

THE BAY SCHOOL COURSE CATALOG

2018 - 2019

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An Introduction to Bay's New Schedule and Curriculum

2018-2019 will mark the first year of Bay's new "semester-immersive" schedule. The year will be divided into four terms: two semesters (a fall semester and a spring semester) and two immersive terms (a January immersive term and a May/June immersive term). The semester terms will feel similar to the current Bay experience: a rotating schedule of 80-minute classes, where students take multiple classes per day. Classes will meet three times per week for a total of 14-15 weeks per semester. Students will take five classes per semester. Most of Bay's core curriculum will occur in these semester terms.

During the immersive terms, students will take a single class, which will meet for 5-6 hours per day for three weeks. Immersives are a chance to "go deep" in a topic. Immersive courses are academic in nature: they will be graded, fulfill graduation requirements, and assign homework. The objective of the immersive term is to free teachers and students from the constraints of a rotating, campus-based schedule: these courses will carry significant project-based and/or field-based components. During a student's time at Bay, most of their immersive courses will be electives, with the exception of the 9th-grade spring immersive and the 10th-grade winter immersive, both of which fulfill core Humanities requirements.

Curricular Overview for Semester-Immersive Schedule

9th Grade

Semester 1: Aug - Dec Students take 5 courses	Immersive 1: Jan Students take 1 course	Semester 2: Feb - May Students take 5 courses	Immersive 2: May/June Students take 1 course
<i>Humanities 1a</i>	Elective: Choice among four 9th-grade specific electives (see catalog)	<i>Humanities 1b</i>	Core immersive: All 9th-graders take a Humanities 1 immersive: <i>Everyone Has a Story</i>
<i>Conceptual Physics 1a</i>		<i>Conceptual Physics 1b</i>	
<i>The Creative Process</i>		arts elective, part a	
math course, part a		math course, part b	
language course, part a		language course, part b	

10th Grade

Semester 1: Aug - Dec Students take 5 courses	Immersive 1: Jan Students take 1 course	Semester 2: Feb - May Students take 5 courses	Immersive 2: May/June Students take 1 course
<i>Humanities 2a</i>	Core immersive: All 10th-graders take a Humanities 2 immersive: <i>Shakespeare Unbound</i>	<i>Humanities 2b</i>	Elective: Choice among upper-grade spring immersive electives (see catalog)
<i>Chemistry 1a</i>		<i>Chemistry 1b</i>	
arts elective, part b		<i>Research in the Community</i>	
math course, part a		math course, part b	
language course, part a		language course, part b	
Notes: Some 10th-graders may elect to begin a new arts sequence with a "part a" arts course, or to take Engineering or Computer Science electives in place of their "arts, part b" course. Those students are encouraged to follow their interests, and should make sure to complete an arts sequence (part a and part b) before graduation.			

11th Grade

Semester 1: Aug - Dec Students take 5 courses	Immersive 1: Jan Students take 1 course	Semester 2: Feb - May Students take 5 courses	Immersive 2: May/June Students take 1 course
<i>American Studies a</i>	Elective: Choice among upper-grade winter immersive electives (see catalog)	<i>American Studies b</i>	Elective: Choice among upper-grade spring immersive electives (see catalog)
<i>Biology 1a*</i>		<i>Biology 1b*</i>	
elective (math recommended)		elective (math recommended)	
elective (language recommended)		elective (language recommended)	
elective		elective	
Notes: In their semester and immersive electives, 11th-graders are strongly encouraged to take 2 terms of math, 2 terms of language, and 2 terms of literature electives. Students may also choose to complete other graduation requirements (see below) in the junior year. *As 11th-graders, members of in the Class of 2020 will have already taken Biology 1, and therefore may take additional electives.			

12th Grade

Semester 1: Aug - Dec Students take 5 courses	Immersive 1: Jan Students take 1 course	Semester 2: Feb - May Students take 5 courses	
<i>Senior Signature Project 1a</i>	Elective: Choice among upper-grade winter immersive electives (see catalog)	<i>Senior Signature Project 1b</i>	Seniors do not take a spring immersive course. They are encouraged to pursue their own interests through self- directed learning.
elective		elective	
Notes: In order to fulfill graduation requirements, students must complete the following: 6 terms of math, 6 terms in a single language, 4 terms of literature electives**, 1 term of social studies electives, 1 term of religion/philosophy electives, 2 terms of science electives***, and an arts sequence (part a and part b). These requirements can be fulfilled through electives taken either in semester or in immersive terms. **Students in the Class of 2019 are only required to take 3 literature electives, as they took a three-term American Studies course as juniors. ***Students in the Class of 2021 are only required to take 1 science elective, as they took a three-term Conceptual Physics course as 9th-graders.			

Graduation Requirements by Subject Area

Arts

Students must complete 1A and 1B courses in a single genre (ex. Drama 1A and Drama 1B). Students in the class of 2022 will also take a one-semester course, The Creative Process, as 9th-graders.

Literature

In addition to the core Humanities courses that include literature and writing components (Humanities 1, Humanities 2, Writing Workshop, Research in the Community, and American Studies), students must complete 1 ½ credits (3 terms) in literature electives. Beginning with the class of 2020, students must complete 2 credits (4 terms) in literature electives, at least one of which must carry the “American Studies - Literature” designation.

Math

Students must complete 3 credits (6 terms) in mathematics. Students complete this requirement in their first three years at Bay; they are encouraged to continue their studies in math beyond this requirement.

Religion & Philosophy

In addition to the core Humanities courses that include religion and philosophy components (Humanities 1, Humanities 2, and American Studies), students must complete ½ credits (1 term) in a religion and philosophy elective at some point during their time at Bay.

Science

Students must complete 4 credits (8 terms) in the sciences. Students entering Bay in 9th-grade (as well as most transfer students) will fulfill 3 credits of this requirement by completing Bay’s core science sequence: Conceptual Physics 1, Chemistry 1, and Biology (either Biology 1 or Biology 2). Students must therefore complete an additional 1 credit (2 terms) of science electives at some point during their time at Bay. Students in the class of 2021 are required to take only ½ credits (1 term) of science electives in order to graduate, since they took an additional term of Conceptual Physics as 9th-graders.

Senior Signature Projects

Students must complete the 1 credit (2 terms) Senior Signature Project course during their 12th-grade year.

Social Studies

In addition to the core Humanities courses that include social studies components (Humanities 1, Humanities 2, Research in the Community, and American Studies), students must complete ½ credits (1 term) in a social studies elective at some point during their time at Bay. Students are encouraged to continue their work in social studies beyond this requirement.

World Languages

Students must complete 3 credits (6 terms) in a single language. Students who place into Level 4 in their first year will fulfill the requirement by taking Level 4 and 5 during their career at Bay. Most students complete the language requirement within their first three years at Bay; they are encouraged to continue their studies in world language beyond this requirement.

Immersive Course Offerings

January Immersive Courses	May/June Immersive Courses
<p><u>9th-grade course offerings:</u></p> <ul style="list-style-type: none"> ● Assembling San Francisco ● California Natural History ● The Biology of Health and Wellness ● The Mathematics of Digital Animation: Pixar Movies Behind the Scenes <p><u>10th-grade core immersive:</u></p> <p>Humanities 2 Immersive: Shakespeare Unbound</p> <p><u>11th- & 12th-grade course offerings by dept:</u></p> <p>ARTS</p> <ul style="list-style-type: none"> ● Filmmaking ● Immersive Art Studio ● Modern American Family* <p>COMPUTER SCIENCE & ENGINEERING</p> <ul style="list-style-type: none"> ● Engineering 2 <p>LITERATURE</p> <ul style="list-style-type: none"> ● Modern American Family* ● The Writer’s Life: A Creative Exploration <p>MATH</p> <ul style="list-style-type: none"> ● Mathematics in Finance and Economics ● Mathematics of Democracy* <p>RELIGION/PHILOSOPHY</p> <ul style="list-style-type: none"> ● Buddhism <p>SCIENCE</p> <ul style="list-style-type: none"> ● Biotechnology <p>SOCIAL STUDIES</p> <ul style="list-style-type: none"> ● Mathematics of Democracy* ● Wealth and Poverty 	<p><u>9th-grade core immersive:</u></p> <p>Humanities 1 Immersive: Everyone Has a Story</p> <p><u>10th- & 11th-grade course offerings by dept:</u></p> <p>ARTS</p> <ul style="list-style-type: none"> ● Connecting to Place: Literature and Creative Practice* <p>LITERATURE</p> <ul style="list-style-type: none"> ● Connecting to Place: Literature and Creative Practice* ● The Writer’s Life: A Creative Exploration <p>MATH</p> <ul style="list-style-type: none"> ● Cryptography <p>SCIENCE</p> <ul style="list-style-type: none"> ● Atmospheric Science and Engineering: Launching Near-Space Weather Balloons ● Biochemistry and Pharmaceutical Design ● California Geology: A Field Experience ● Water in the American West: The Eastern Sierra Nevada* <p>SOCIAL STUDIES</p> <ul style="list-style-type: none"> ● First Ascents: The Indigenous History and Literature of California ● Uncovering Cultural Bias in America ● Water in the American West: The Eastern Sierra Nevada* <p>WORLD LANGUAGES</p> <ul style="list-style-type: none"> ● Immersive Spanish: Cultural Diversity in the Bay Area

January Immersive - 9th-grade course offerings:

Assembling San Francisco: Geology of the Greater Bay Region

This immersive course covers content similar to a semester-long physical geology course, but is focused on field-based, student-centered activities exploring the rocks, hills, and waters of greater San Francisco. Students can expect to spend at least half of the time hiking, biking, and camping locally in the City and further afield in the North, East, and South Bay. Essential observations will progress from the micro to the macro at each locale, guided by the questions: What is the story of this rock? What is the story of this place? What is the story of humans in this place? A principal goal of this course is to build confidence and competence in the observational skills of students as budding scientists, helping them to develop a sense of what it means to be grounded in a context perhaps much more literal than they have considered before. ***Notes:** This course will most likely include one or more overnight trips as a required component of the student experience. This course will be applied toward receiving credit in the following department: Science.

