3 year foreign language requirement in another language.

Senior Project Program

The Senior Project Program is designed to be the culminating experience of the 12th grade year for Bay School students and is required for graduation. The program offers a meaningful opportunity for every senior to pursue his/her personal and academic interests inside and outside of the classroom with the close guidance of an experienced mentor. Field work outside of the classroom may take many different forms such as internships,

career experiences, or working closely with mentors who provide expertise and resources to facilitate an outcome that the student would like to accomplish or create. A Senior Project must involve a minimum of 65 hours of field work. Students earn academic credit for a two trimester elective course.

In addition to the field-based experience, students will learn how to research an area of personal interest and write a project proposal. They will learn how to make contacts with individuals and organizations that can help them pursue the study of their interest, they will produce a deliverable from their work, and they will learn how to make a formal presentation. Each project will conclude with the writing of a paper that describes and reflects the student's thoughts, experiences, and accomplishments.

The Senior Project is a unique personal journey for each student as he/she works to gain an in-depth understanding of a subject area that is of importance to them, or to begin the exploration of an area of interest. The program offers the long term benefit of helping students to focus on possible areas of study in college, future careers, and community involvement.

Some areas of focus for senior projects that have been initiated for the 2007-2008 academic year include: Biotechnology research, psychology, marketing and advertising, computer programming, video and music production, marine mammal research, the law, personal submarine design and construction, worldwide nutrition and health issues, diversity in education, ecology, and the design and construction of an electric car.

General Electives

Visual Arts

- Studio Art IA: Drawing
- Studio Art IA: Painting
- Digital Imaging IA
- Video Production
- Studio Art IB: Advanced Drawing
- Studio Art IB: Advanced Painting
- Digital Imaging IB
- 3D Art

Music

- Jazz Ensemble IA
- Jazz Vocal Performance
- Jazz Ensemble IB
- Electronic Music Studio

Performing Arts

- Drama IA
- Drama IB
- Drama II: Intensive Performance Workshop
- Dance in a Cultural Context IA: Hip Hop
- Dance in a Cultural Context IB: Black Dance in America

Physical Education

The Bay School believes that physical exercise and development are essential to the optimal functioning of the mental self, and thus students are required to participate in physical education activities each year. The P.E. requirement can be met in a number of ways. Options include, but are not limited to, playing on one of the school's sports teams, participating in a physical education activity before or after school, or taking a physical education elective course.

Activities and Electives

- Martial Arts
- Weight Training/Fitness
- Yoga
- Dance
- Tennis
- Advanced Conditioning for Basketball

Athletics

Boys' and girls' varsity and JV teams: Cross-Country, Soccer, Basketball, Baseball, Volleyball, Golf, Track & Field, Sailing.

Sample Four-Year Course Schedule

9th Grade Year	<i>1st Trimester</i>	<i>2nd Trimester</i>	<i>3rd Trimester</i>
	<ul style="list-style-type: none"> • Humanities I • Conceptual Physics • Math I • Writing Workshop 	<ul style="list-style-type: none"> • Humanities I • Conceptual Physics • Math I • Foreign Language I 	<ul style="list-style-type: none"> • Humanities I • Chemistry • Arts Elective • Foreign Language I
10th Grade Year	<i>1st Trimester</i>	<i>2nd Trimester</i>	<i>3rd Trimester</i>
	<ul style="list-style-type: none"> • Humanities II • Chemistry • Foreign Language II • Arts Elective 	<ul style="list-style-type: none"> • Humanities II • Biology • Research/Community • Math II 	<ul style="list-style-type: none"> • Humanities II • Biology • Foreign Language II • Math II
11th Grade Year	<i>1st Trimester</i>	<i>2nd Trimester</i>	<i>3rd Trimester</i>
	<ul style="list-style-type: none"> • U.S. History • Science Elective • English Elective • Math III 	<ul style="list-style-type: none"> • U.S. History • Science Elective • Foreign Language III • English Elective 	<ul style="list-style-type: none"> • History Elective • Arts Elective • Foreign Language III • Math III
12th Grade Year	<i>1st Trimester</i>	<i>2nd Trimester</i>	<i>3rd Trimester</i>
	<ul style="list-style-type: none"> • Religion/Phil. Elective • Math IV • Senior Project • Senior Project 	<ul style="list-style-type: none"> • English Elective • Math IV • Science Elective • Senior Project 	<ul style="list-style-type: none"> • Arts Elective • History Elective • Technology Elective • Senior Project

Note: 22 academic credits are required for graduation. Junior and senior schedules shown above indicate maximum course loads. Individual student course schedules will vary.

Advanced Placement Program

As the Bay School curriculum is being developed, high school Advanced Placement programs are the subject of considerable controversy at independent schools and colleges. We believe that the Bay School curriculum has integrity unto itself, offering an extremely challenging high school program, and does not attempt to take the place of any college freshman courses. Rather, we aim to instill the inquisitiveness, skills, and passion that will provide our students with a solid preparation for study on the college level.

Many of our courses have been approved as Honors level courses by the University of California giving them the same weight as AP courses. We remain committed to challenging our strongest students by offering advanced courses in all disciplines.

Our academic committee is watching and learning, but has reached the following provisional decisions regarding the A.P. program:

1. The Bay School may offer traditional Advanced Placement courses, over time, in cases where the content of the A.P. syllabus is comparable to our own courses in a given subject area. Prescribed A.P. courses will not be offered if they do not reflect the school's educational mission and philosophy.
2. Bay School U.S. History courses will be cognizant of the A.P. curriculum, but will not sacrifice depth to cover all of the content in this curriculum.
3. Many of our junior-level and senior-level elective courses are multidisciplinary; where the content of the course is in accordance with an A.P. exam, and a student is interested in taking the test, we may work with the student individually to make this a reality.