California Natural History

How have humans been influenced by the California landscape? How do humans, in turn, leave their mark on this landscape? This course blends humanities and science as students explore a selected California ecosystem in depth, from indigenous interactions with the land, to art and writing inspired by the natural environment, to current changes to the landscape wrought by California's ever-expanding human population. Students are introduced to the science of ecology and methods of quantifying ecosystem services, with a goal of inspiring stewardship of California's natural communities. The course is centered around a one-week field expedition to the selected ecosystem. Immersing themselves in the ecosystem of study gives students a unique opportunity to grapple with these challenges in depth. ***Notes:** This course will most likely include a multi-day overnight trip as a required component of the student experience. This course will be applied toward receiving credit in the following department: Science.

The Biology of Health and Wellness

How can we use current biological research to understand how to build a happy and healthy lifestyle? This immersive course introduces students to the biology of the human body, with a focus on how exercise, nutrition, sleep, and stress affect biological processes. This is investigated through readings in current journals and biology texts as well as extensive self-experimentation. Students research, test, and assess current understandings and practices in these four major components of a healthy lifestyle using the scientific method, building skills in the design of experiments, the collection and analysis of data, and the creation of mathematical models. As a final project, students create a report that utilizes their research and experimental results to describe best practices for themselves and Bay community members in terms of food choices, sleep patterns, activity requirements, and daily habits that optimize

biological functioning. ***Note:** This course will be applied toward receiving credit in the following department: Science.

The Mathematics of Digital Animation: Pixar Movies Behind the Scenes

In this course, students explore the math behind digital animation and modeling. Using Pixar films as a starting point, students learn about various stages in the story development process, from storyboarding to fine-tuning digital animations. Students interact with these elements through digital tools such as Khan Academy's Pixar in a Box and Autodesk's Tinkercad. This course also includes hands-on activities, hearing from professionals in the industry, and local field trips. Essential questions guiding our study include: How can mathematics help us to model characteristics and phenomena we observe (or imagine)? How do we analyze and strategically set up the representations we use a computer to manipulate? How does the iterative design process relate to both our work in mathematics and the creation of a digitally animated film? ***Note:** This course may be applied toward receiving credit in **one** of the following departments: Arts **or** Math.

January Immersive - 10th-grade core immersive:

Humanities 2 Immersive: Shakespeare Unbound

This 10th-grade core Humanities immersive seeks to answer the question, "Why do we still read Shakespeare?" Students practice critical reading and analysis by engaging directly with two of Shakespeare's plays. Steeped in Shakespeare's language and style, students study various adaptations of these plays, from classic, true-to-the-original adaptations to those loose adaptations that permeate contemporary pop culture. Students work both individually and collaboratively to identify and articulate themes and values from Shakespeare's original texts that translate to later adaptations. With these themes and values in mind, students begin developing their own adaptations of one of Shakespeare's scenes; in the process, students work with Bay Area theater professionals to expand their skill sets and gain exposure to acting, directing, and performance studies. By the end of this course, students will have imagined, designed, and executed a Shakespearean adaptation unbound from its original historical context.

January Immersive - 11th- and 12th-grade course offerings by dept:

Subject Area: Arts

Filmmaking

In this immersive, students learn the art of filmmaking. Course members go through the stages of pre-production, production, and editing. Students learn to shoot from a script on location, where they will spend up to a week. During the shoot, actors have first-hand experience being on a set and acting in front of a camera, while crew members will learn what it is like to be on a film team. Students then edit the footage into a final, cohesive film back at The Bay School Mac lab. The course culminates with a viewing of the finished product at the Walt Disney Family Museum or equivalent theater. Essential questions this immersive explores include: How does the three act structure help to tell stories in film? Why is film the best way to tell this story? What are the various aspects of the filmmaking pipeline? How can style, mood, and emotion be conveyed through filmmaking? Who is the intended audience of this film? ***Notes:** This course will most likely include a multi-day overnight trip as a required component of the student experience. No prerequisite.

Immersive Art Studio

What is it like to live the day-to-day life of an artist, working feverishly in their own studio, gradually assembling a body of artwork for a gallery exhibition? It can be exhausting, but it is undoubtedly rewarding to the soul. This immersive takes the course concept of an advanced studio course and radically authenticates its studio practice by re-orienting the classroom to an off-campus warehouse/studio, embracing the concept that effective and expansive creative space, accompanied by a student's time-intensive inhabitation of the space, enables art to go to a deeper place. Each student enrolled in the course will have a dedicated "studio space", or a wide array of walls of their own. The course will encourage the student's deepening of skills in all painting and drawing media, including oil paint. Rather than place emphasis on the "how to", this advanced studio course encourages students to dig deeply into one's own art - experimenting, refining, assessing, reworking, and then fine-tuning - while working gradually towards a culminating exhibition. Students enrolled in this immersive should arrive on the first day with a rough idea of what they hope to create over the 3 weeks (and which media they hope to dig into), as the immersive will essentially be a "Final Project" in studio art. Visiting artists contribute to the teaching and help run a midpoint critique of the artwork. Prerequisite: Drawing 1B or Painting 1B.

Modern American Family: Inspection and Introspection*

This course examines different family structures and dynamics through American visual art, literature, television, film, and music. Students explore how gender roles have changed throughout history and have been socially constructed. Exposure to the different interpretations of family encourages students to understand their own family make-up and their place in it.

Class sessions include field trips, visiting artists, making art, looking at art, writing, reflecting, analyzing and decoding readings, and identifying the different constructs that exist in a household. Essential questions guiding the course of study include: What is family? How have artists, writers, film-makers, and musicians explored family dynamics in their work? How do various representations of family structures/dynamics help us understand our own definition of family and our role in it? ***Note:** This course may be applied toward receiving credit in **one** of the following departments: Arts, Literature, **or** Social Studies.

Subject Area: Computer Science and Engineering

Engineering 2

Engineering 2 is guided by the following essential questions: How does the world of engineering work? How do engineers solve complex problems using technology? This advanced course is focused on designing and fabricating working devices in order to better understand how the world of engineering works. Students extend their knowledge from previous engineering coursework; they continue their hands-on, project-based work, solving complex design challenges in order to apply their understanding of physics, materials science, and fabrication methodologies. In the course of these projects students gain production and machining skills that deepen their appreciation for and understanding of precision and tolerance, knowledge that will further prepare them for a future in engineering. Prerequisite: Engineering Design 1.

Subject Area: Literature

Modern American Family: Inspection and Introspection*

This course examines different family structures and dynamics through American visual art, literature, television, film, and music. Students explore how gender roles have changed throughout history and have been socially constructed. Exposure to the different interpretations of family encourages students to understand their own family make-up and their place in it. Class sessions include field trips, visiting artists, making art, looking at art, writing, reflecting, analyzing and decoding readings, and identifying the different constructs that exist in a household. Essential questions guiding the course of study include: What is family? How have artists, writers, film-makers, and musicians explored family dynamics in their work? How do various representations of family structures/dynamics help us understand our own definition of family and our role in it? ***Note:** This course may be applied toward receiving credit in **one** of the following departments: Arts, Literature, **or** Social Studies.

The Writer's Life: A Creative Exploration

This course focuses on deep dives into writing: students who love to write will spend their time reading works by a range of authors, learning specific tools to give their writing stylistic flourish, taking each piece through multiple drafts, participating in whole-class and small-group

workshops, visiting local bookstores and writing spaces to gain inspiration, and developing polished pieces that are ready for publication. Essential questions guiding this course include: When writing in a new genre, what are the important questions to ask as you approach each task? How does one think about and balance style and content in writing? What do real writers compose, and how might we learn about and produce work in those genres as well?

Subject Area: Math

Mathematics in Finance and Economics

This course explores the mathematical side of the world of finance: How does one use mathematical tools and mathematical reasoning to make financial models, projections, and decisions? What are the real-world monetary applications of the math students study in high school classes? How can technological tools help with quantitative financial analysis? Students in this course use a variety of tools from statistics, probability, functional analysis, and other mathematical topics, applying knowledge from previous math classes and building deep knowledge of mathematical topics not previously covered. These tools are applied to the financial and economic questions faced by professionals, including: prediction of the value of an asset, understanding the relationship between risk and return, consideration of issues of supply and demand, and modeling cash flows. The course leverages Bay's location in the dynamic San Francisco Bay Area, including field trips to firms and financial organizations as well as guest speakers with expertise in the quantitative side of finance and economics. **Prerequisite:** This course is open to students who have completed Bay's core mathematics through Analysis of Functions A prior to the start of the course. Students make take this immersive in the same year they are taking Analysis of Functions.

Mathematics of Democracy*

In this interdisciplinary math and social studies immersive students explore voting and representation, the fundamental features of democratic government, through a mathematical lens. Students learn about the history of representational government as well as analyze current election and representation systems. The course examines a variety of voting and representation schemes that are currently in use or that have been proposed, and looks at how these methods influence election strategies and outcomes. In addition to democratic systems themselves, students learn how polls are conducted in order to understand voters and predict election outcomes in advance. Essential questions guiding our study include: What is the function of representation in a democracy? How can/should groups of people make decisions? How can an individual make an impact on policy? ***Note:** This course may be applied toward receiving credit in **one** of the following departments: Mathematics **or** Social Studies.

Subject Area: Religion & Philosophy

Buddhism

The essence of Buddhism is to awaken, to be free in the midst of this changing world. Buddhism has a long and rich history from ancient India to the Bay Area. Students study that history with an emphasis on how Buddhism has impacted the West, revolutionizing disciplines from neuroscience and psychology to education. This class is experiential; it offers teachings and skills that give students a chance to change the way they perceive themselves and their world—to see more clearly and be more authentic. Topics of study include Buddhist ethics, the Two Truths, the Eightfold Path, The Four Foundations of Mindfulness, and the profound teaching of Dependent Origination. To understand these concepts, students spend time practicing mindfulness meditation, reading primary sources and practitioners' perspectives, visiting local Buddhist communities and hearing from practitioners, and applying students' understanding and knowledge to academics, personal experiences, and the everyday world.

Subject Area: Science

Biotechnology

What is it like to work in a biotechnology research laboratory? How can the skills students have learned in Bay's core science courses be applied to the "real world" of scientific research in a rigorous lab-based setting? Students in this course undertake a deep investigation into molecular biology and into the professional skills required to work in technical field. On Day 1, students enter one of Bay's science labs to find the classroom space transformed. Lab benches are set up with pipettes, table-top centrifuges, PCR thermocyclers, incubators, shaking baths, electrophoresis apparatus, light tables, pH meters, and so on; the lab equipment also includes a uv-spectrophotometer, an autoclave and perhaps a laminar flow hood and a large incubator. Welcome to the Bay Biotechnology Laboratory! Students then follow a brisk training schedule in a research laboratory environment, beginning a series of preliminary projects to test and extend their laboratory skills. Upon completion of those projects and demonstration of competence, students chose from a menu of project options, including the option of pursuing an original research idea. Throughout, students maintain a highly-organized laboratory notebook that is evaluated based upon industry standards. If they undertake a project of their own design, they develop a list of references and at least a summary of their methods and findings. There are several opportunities for students to present their work to others. This is primarily a hands-on, minds-on experience. Prerequisite: Chemistry 1 and Biology 1.

Subject Area: Social Studies

Mathematics of Democracy*

In this interdisciplinary math and social studies immersive students explore voting and representation, the fundamental features of democratic government, through a mathematical lens. Students learn about the history of representational government as well as analyze current election and representation systems. The course examines a variety of voting and representation schemes that are currently in use or that have been proposed, and looks at how these methods influence election strategies and outcomes. In addition to democratic systems themselves, students learn how polls are conducted in order to understand voters and predict election outcomes in advance. Essential questions guiding our study include: What is the function of representation in a democracy? How can/should groups of people make decisions? How can an individual make an impact on policy? ***Note:** This course may be applied toward receiving credit in **one** of the following departments: Mathematics **or** Social Studies.

Wealth and Poverty

What is wealth? Why are some people wealthy while others are homeless? What can be done to solve the homelessness crisis? In this course, students investigate the causes and consequences of wealth inequity. Focusing on homelessness (or houselessness) in the Bay Area as a case study, students become more familiar with the economic and social structures that exacerbate an increasingly dramatic gap between rich and poor. Students reflect on their own relationship to economic class, and explore strategies that individuals and communities have used to address the issue of homelessness/houselessness. Students have opportunities to meet and learn from a broad range of experts. Course activities include service work, emotional literacy training, problem-based inquiry, restorative justice circles, reading, writing, and discussion. As a culminating project, students will create a solutions-oriented presentation.

May/June Immersive - 9th-grade core immersive:

Humanities 1 Immersive: Everyone Has a Story

This 9th-grade core Humanities immersive focuses on immigration—and the impact of economics, politics, geography, and society on a family’s decision to emigrate from their home countries. Through *Enrique’s Journey* by Sonia Nazario students learn about the benefits and drawbacks of immigrating to the US, from the harrowing journey itself, to the separation of families, to finding one’s way once an individual arrives in the U.S. Students have the opportunity to better understand an immigrant’s experience through in depth research, conducting an interview, and writing a narrative of their experiences—either of the journey itself, or making a life here in the United States, or any combination thereof. Through listening to and recording (both audio and written) the stories of others, we learn that diversity begins with the experiences of individuals. Essential questions guiding the course include: How does immigration shape and impact a community? How do people from diverse communities connect to each other and to the communities where they live? How do we develop mutual trust?

May/June Immersive - 10th- and 11th-grade course offerings by dept:

Subject Area: Arts

Connecting to Place: Literature and Creative Practice*

This project-based interdisciplinary course combines reading of literature, writing, mindful observation, and sculptural arts in an exploration of the idea of *place* at the individual, ecological, and societal levels. Students begin this course by reading and analyzing a selection of place-based literary works in a variety of genres (short fiction, natural history, travel writing, and poetry) to explore how descriptive writing can both express personal connection and convey ideas of societal importance. With the literature as an example, students develop their powers of observation and creative expression and, after a phase of research into the natural and cultural history of a locale, they produce writing that illuminates places of importance to them in a literary genre of their choice. Simultaneously, students will be introduced to the physical sport of fly casting and receive instruction in the sculptural craft of making artificial trout flies that mimic a trout's natural food source. In the second part of the course, students apply what they have learned about observation and understanding of place to the particular environment of a California trout stream. Students engage in classroom and local study of riverine ecology and express their understanding creatively by designing, creating, and testing trout flies in an actual trout stream. The class spends the final five days of the course camping on a river, learning about the location from personal observation and from local experts, and expressing their understanding of, and personal connection to, the place through writing.

***Notes:** This course will most likely include a multi-day overnight trip as a required component of the student experience. This course may be applied toward receiving credit in **one** of the following departments: Arts **or** Literature.

Subject Area: Literature

Connecting to Place: Literature and Creative Practice*

This project-based interdisciplinary course combines reading of literature, writing, mindful observation, and sculptural arts in an exploration of the idea of *place* at the individual, ecological, and societal levels. Students begin this course by reading and analyzing a selection of place-based literary works in a variety of genres (short fiction, natural history, travel writing, and poetry) to explore how descriptive writing can both express personal connection and convey ideas of societal importance. With the literature as an example, students develop their powers of observation and creative expression and, after a phase of research into the natural and cultural history of a locale, they produce writing that illuminates places of importance to them in a literary genre of their choice. Simultaneously, students will be introduced to the physical sport of fly casting and receive instruction in the sculptural craft of making artificial trout flies that mimic a trout's natural food source. In the second part of the course, students

apply what they have learned about observation and understanding of place to the particular environment of a California trout stream. Students engage in classroom and local study of riverine ecology and express their understanding creatively by designing, creating, and testing trout flies in an actual trout stream. The class spends the final five days of the course camping on a river, learning about the location from personal observation and from local experts, and expressing their understanding of, and personal connection to, the place through writing.

***Notes:** This course will most likely include a multi-day overnight trip as a required component of the student experience. This course may be applied toward receiving credit in **one** of the following departments: Arts **or** Literature.

The Writer's Life: A Creative Exploration

This course focuses on deep dives into writing: students who love to write will spend their time reading works by a range of authors, learning specific tools to give their writing stylistic flourish, taking each piece through multiple drafts, participating in whole-class and small-group workshops, visiting local bookstores and writing spaces to gain inspiration, and developing polished pieces that are ready for publication. Essential questions guiding this course include: When writing in a new genre, what are the important questions to ask as you approach each task? How does one think about and balance style and content in writing? What do real writers compose, and how might we learn about and produce work in those genres as well?

Subject Area: Math

Cryptography

Cryptography offers students a rich interdisciplinary approach to the science of encryption through mathematical, historical, and sociological lenses. Essential questions guiding our study include: Why is secure communication important? What tradeoffs do we make between privacy/security and efficiency? Students read [The Code Book](#), by Simon Singh and conduct round table discussions on each reading. They also view movies, both historical and fictional, in which cryptography plays a key role. Students have an opportunity to visit academic and professional institutions to explore modern-day uses. Students will learn the mathematics of cryptography with the opportunity to involve computer science if the interest exists. The course concludes with student-selected cryptography projects involving presentations to the class as well as a final summative assessment.

Subject Area: Science

Atmospheric Science and Engineering: Launching Near-Space Weather Balloons

This immersive studies the atmosphere through launching high altitude weather balloon(s) to the edge of space. Students plan the launches of at least one weather balloon--ideally two--and model the behavior of their balloon's flight both before launch and after launch. Students have the opportunity to measure atmospheric variables of their choice in situ. Launching and

retrieving a balloon payload is a day-long endeavor, rewarding and frustrating. Before launches, students work on managing group dynamics, launch checklists, and dealing with unforeseen complications in the field. Essential questions guiding our immersive include: How can we study (and refine our study) of the atmosphere? How do weather balloons work? What things can we study in the atmosphere? How can we study them? ***Note:** This course may include an overnight trip as a required component of the student experience.

Biochemistry and Pharmaceutical Design

Modern medicine depends on the process of pharmaceutical design, a field which has revolutionized the human experience in the past century and which is once again at an inflection point thanks to technological developments including genome sequencing, personalized medicine, and nanotechnology. How are new drug molecules discovered? How, where, and why do drug molecules bind to and act upon the biochemical components of the human body? How can an understanding of human biochemistry allow us to intentionally design pharmaceuticals? This course introduces students to the core concepts of pharmaceutical design: protein function, human disease, and the role played by bioinformatics in drug discovery and development. The course begins with a discussion of the history of drug discovery and the modern drug approval process. Students are introduced to receptors and enzymes, the biological molecules most often targeted by pharmaceuticals. Students also investigate topics including the kinetics of drug absorption, drug elimination and half-life, and drug metabolism. This course is a hands-on, multifaceted experience: students will: use technological tools in an effort to identify molecules that are potentially pharmaceutically-valuable in treating disease, undertake lab experiments in order to purify small organic molecules with therapeutic value, take field trips to local biotechnology and pharmaceutical firms, and interact with guest speakers who work in this cutting-edge field. Prerequisite: Chemistry 1 and Biology 1.

California Geology: A Field Experience

In this course, students live the California geology as they explore topics such as subduction and the Cascade range, the making of the Sierras, the creation of the Central Valley, the development of the San Andreas Fault and the rise of the coastal ranges, and the formation of the Salton Sea. Through this course, students build an integrated, live understanding of the regions that make up this state, or the formations they are made of, and how these formations interact with one another. Assessments will include regular quizzes, a comprehensive field trip guide, and a visual representation of the CA underground. Essential questions framing our study include: How do geological regions relate to one another? How far can a rock formation extend? What are the sources of volcanism in the state of CA? Why is there so much gold in the Sierras? Where is it safe to live in CA? ***Note:** This course will most likely include a multi-day overnight trip as a required component of the student experience.

Water in the American West: The Eastern Sierra Nevada*

Whose water is it? This essential question drives this project-based, interdisciplinary course. We use the tools of science and humanities to investigate the myriad ways in which humans rely on water, the political, economic, and ethical issues stemming from our need for water, and how our quest for this critical resource has led us to re-engineer natural ecosystems. Looking through a scientific lens, we examine the natural features and processes that determine the extreme variability of water availability in the western United States, and consider how human use of water resources impacts biodiversity and ecosystem functions. Drawing on the humanities, we consider the historical and contemporary politics of water access, the ways western settlement shaped current water policy, and the changes in policy and values required for sustainable water use in the future. This immersive course will address the questions above through an in-depth exploration of a particular region of the American West, the eastern Sierra Nevada region of California. Our headquarters throughout most of this course will be the Sierra Nevada Aquatic Research Lab (SNARL), located several miles east of Mammoth Lakes, CA. SNARL is an active research laboratory run by the University of California Natural Reserve System, and is relatively close to iconic features in the story of western water such as Mono Lake and Hoover Dam. Students enrolling in this course should expect daily field trips, active participation in research and restoration projects, and nightly discussions, presentations, and quizzes. In addition, time will be devoted most days to completing small group projects and reading assignments. We will be staying in the dorm facilities at SNARL, and doing our own shopping and cooking. ***Notes:** This course will most likely include a multi-day overnight trip as a required component of the student experience. This course may be applied toward receiving credit in **one** of the following departments: Science **or** Social Studies.

Subject Area: Social Studies

First Ascents: The Indigenous History and Literature of California

In this course students examine the Indigenous history and literature of California's climbing and hiking spaces in order to better understand the cultural and historical significance of such places. In particular, students spend time reading and learning about the Ohlone and Miwok of the Bay Area, the Sierra Miwok of Yosemite, the Shasta of Siskiyou County, and the Paiute of Bishop. Students also have an opportunity to speak with Indigenous peoples from the aforementioned areas as they travel, hike, and climb throughout California. Besides attempting to build a greater respect and awareness for our surroundings, one of the core goals for this immersive is for students to be able to engage in nuanced and ongoing discussions about Indigenous communities and actively encourage conversations in their homes, with friends, or in public discourse. As such, one of the culminating projects for the class involves the creation of a public history piece that educates hikers and climbers about the Indigenous history of California's hiking and climbing spaces. Essential questions for this course include the following: Who tells the California Indigenous story and how? What are the responsibilities of non-Indigenous people in sacred Indigenous spaces? What is the purpose and function of public history? In what ways and how are the Ohlone, Miwok, and other California Indigenous peoples

currently connected to their ancestral lands? What barriers may they need to overcome in order to remain connected to the land? ***Note:** This course will most likely include a multi-day overnight trip as a required component of the student experience.

Uncovering Cultural Bias In America

What assumptions do we make about other Americans? How can we use empathy to foster understanding? Are we one nation under God or a house divided? During this course, students travel to at least three places in another area of the United States to engage with the communities that live there. Students explore the geography, meet the people (via community organizations, other high schools, and homestays), and challenge assumptions they have about unknown places. It's literally a trip out of the Bay Area Bubble. Pre-trip, students formulate questions that critically examine culture bias in America and then test their assumptions on the road via research, interviews, and lived experience. At the conclusion of the journey students unpack what they've learned and share it with an audience. ***Note:** This course will most likely include a multi-day overnight trip as a required component of the student experience.

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Subject Area: World Languages

Immersive Spanish: Cultural Diversity in the Bay Area

In this interactive Spanish-immersion course students explore and investigate the local diversity of Latin American and Spanish people and cultures in the Bay Area. Students develop their communication skills by experiencing culture first-hand and exploring local communities and neighborhoods. Students interview native Spanish-speakers, conduct research, engage in thoughtful discussions, take dance and cooking lessons, sing music, and create projects to gain a deeper understanding of cultural diversity in the Bay. This course is conducted exclusively in Spanish, and essential questions guiding our study include: How can we use our Spanish communication skills and cultural knowledge to engage with local Spanish-speaking communities? What does it mean to co-create an immersive environment for language and culture? Prerequisite: Spanish 2. Students may take this course in the same year they are taking Spanish 2.

Semester Course Offerings by Department

ARTS

Adv. Drama: Creating & Performing (Honors)
Advanced Drawing & Painting Studio (Honors)
Advanced Projects in Digital Arts (Honors)
Design 1A
Digital Imaging 1A
Digital Imaging 1B
Drama 1A
Drama 1B
Drawing 1A
Drawing 1B
Electronic Music Studio 1A
Electronic Music Studio 1B
Hip-Hop Culture, Politics & Production*
Jazz 1A
Jazz 1B
Jazz 2 (Honors)
Painting 1A
Painting 1B
Sculpture
The Creative Process
Video Production 1A
Video Production 1B

COMPUTER SCIENCE & ENGINEERING

Advanced Mechanism Design
Advanced Product Design
Computer Science 1
Computer Science 2
Engineering Design 1
Robotics

HUMANITIES

American Studies
Humanities 1
Humanities 2
Research in the Community

LITERATURE

Advanced Composition
Advanced Sem: Essay & Memoir (Honors)
Advanced Sem: Fiction (Honors)
African American Literature**
Existentialism (Honors)*
Futures Past and Present
Gender in Literature**
Human Nature*
The American Dream**

MATH

Advanced Topics in Calculus (Honors)
Analysis of Functions
Applied Probability
Calculus (Honors)
Math 1
Math 2
Math 3
Statistics

* Cross-listed course

** carries the "American Studies - Literature" designation

RELIGION & PHILOSOPHY

Bioethics*
Comparative Religion (Honors)
Existentialism (Honors)*
Human Nature*
Islam*

SCIENCE

Astronomy and Cosmology
Bioethics*
Biology 1 (*not offered 2018-19; will return 19-20*)
Biology 2 (Honors)
Chemistry 1
Chemistry 2 (Honors)
Climate Change*
Conceptual Physics 1
Environmental Sci: Principles of Biodiversity
Human Health and Disease
Neighborhood Dynamics*
Physics 2 (Honors)
SF Bay: Marine Biology

SENIOR SIGNATURE PROJECTS

Senior Signature Projects 1

SOCIAL STUDIES

Climate Change*
Comparative Gov. & Politics (Honors)
Globalization
Hip-Hop Culture, Politics & Production*
Islam*
Neighborhood Dynamics*
Social Movements of the Late 20th
Century
U.S. Politics

WORLD LANGUAGES

Advanced Topics in Mandarin (Honors)
Mandarin 1
Mandarin 2
Mandarin 3
Mandarin 4
Mandarin 5 (Honors)

Spanish 1
Spanish 2
Spanish 3
Spanish 4
Spanish 5 (Honors)

* Cross-listed course

** carries the "American Studies - Literature"
designation

Subject Area: Arts

All courses in this section are one term in duration.

Advanced Drama: Creating and Performing

Building on students' experience from Drama 1, the focus of this course is on advanced scene-work and character preparation, especially in original, devised, and improvised works. In addition to studying Keith Johnstone, Tectonic Theater Company, and other postmodernist theorists and work, students delve into creating original scripted and unscripted work for performance, some of which may be semi-autobiographical in nature. [This course is considered an Honors course; see page 49 for more information.] Prerequisite: Drama 1B.

Advanced Drawing & Painting Studio

This studio course provides students with the opportunity to broaden their art making experience at an independent level. Being encouraged to paint or draw in a series, mix media, work with innovative paint application, and consider working with collage and assemblage, students will further extend the possibilities of what painting and drawing can be. The class offers exposure to the art world through multiple field trips to local contemporary art galleries, readings, visits to museum collections, and local artist talks and critiques. As a culmination of the course, each student curates and installs an exhibition of their work. Taking this course provides time for students to expand on visual themes about which they have been thinking, learn how to document/photograph work, create a portfolio and sketchbook archive, and develop an artist statement that genuinely illustrates who they are as visual thinkers and makers. This course has a required figure-drawing component featuring nude adult models; these sessions will extend through tutorial one afternoon per week. [This course is considered an Honors course; see page 49 for more information.] Prerequisite: Drawing 1B or Painting 1B.***Note: Students may retake this course for credit with the permission of the Dean of Curriculum.**

Advanced Projects in Digital Arts

This class looks closely at cameras and computers as artistic tools. In doing so, students develop projects that use, critique, and expand the notion and boundaries of digital art. Media in the class range from photos, graphics, and animation to video and music. This course is an opportunity to learn new processes and deepen existing skills. Students present and discuss a number of projects that either respond to ideas that arise in class or that develop ideas already in circulation in an individual's art practice. Students hone organizational skills in order to keep up with a thorough and progressive production schedule. [This course is considered an Honors course; see page 49 for more information.] Prerequisite: Digital Imaging 1B or Video Production 1B.

Design 1A

Every human-made object we interact with on a daily basis – from phones to cars to furniture to buildings – has been intentionally designed by a person or a team. What are the steps and considerations that comprise good design? How can a thoughtful and intentional design process shape and improve the experience for people who use that product or that place? This course introduces students to the world of graphic design, product design, and environment design. Using Design Thinking as a methodology, students will design and produce a series of projects that will challenge them to solve specific goals, to design deliverables that are functional, aesthetically pleasing, while elevating the experience of the user, audience, or consumer. Students will learn technical drawing skills, 3D rendering, basic construction and fabrication of product models, prototyping tools, graphic design software, and much more.

***Note: The second course in this sequence, Design 1B, will be offered in 2019-2020.**

Digital Imaging 1A

Through a series of demonstrations and projects, students learn how to operate a digital camera, manipulate images using a variety of techniques and processes, and organize and display their images using a web-based platform. An introduction to composition using the elements and principles of design helps students create images that are harmonious and unified. Assignments incorporate a variety of approaches and themes including composite imaging, photo restoration, and time-lapse video production. No prerequisite.

Digital Imaging 1B

Students continue their study of digital photography, learning how the mechanics of a digital SLR camera can creatively inform their work. Projects incorporate a series of approaches and themes, such as photojournalism, the essence of motion, portraiture, historic revisitation, and digital darkroom processing. The course themes present students with a wide range of subject possibilities to draw from in their projects and portfolios, culminating with an in-depth, independent study of one's own choosing. Prerequisite: Digital Imaging 1A.

Drama 1A

This course introduces the forms and elements of drama and addresses key questions: How has drama been a cultural expression in history? How can one communicate authentically through drama? Students discover the functions of drama and theater throughout history and cultures, focusing on early civilizations (Mayan, Aztec, Hindu, Buddhist, Greek, and Roman) as well as the European Middle Ages. Students explore movement theories (LaBan, Alexander, Grotowski, and Suzuki) and vocal training, incorporating these into daily practice. Students study and utilize improvisation as both an outlet for creative energies and a forum for experimentation in character and scene development. Performances include (at least) one speech or poem and two scenes (one original); informal class work is used to hone performance and presentation techniques. Students develop the skills necessary to critique and evaluate the success of performances by classmates, professionals, and themselves. No prerequisite.

Drama 1B

This course deepens students' knowledge of dramatic forms through further study of theatrical history and elements. The emphasis on authenticity in performance is stronger than in Drama 1A; students begin developing technical theater skills. Students discover the functions of drama and theater throughout history and cultures, focusing on the Renaissance, Commedia Dell'Arte, 19th century Romanticism and Realism and 20th century movements. Students explore movement theories (LaBan, Alexander, Grotowski and Suzuki) and vocal training, incorporating these into daily practice and leading each other in warm-ups, movement, and vocal practice. Students deepen and broaden improvisation skills; long-form improvisation is introduced. Students interpret and research dramatic texts, formally presenting their findings. Performances include at least two monologues (one original) and two scenes. Students also direct one another in one scene. Students develop the skills necessary to critique and evaluate the success of performances by classmates, professionals, and themselves, both formally and informally. Prerequisite: Drama 1A.

Drawing 1A

In Drawing 1A, students hone their observational skills and learn about methods of expression, including abstract, realistic, and emotional. Through looking at how other artists have captured the world around them, and by exploring the many ways drawing materials can express form, emotion, space, and time, students develop their own approaches to depicting images on two-dimensional surfaces. Projects include a self-portrait silhouette, detailed study of natural objects, work with light and shadow in capturing a still life, a "Secret Spaces Project" (composing landscape studies inspired by the landscape of the Presidio), and a self-portrait printmaking project. Students develop compositional understanding by applying the elements and principles of design to their sketches and drawings. Experimentation, critique, reflection, and a consistent practice are essential qualities of the artistic process; students build upon each project, uncovering their own personal aesthetic. Students use charcoal, china marker, ink pens, graphite pencil, colored pencils, Sumi ink, and pastel on a variety of different papers. No prerequisite.

Drawing 1B

Students further explore drawing techniques, observational skills, and personal style development. Mediums used vary from pencil to pen and ink, to charcoal, pastels, and paints. In this class, students are challenged to create large-scale works, supported when pushing outside their comfort zone and asked to make individual choices about mediums and surfaces used to complete the classroom assignments. Portraiture, still-lives, and landscapes are among the many subjects explored. After each project, students engage in reflections and critiques to gain feedback and support. Students are encouraged to expand on their individual style and creative problem-solving skills. The class explores historical and contemporary artists to further enhance students' knowledge and variety of approach in creating works of art. Throughout the course, students also capture ideas and images in their sketchbooks with a range of materials. At the end of the term each student participates in Portfolio Conversations. These 20-minute

conversations are like a portfolio review: each student invites another teacher to the studio to look at the work created during the term. Prerequisite: Drawing 1A.

Electronic Music Studio 1A

Electronic Music Studio 1A is an introductory course involving audio engineering and music production with digital audio workstation software, such as Reason and Logic, and a MIDI keyboard. The first major project for the course is a music autobiography, in which students practice and demonstrate proficiency in recording, editing, and mixing. Through the second project, students produce and mix one full song. Throughout the engineering and production process, students also learn about the fundamentals of sound and the history/structure of various types of electronic music. Finally, specifically in the production process, students learn about song arrangement, crafting a compelling rhythm section and memorable melody, chord progressions, and how to use effects to add texture to their songs. Upon completion of the course, the students' work is aired via our SoundCloud page. No prerequisite.

Electronic Music Studio 1B

Electronic Music Studio 1B involves the continuation of music production, recording, mixing, and editing with the Reason and Logic software tools. Students produce two full-length songs in the course. In addition to continuing to hone their production and mixing skills, students learn how to master songs, as well as optimize their studio and listening room setups. Upon completion of the course, the students' songs are released on two EMS Bandcamp albums. Prerequisite: Electronic Music Studio 1A.

Hip-Hop Culture, Politics & Production*

In order to be culturally literate, one must understand our society's musical forms of expression and how they help to tell the American story. Though Hip-Hop is now a popular form of American music, it had its roots as a cultural form of expression designed to provide a sense of agency and existential freedom for marginalized people of color in the Bronx, in New York City. Given the current popularity of the music and a resurgence of Hip-Hop activism, students in this course examine how the music became an integral part of American identity by examining Hip-Hop through the historical and cultural lenses they have developed in previous Humanities courses. Students also learn how to affect change through the four elements of the culture (i.e., emceeing, dj-ing/music production, graffiti, and B-Girling/B-Boying). Throughout the term, students thus not only learn about the history and evolution of Hip-Hop music from its inception to the modern day, but also have multiple opportunities to explore the culture through rapping, dj-ing, and dance, as well as through the creation of graffiti and music. This course may be applied toward receiving credit **either** in the Arts department **or** the Social Studies department, but not both. Prerequisite: Humanities 2.

Jazz 1A

Students are exposed to basic jazz repertoire, learning to play some of the standard tunes used at jazz sessions throughout the world. Students listen to great recordings and analyze them with classmates. The course covers a selection of the harmonic and melodic devices used in all of

Western music, as well as the vocabulary that musicians use to communicate with one another. Additionally, students participate in a field trip to a jazz club. This is an ensemble class; participation in a final performance is required. No prerequisite; no prior experience is necessary to take this class.

Jazz 1B

This course is a thorough grounding in introductory jazz concepts. Students learn at least five standard tunes and explore the beginnings of bebop phrasing. Students become familiar with a wide range of recordings and styles. Each Jazz 1B student receives two private lessons during class time with an instructor specializing in the student's instrument. Course requirements include students' exploration of the San Francisco jazz scene. Jazz 1B is an ensemble class; participation in a final performance is required. Prerequisite: Jazz 1A.

Jazz 2

This is a performing ensemble class for students who are familiar with the basics of jazz improvisation and have completed the Jazz 1A/1B sequence. Students increase their repertoire of standards, hone their rhythmic and harmonic vocabulary, improve their performance skills, and develop their knowledge of jazz history. Students also hear live music at a jazz club at least once in the term. Participants in this course are expected to master a new tune and teach it to the ensemble during the course of the term. [This course is considered an Honors course; see page 49 for more information.] Prerequisite: Jazz 1B or instructor permission. ***Note: Students may retake this course for credit with the permission of the Dean of Curriculum.**

Painting 1A

Through examination of how other artists have worked with the materiality of paint, students in Painting 1A develop their own approaches to mixing colors, applying layers, and developing compositions using acrylic paint. After gaining confidence with working from a still-life in capturing form, light and shadow on paper, students move into identity projects, working on canvas and wood panel, investigating who they are and how they want to portray themselves. Color theory is reviewed and emphasized in this course. The sketchbook practice is a large part of this class; readings and painting projects will be assigned for homework. Students explore Sumi ink, charcoal, graphite pencil, watercolor, gouache, and acrylic paint as their primary mediums. At the end of the term, students are introduced to relief printmaking, as this technique bridges drawing and painting. No prerequisite.

Painting 1B

In this course, students expand and extend their skills as painters and artists. Using their knowledge of color theory, composition, and their desire to work independently, students in Painting 1B create works that hone in on their personal style. Working with gouache, watercolor, ink, acrylic paint, and oils, students develop a portfolio that exhibits skills in observation, perspective and visual interpretation. Students construct and stretch canvas for acrylic and oil painting, and learn how to prep and prime paper and wood panel. Students in this course are encouraged to work experimentally, moving in between realism and abstraction. The class looks

at a range of historical and contemporary artists to examine individual development, style, technique, and problem-solving approaches. Throughout the class, students reflect on their work. Students also explore printmaking techniques such as reduction linoleum cuts, wood cuts, and stencils. Prerequisite: Painting 1A.

Sculpture

Students in this elective course are encouraged to think independently about the transformative qualities of materials such as found objects, natural forms, tape, wire, wood, foam core, and plaster of Paris. This course provides students with the opportunity to create their own designs, working in both subtractive and additive manners, continuing to incorporate basic aesthetic concepts such as texture, line composition, balance, mass, tension, and movement. Considering space and presentation, students also explore how best to exhibit their work to create a forum for discussion. Local visiting artists join some of the class sessions, bringing feedback for the students. Weekly homework includes making small sculptures at home, as well as reading, writing and sketchbook assignments. ***Note: this course completes the Sculpture 1A/1B sequence for students in the classes of 2019, 2020, and 2021 who have already completed Sculpture 1A. The course counts as a general arts elective for all other students, but does not fulfill the 1a/1b arts requirement for those students.**

The Creative Process

Where do ideas come from? How can making and looking at art set a foundation for our growth and development as people? How can my contributions to Bay and beyond be meaningful? What kind of impact do I want to make in my community? In the interest of instilling skills which will serve students during their time at Bay and beyond, this 9th-grade core course focuses on building creative and artful thinking, then putting it into action. Through projects which focus on design, experimentation, and collaboration, students examine how the creative process works in both collective and individual enterprises.

Video Production 1A

What tools are used by filmmakers to create memorable and meaningful stories? How does one go about planning to make a short movie? This course for the beginning video-maker is an introduction to the basics of camera movement, image composition, and storytelling using digital media. Students learn the skills necessary to accomplish basic pre-production, production, and post-production processes. This is a chance to gain access to state-of-the-art software and hardware to create original work in a powerful visual language. No prerequisite.

Video Production 1B

What tools of persuasion do advertisers use when creating short commercials? How can the medium of video be used to help others? This course for the intermediate video-maker is an in-depth opportunity to apply all phases of the video production process. Students build on skills in pre-production, production and post-production processes introduced in Video Production 1A, this time with a focus on group projects. Students gain experience by taking on a variety of responsibilities including director, camera operator, lighting, sound and production assistant.

Advanced editing skills are introduced using Adobe After Effects, along with the rest of the Adobe Creative Suite. Prerequisite: Video Production 1A.

Subject Area: Computer Science and Engineering

Computer Science and Engineering courses will be listed as Science courses for transcript purposes. All courses in this section are one term in duration.

Advanced Mechanism Design

Are you curious about how things work? Mechanical engineers use their knowledge of how things move to accomplish a variety of tasks; in this course, students explore multiple projects in order to deepen their understanding of how mechanisms work and how to design them. Drawing on a Design Thinking methodology, students design and build assigned and student-devised projects using basic drawing and schematic creation, fabrication in Bay's machine shop, and CAD software. In this course, student creativity is harnessed to solve complex and interesting problems. Prerequisite: Engineering Design 1.

Advanced Product Design

How are consumer products designed? What process goes into creating the next "hot" product? This is a project-based course which focuses on the design and development of new products for consumer use. Undertaking a series of projects, students work on identification of customer needs, concept generation, product architecture, industrial design, and design-for-manufacturing. Using a variety of media, students use the resources of our fabrication lab to construct prototypes, utilizing Design Thinking methodology as well as manual drawing, CAD software, and 3D modeling methods. Prerequisite: Engineering Design 1.

Computer Science 1

This course introduces students to programming and computer science using the Python 3 programming language. Topics include: algorithms, functions, iteration, conditional statements, and collection data types such as strings and lists. Students will learn to debug programs, work with data files, and write code that is both elegant and efficient. This course uses both online and instructor-developed resources. Only open to 10th-, 11th- and 12th-graders who have little or no prior programming experience. No prerequisite.

Computer Science 2

This course deepens and extends student understanding of the structure and interpretation of computer programs, focusing on functional and data abstraction, recursion, and object-oriented programming as techniques for managing the complexity of large programs. This course utilizes online resources intended for undergraduate computer science and electrical engineering majors, and includes a number of small-to-midsized projects. Prerequisite: Computer Science 1 or instructor permission.

Engineering Design 1

This course empowers students in one of the most human endeavors: making something to add beauty to this world. This course is an introduction to the various methods and skills involved in design and engineering, from methodology, basic modeling and drawing skills, to material-shaping in metal, plastic, and wood using both machine and hand tools. This is a project-based class in which students learn the skills needed to transform the raw materials of wood, metal, and plastic into sculpture, architecture, machinery, and gizmos. Students undertake a series of projects during the course, increasing the complexity of their design and building methods along the way. Open to 10th-, 11th- and 12th-graders only. No prerequisite.

Robotics

Robotics is, in essence, a synthesis of mechanical design and computer science. We will work with Vex Robotics systems for the majority of the mechanical components (motors, servos, sensors, structures, etc.) and learn to control the mechanisms by building electronic circuits powered and programmed by Arduino microcontrollers. Students learn a design methodology for creating and evaluating their ideas to create working machines to accomplish mechanical tasks. Students also learn how to integrate the various aspects of robotics design, understand the importance of prototyping, and refine their ideas into strong, reliable solutions. This is a very hands-on class, where students are required to build all of their ideas and prove their machine's worthiness through in-class challenges and competitions. If you are interested in technology, programming and mechanical design, this is a perfect place to learn! Open to 10th-, 11th- and 12th-graders only. No prerequisite.

Subject Area: Humanities

American Studies A/B

A year-long (two-semester) required 11th-grade course, American Studies takes a multidisciplinary approach toward our country's history, culture, and ideals. Students explore a wide variety of primary and secondary sources (including literature, art, music, and historical documents) which communicate the American experience. Through this work, students develop a layered understanding of the interplay among the cultural, political, and socio-economic forces that have shaped our country. The course has two central lines of inquiry: what is an American, and what is America? To that end, students focus on changing notions of membership and expansions of the United States' physical and figurative borders. By the end of the course, students are able to offer nuanced arguments about the emergence and evolution of American values through events like the Civil War or cultural movements like Transcendentalism. Students develop their abilities to synthesize and draw upon an array of sources; delve into specific moments of this nation's history through independent research and presentation of their findings; and speak thoughtfully about how the evolution of the United States has shaped their upbringing and worldviews.

Humanities 1A/1B

Bay's Humanities 1 and 2 sequence, 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 sequence examines the role of systems in social, literary, historical, political, and cultural contexts, asking essential questions aimed at understanding our core experiences as human beings: How does the society around us shape individual identity? What is the role of family in shaping individual and collective identities? What is culture? In what ways do family systems uphold, go against, and perpetuate cultural norms and values? What stressors are placed on family systems and what is the overall impact? In Humanities 1, students examine the variables of nature and nurture as they relate to the development of individuals and families and the manner in which they shape both people's worldviews and cultures' belief systems. Through learning about the geography, history, literature, politics, religion, and cultural norms of a range of regions, students will also come to understand and broaden their own views.

Humanities 2A/2B

Humanities 2 continues students' exploration of the religious, cultural, and philosophical values that have shaped the world's civilizations as depicted in art, literature, philosophy, and historical documents. Students begin with an in-depth study of the three Abrahamic religions: after identifying founding values from primary religious texts and their historical contexts, students study later historical moments, tracing the impact of those founding values. With this grounding in Abrahamic religious, cultural, and philosophical values, students read the ancient epic *The Ramayana*, gaining an understanding of Hindu values through an analytic response to the text. Grounded in an understanding of the values of these world religions, students begin their first "case study" into how these values inform our world's systems, and how those systems coexist and collide. Case studies may include a primary source investigation into British imperialism in India and the resulting Partition of India. In the spring, students focus on the effects of 20th century world events through the lens of personal narratives. After studying the Holocaust and the Iranian Revolution through personal narratives, students embark on an independent research project centered around a 20th century event of their choosing.

Research in the Community

Research in the Community is a required one-semester course for all 10th-graders. The course builds a foundation of research skills while allowing each student to choose and explore an issue that is both interesting to them as well as significant to their own community. Students define a meaningful question and use text-based and field research techniques to gather information as they seek to develop an answer, which they ultimately present to the community.

Subject Area: Literature

All of the courses in this section are open to 11th- and 12th-graders only and are one term in duration.

Advanced Composition

This course focuses on the genres of memoir, close reading, and short story. During the term, students read samples of these genres and, applying what they have learned, compose works of their own. Students also learn how to employ grammar as style so they are able to hone their writing voices in different genres. By the end of the term, students have composed three to four major pieces of writing. Possible authors may include James McBride, Anne Lamott, Annie Dillard, Rebecca Skloot, David Sedaris, Jonathan Safran Foer, Alice Walker, and Joyce Carol Oates.

Advanced Seminar: Essay and Memoir

This course examines the nonfiction genres of memoir and personal essay, which, while attending to factual accuracy, focus on personal experience and individual ideas. Students read numerous short essays along with a book-length memoir, critically analyze the various approaches authors take when working within these genres and distinguish how writers create artistic/literary works distinct from journalism, biography, and fictional storytelling. In addition to reading, listening to, and writing about important literary nonfiction works, students compose their own memoirs and essays, one of which they turn into a video essay or audio segment in the style of podcasts such as *This American Life* and *The Moth*. [This course is considered an Honors course; see page 49 for more information.]

Advanced Seminar: Fiction

In this course, students answer two questions: What are the enduring themes of fiction? How have authors created and adapted fictional forms to suit their themes? While the course focuses on the novel, students also investigate shorter forms like the short story and flash fiction. As they arrive at their own answers to the guiding questions, students develop the skills necessary for college-level literature and writing courses. These include: conducting independent research on a work's cultural/historical context; building a thesis about a piece through close reading; and responding to the interpretations of popular and professional literary critics. The course's honors designation reflects its increased reading load (up to 40 pages a night) and the difficulty of its culminating projects: a short story that responds to an individually-assigned mentor text, and a longer work of literary analysis. Likely readings include novels by F. Scott Fitzgerald and Toni Morrison, and short stories by Herman Melville, James Joyce, Flannery O'Connor, and Sandra Cisneros. [This course is considered an Honors course; see page 49 for more information.]

African American Literature

This course will examine the significance of the African American literary tradition in shaping the identities and the histories of African Americans in the United States. Beginning with slave narratives of the 19th century through the Black Lives Matter movement of the 21st century. Students will read and analyze poetry, essays, stories, novels, and media connected to the historical, political, social, and artistic forces that shape African American authors' works—and their contributions/responses to what it means to live in the U.S. This course will answer the following questions: What role has writing by African Americans played in the long fight for political freedom and equality? How has that writing changed over time to reflect the different political needs of its historical moment? How has that writing been shaped by different ways of thinking about race, gender, class, sexuality, politics, and power? How has the dominant culture had an impact on African American writing, and how African Americans see themselves in relationship to larger systemic forces? By the end of the course, students will be able to address these questions while also raising new questions related to topics that arise. Possible authors include Phyllis Wheatley, Paul Laurence Dunbar, Nella Larsen, Geraldine Brooks, Charles Chesnutt, Richard Wright, James Baldwin, Alice Walker, Maya Angelou, Ralph Ellison, Toni Morrison, Claudia Rankine, and Ta-Nehisi Coates. ***Note: this course carries the “American Studies - Literature” designation. Beginning with the class of 2020, students must complete 4 literature electives, including at least one with the American Studies - Literature designation.**

Existentialism

This course studies existentialist philosophy via multiple disciplines, including literature, religion, and film. Students grapple with basic existential themes such as the meaning of human existence, freedom and responsibility, the individual versus society, and the role of suffering. Students are asked to consider questions of freedom and authenticity, and to what extent they have the power to make a mark on the world through their actions and choices. Potential thinkers/authors include James Baldwin, Ralph Ellison, Soren Kierkegaard, Nietzsche, Albert Camus, Jean Paul Sartre, and Simone de Beauvoir. [This course is considered an Honors course; see page 49 for more information.] This course may be applied toward fulfilling **either** the Literature **or** the Religion/Philosophy graduation requirement, but not both.

Futures Past and Present

“In the year 2001... photographs will be telegraphed from any distance. If there be a battle in China... snapshots... will be published in the newspapers an hour later... Grand opera will be telephoned to private homes... Automobiles will have been substituted for every horse vehicle now known such as automobile police patrols and automobile street sweepers.... Giant guns will shoot 25 miles!.... Air-ships, hiding in dense, smoky mists, will float over cities as deadly war vessels.... Strawberries will be as large as apples.” Such were the predictions of the most learned minds of 1901. How do these predictions compare to the real 21st century? What do such predictions tell us about the people of the past? What can they tell us about our own visions of the future? This course will examine these questions as we survey the literature of

prediction, investigate current social, technological, economic, environmental, and political trends, and venture to make our own predictions for the year 2052 and beyond.

Gender in Literature

In this course, students explore questions of gender and its evolving boundaries through the evolving boundaries of different literary genres. Students extrapolate understandings of pre-twentieth century gender identities from literature before encountering twentieth- and twenty-first century theories of gender construction and performance. Students then apply those theoretical lenses to modern and contemporary literature -- including a novel, novella, short stories, a memoir, poems, and film/television -- and critically consider how gender is represented, produced, and reproduced in different literary genres. Alongside nightly reading, students engage in daily small-and large-format discussions, write both critically and creatively, conduct small-scale research, teach to their peers, and represent their ideas and reactions in multiple modalities. Likely authors include Kate Chopin, Nella Larsen, James Baldwin, Ernest Hemingway, Toni Morrison, Zora Neale Hurston, Margaret Atwood, Ursula LeGuin, Alison Bechdel, and Jeffrey Eugenides. ***Note: this course carries the "American Studies - Literature" designation. Beginning with the class of 2020, students must complete 4 literature electives, including at least one with the American Studies - Literature designation.**

Human Nature

Are we Cain's children? We frequently look upon the modern world and characterize it in naturalistic and secular terms. But at the extremities of human behavior and human suffering, whether individual or social, we find ourselves calling people, groups, and situations evil. What do we mean by this? Are we naturally evil or good? What does our appeal to evil say about our sense of humanity? What role did evolution have in shaping human nature? What roles do culture and the environment play? This course takes up these questions through a variety of lenses: religious, philosophical, literary, and ethical. Core texts and authors may include Christian scripture, Freud, Jane Goodall, Hannah Arendt, William Golding's *Lord of the Flies*, Joseph Conrad's *Heart of Darkness*, Aravind Adiga's *The White Tiger*, and *The Diary of Anne Frank*. The last portion of the course turns from ideas to situations, examining contemporary cases such as the Rwandan Genocide, Columbine Massacre, and English football hooliganism to question our contemporary thinking about evil, suffering, and the nature of human beings. This course may be applied toward fulfilling **either** the Literature **or** the Religion/Philosophy graduation requirement, but not both.

The American Dream

In this course, students explore the nature of "The American Dream" as it has been depicted in American literature, as well as how our understanding of it has been based on/has been shaped by economic theories. We examine related myths and central questions, including the following: How does greed impact the American Dream? Which groups have been systematically left out of the American Dream, by whom, and why? What separates "old money" from "new money," and what other subtle class differences are conveyed in 20th century American literature? Students

read a variety of literary works, including *The Great Gatsby* by F. Scott Fitzgerald, *A Raisin in the Sun* by Lorraine Hansberry, *The American Dream* by Edward Albee, and several short stories. They also delve into secondary sources to deepen their understanding of the economic theoretical implications of The American Dream throughout the 20th century and today. Along with large and small group discussions, students engage in dramatic activities, and write analytical as well as creative pieces to show their understanding of this complex, problematic, always relevant topic. ***Note: this course carries the “American Studies - Literature” designation. Beginning with the class of 2020, students must complete 4 literature electives, including at least one with the American Studies - Literature designation.**

Subject Area: Math

Advanced Topics in Calculus

Designed for students who have already completed Calculus A and B, this one-term course extends the study of single-variable calculus. The course will draw from topics which may include, but are not limited to: parametric and polar coordinates, parametric equations and vector-defined functions, polynomial approximations and series, simple differential equations, advanced techniques for integration, and advanced applications of differentiation and integration. The course involves significant independent-study components; students interested in the course should be independent, self-motivated learners. Projects applying all levels of mathematics to solve simulated problems are a key element of this course. [This course is considered an Honors course; see page 49 for more information.] Prerequisite: Calculus.

Analysis of Functions A/B

Analysis of Functions is a two-semester course in which students make the transition from the conceptually-oriented approach of previous mathematics courses to the more rigorous deductive approach often seen in higher-level mathematics and science courses. Students who think they may have any desire to study a math- or science-related field in college should take this course, as it prepares students for the study of calculus and other advanced mathematical studies. Topics covered include function transformations, the theory of inverse functions, logarithms, polynomial and rational functions, analytic trigonometry, advanced algebraic manipulations, and analytic geometry. Prerequisite: Math 3.

Applied Probability

The ability to think probabilistically is a fundamental component in the sciences and social sciences. This one-semester course introduces students to the relevant models, skills, and tools, by combining mathematics with conceptual understanding and intuition. Students focus on modeling, quantification, and the analysis of uncertainty. Actual applications are the emphasis of this course; little emphasis will be placed on proofs. Applications from many

disciplines, such as economics, sociology, psychology, political science, and the hard sciences, form a fundamental part of this course. In studying topics that range from simple games of chance to more advanced game theory models, as well as behavioral economics, students attempt to make sense of the randomness in their world. Prerequisite: Math 3.

Calculus A/B

This is a two-semester course in single-variable differential and integral calculus with an emphasis on applications to the physical, life, and social sciences. Major concepts are developed through the investigation of practical, real-world scenarios. Topics covered include applications of the derivative as a rate of change and a slope, symbolic formulas for computing derivatives, applications of the definite integral as an accumulation function and an area, creation of mathematical models using Riemann sums, symbolic techniques of anti-differentiation, and the creation of mathematical models using differential equations. Time-permitting, students may also study Taylor series and their applications. [This course is considered an Honors course; see page 49 for more information.] Prerequisite: Analysis of Functions.

Math 1A/1B

This two-semester course is the first in a three-year sequence of integrated courses (Math 1, Math 2 and Math 3) that form the core math curriculum at The Bay School. Math 1 introduces students to problem-solving approaches built on mathematical “habits of mind”. Students explore tabular, graphical, pictorial, verbal, and algebraic approaches to problem solving. The course uses these tools, as well as new technologies, in dealing with linear models and scenarios, exponents and functions, statistics, and geometry. Math 1 also deals extensively with building students’ fluency in basic algebraic manipulations and techniques. No prerequisite.

Math 2A/2B

This two-semester course is the second in a three-year sequence of integrated courses (Math 1, Math 2 and Math 3) that form the core math curriculum at The Bay School. In Math 2, students extend their study of algebra and geometry. The course focuses on the study and classification of exponential and power models, including introductory work with quadratic equations. Students identify different models based on the patterns and structures in various representations and then use these different representations to analyze scenarios and make predictions based on extrapolation. Further topics include the study of two-dimensional shapes and their transformations from a coordinate geometry perspective, polar coordinates, and an introduction to trigonometry, as well as a unit on descriptive statistics and statistical reasoning. Prerequisite: Math 1 or placement test.

Math 3A/3B

This two-semester course is the third in a three-year sequence of integrated courses (Math 1, Math 2 and Math 3) that form the core math curriculum at The Bay School. Math 3 covers a

variety of topics drawn from advanced algebra, plane geometry, trigonometry, and statistics, including but not limited to: right triangle trigonometry, quadratic and trigonometric functions, Euclidean geometric principles and proofs, linear regression, and advanced algebraic manipulation of expressions, equations, and systems. The course's major throughlines include formal deductive proof and the use of functions to explore, model, and analyze real-world phenomena. Prerequisite: Math 2 or placement test.

Statistics

This one-term course has two guiding questions. First, "How can one collect meaningful data about a population without examining every single member of the population?" Secondly, "How can one analyze this data quantitatively to reach statistically valid conclusions about a population?" Students learn topics through case studies that illustrate how statistical concepts are applied in the life sciences, social sciences, and physical sciences by exploring in a workshop model in pairs and/or groups. Students also spend a significant amount of time using statistical software, graphing calculators, and software applets. Independent labs and group projects applying newly acquired knowledge are also a key element of this course. Prerequisite: Math 3.

Subject Area: Religion & Philosophy

All of the courses in this section are open to 11th- and 12th-graders only and are one semester in duration.

Bioethics

Bioethics examines what it means to live consciously and ethically, specifically in light of rapid developments in the realm of science and technology. Students learn to critically reflect on their own belief systems and assumptions in light of the ethical frameworks and case studies we explore. This course makes ethics accessible and applicable to emerging challenges in the scientific community. Students learn how to articulate and apply major ethical frameworks in relation to emerging possibilities in scientific research, such as artificial intelligence, genetic engineering, biological enhancement, or nanotechnology. For their culminating project, students conduct an in-depth exploration of a topic of their interest and create a workshop designed to engage participants on the ethical questions therein. This course may be applied toward fulfilling **either** the Religion/Philosophy **or** the Science graduation requirement, but not both. Prerequisites: Conceptual Physics 1, Chemistry 1, Biology 1a, and Humanities 2.

Comparative Religion

Comparative Religion examines how several faith traditions – Judaism, Hinduism, Buddhism, Christianity, and Islam – answer key existential questions and offer prescriptions for living a meaningful life. In addition to looking at key scripture from each tradition, students also read and hear personal reflections from those who are adherents of each faith. As a means of

introducing students to each religion's core beliefs and common practices/rituals, the course also exposes students to the artistic traditions – visual, decorative, theater and/or music – that have developed to celebrate the faith and join community. [This course is considered an Honors course; see page 49 for more information.]

Existentialism

This course studies existentialist philosophy via multiple disciplines, including literature, religion, and film. Students grapple with basic existential themes such as the meaning of human existence, freedom and responsibility, the individual versus society, and the role of suffering. Students are asked to consider questions of freedom and authenticity, and to what extent they have the power to make a mark on the world through their actions and choices. Potential thinkers/authors include James Baldwin, Ralph Ellison, Soren Kierkegaard, Nietzsche, Albert Camus, Jean Paul Sartre, and Simone de Beauvoir. [This course is considered an Honors course; see page 49 for more information.] This course may be applied toward fulfilling **either** the Literature **or** the Religion/Philosophy graduation requirement, but not both.

Human Nature

Are we Cain's children? We frequently look upon the modern world and characterize it in naturalistic and secular terms. But at the extremities of human behavior and human suffering, whether individual or social, we find ourselves calling people, groups, and situations evil. What do we mean by this? Are we naturally evil or good? What does our appeal to evil say about our sense of humanity? What role did evolution have in shaping human nature? What roles do culture and the environment play? This course takes up these questions through a variety of lenses: religious, philosophical, literary, and ethical. Core texts and authors may include Christian scripture, Freud, Jane Goodall, Hannah Arendt, William Golding's *Lord of the Flies*, Joseph Conrad's *Heart of Darkness*, Aravind Adiga's *The White Tiger*, and *The Diary of Anne Frank*. The last portion of the course turns from ideas to situations, examining contemporary cases such as the Rwandan Genocide, Columbine Massacre, and English football hooliganism to question our contemporary thinking about evil, suffering, and the nature of human beings. This course may be applied toward fulfilling **either** the Literature **or** the Religion/Philosophy graduation requirement, but not both.

Islam

Islam, both a faith and a geopolitical force, is the religion of over 20% of the world's population. In this course, students work toward developing themselves as informed global citizens by examining the religious, historical, social, and geopolitical aspects of Islam. Beginning with a look at "the time of ignorance" (jahaliya), the era before Muhammad's revelations, the class first focuses on Muhammad—the "Perfect Man"—as prophet. Next, students study excerpts from the sacred texts of Islam, al-Quran and al-Hadith, to learn the key concepts and lessons of the faith. As part of the examination of al-Quran and al-Hadith, the course also places Islam's major tenets within a monotheistic context, seeking to understand Islam's relationship to Judaism and Christianity. The course then turns its attention to Muhammad as lawgiver and statesman

to explore the beginnings of the Islamic state. By investigating how scripture is understood and transformed into cultural, social and legal (shari'a) norms in different parts of the Islamic world, students come to understand the growth and diversity of the Islamic world. Finally, students look at the modern Islamic state and consider the impact of Islamic theocracies and extra-national groups such as al-Qaeda on our world today. This course may be applied toward fulfilling **either** the Religion/Philosophy **or** the Social Studies graduation requirement, but not both.

Subject Area: Science

Astronomy and Cosmology

In this one-semester course, students journey back in time to the age of quasars and to edge of the universe, learning how galaxies and the cosmos formed. Students have the opportunity to integrate their studies in physics, chemistry, and biology to study the instant of creation and the development of life on Earth. Students learn how to run a telescope and an observatory through the required overnight observing field trip to Tuolumne Skies Observatory as well as through optional evening events at Bay. Prerequisites: Conceptual Physics 1, Chemistry 1 and Biology 1.

Bioethics

Bioethics examines what it means to live consciously and ethically, specifically in light of rapid developments in the realm of science and technology. Students learn to critically reflect on their own belief systems and assumptions in light of the ethical frameworks and case studies we explore. This course makes ethics accessible and applicable to emerging challenges in the scientific community. Students learn how to articulate and apply major ethical frameworks in relation to emerging possibilities in scientific research, such as artificial intelligence, genetic engineering, biological enhancement, or nanotechnology. For their culminating project, students conduct an in-depth exploration of a topic of their interest and create a workshop designed to engage participants on the ethical questions therein. This course may be applied toward fulfilling **either** the Religion/Philosophy **or** the Science graduation requirement, but not both. Prerequisites: Conceptual Physics 1, Chemistry 1, Biology 1a, and Humanities 2.

Biology 1A/1B

This two-semester course completes the core science requirements for graduation, and builds on the scientific foundations of conceptual physics and chemistry. Students apply the concepts and skills learned in their previous science courses to living systems, with particular emphasis on three major questions: What cellular or molecular mechanisms underlie the biological phenomena we observe? What experimental or observational evidence supports our current models of how living systems behave? How do we create connections between formal scientific understanding and our own communities and daily choices? This course employs a variety of investigative techniques including open-ended laboratory experiments, critical

reading of texts, manipulation of data, individual and group research projects, and debates and discussions to help students build a solid understanding of the core concepts of biology. Major topics include biochemistry, molecular biology, cells, genetics, animal anatomy and physiology, ecology, and evolution. Prerequisites: Conceptual Physics 1 and Chemistry 1. ***Note: As a result of the schedule/curriculum change, we will not need to offer Biology 1 in 2018-2019. It will be offered again for all juniors in 2019-2020.**

Biology 2A/2B

Biology 2 is a two-semester advanced-level laboratory course for students who have an interest in pursuing biology at the college level. The course captures most (but not all) of the breadth of a typical college-level 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 their suitability in providing appropriate review and extension of topics and lab skills taught in Biology 1, the anticipated needs and interests of 11th- and 12th-graders focused on science majors and science careers, and the opportunities to create explicit links to social and ethical issues. The core units of Biology 2 are biochemistry, metabolism, and cellular biology; molecular genetics and biotechnology; physiological adaptations of plants and animals; and evolution and behavior. [This course is considered an Honors course; see page 49 for more information.] Prerequisites: Conceptual Physics 1, Chemistry 1, and Biology 1.

Chemistry 1A/1B

In this two-semester course, students learn about the physical properties of matter, energy and the states of matter, describing substances and counting particles, particles and energy in chemical reactions, models of the atom and periodicity, heating and temperature from a particle view, chemical equilibria, acids and bases, and the role of entropy in determining the direction of chemical change. Throughout the course, students engage in lab activities and class discussions, and use digital tools including simulation software, probeware, and online chemistry texts. In addition, the course provides students with opportunities to consider the societal impacts of chemistry, both historically and in the context of current events. Prerequisite: Conceptual Physics 1.

Chemistry 2A/2B

This two-semester second-year chemistry course advances students' understanding of the concepts covered in Chemistry 1 and introduces key new principles and sophistication. Major topic areas in this course include the structure and interactions of matter, stoichiometry, states of matter, chemical equilibrium, acids and bases, reduction-oxidation ("redox") chemistry, kinetics and thermodynamics, gas laws, and electrochemistry. Coursework focuses upon the laboratory – experiments serve both as an introduction to new ideas as well as a tool to model real-world situations. [This course is considered an Honors course; see page 49 for more information.] Prerequisites: Conceptual Physics 1, Chemistry 1, and Biology 1.

Climate Change

In addition to focusing on a crucial, interdisciplinary topic, this one term course is team-taught by two teachers, one with expertise in science and another in social studies. The course is project-based, where students build skills and content knowledge in large part through authentic, flexible, student-directed projects. The course gives students an integrated overview of the science of climate change and the implications of this change for patterns of daily life in their own circumstance and around the world. This course has four principal objectives:

- Introduce students to the science of climate change, drawing attention to the pattern of scientific data that has emerged in recent years
- Focus on the social changes and adaptations that human communities have made and those they will likely have to make as the Earth's climate continues to change
- Highlight the diplomatic efforts that have launched since the creation of the Framework Convention on Climate Change (FCCC) during the first Earth Summit in 1992
- Investigate the ethical challenges raised by climate change and explore questions of justice and personal responsibility as they apply to climate change

During the latter half of the course, students conduct in-depth research on a topic of their choice, undertaking a feasibility analysis for a particular possible solution to a problem caused by a changing climate. This course may be applied toward fulfilling **either** the Science **or** the Social Studies graduation requirement, but not both. Prerequisites: Conceptual Physics 1, Chemistry 1, Biology 1, and Humanities 2.

Conceptual Physics 1A/1B

In this two-semester course, students develop the skills they will need to succeed in subsequent science courses, including reasoning clearly, reading carefully, writing precisely, designing and performing simple experiments, using electronic spreadsheets to organize, graph, and interpret experimental data, using simple algebraic relationships to solve problems, keeping track of units and precision in numerical answers, collaborating in groups, and getting help when needed. The vehicle for the development of these and other skills in the first semester is a deep inquiry into the law of conservation of energy and the study of motion at constant speed. In the second semester, the focus widens to include the study of motion when the speed is not constant, the study of forces, and quantifying energy. No prerequisite.

Environmental Science: Principles of Biodiversity

In this one-semester course students use the Presidio and surrounding region as a living laboratory to explore the interconnectedness of natural ecosystems and human society. In this class, students explore the importance of biodiversity: "What is it?", "How do we measure it?", "How does it change through time?", "Why is it important to us?", "Are we in the midst of a sixth mass extinction?" To answer these questions students investigate modern environmental problems through the lenses of both evolution and ecology. Students look to the history of life on Earth to inform themselves about current trends in species extinction rates, discuss modern

threats to biodiversity, and consider scientific approaches to maintaining biodiversity in an ever-changing world. Prerequisites: Conceptual Physics 1, Chemistry 1, and Biology 1.

Human Health and Disease

The media is full of conflicting information on risks to our health and what to do to stay healthy. Foods go from “superfood” one day to scorned the next. Infectious disease epidemics repeatedly make the news. Human Health and Disease is a one-semester course that explores facets of human health focusing on the immune system, infectious disease, cancer, and the science of nutrition. In the first unit, students undertake an in-depth examination of the immune system; that understanding is applied to exploring different responses to infectious diseases, both bacterial and viral. Next, students learn about the molecular basis for cancer, and create videos documenting the stories of cancer patients and survivors in their families or communities. Finally, the class investigates the question “What should we eat?” taking a deep dive into issues of metabolism and the obesity epidemic. Readings and course materials draw heavily on journal articles from the primary literature as an emphasis is placed on current studies and research, as well as experimental design. Prerequisites: Conceptual Physics 1, Chemistry 1, and Biology 1.

Neighborhood Dynamics

The question “Who belongs here?” has been central to defining San Francisco throughout its history, and it is especially poignant in this time of rising prosperity and increasing cost-of-living. This course investigates what makes a neighborhood, the ways in which neighborhoods change over time, and what that looks like for the people who live in them. Students look at the processes of development and gentrification that many cities grapple with and examine how they apply to a “superstar city” like San Francisco. This interdisciplinary, project-based course blends economics, local history, ethics, sociology, and cartography with field work in the city to explore the causes and effects and costs and benefits of gentrification for the dynamic neighborhoods that surround us. Through group projects, students contribute to the vitality and inclusiveness of the neighborhoods they study. This course may be applied toward fulfilling **either** the Science **or** the Social Studies graduation requirement, but not both. Prerequisites: Conceptual Physics 1, Chemistry 1, Biology 1, and Humanities 2.

Physics 2A/2B

In this two-semester course, students use the mathematical skills acquired in their pre-calculus math courses, as well as their developing familiarity with calculus, to gain a deeper understanding of the laws of conservation of energy and momentum, as well as Newton’s laws of motion. The study of motion in one and two dimensions, periodic motion, and the propagation of waves is followed by an introduction to electromagnetic radiation and special relativity. An intentional mix of analytical problem-solving, laboratory investigation, lecture/discussion, and group work is intended to prepare students for the successful study of physics at the university level. [This course is considered an Honors course; see page 49 for

more information.] Prerequisites: Conceptual Physics 1, Chemistry 1 and Biology 1; students should either be co-enrolled in Calculus or have already completed Calculus.

SF Bay: Marine Biology

What array of biological organisms live in the San Francisco Bay and how do they interact to create this unique ecosystem? Beginning with the smallest organisms, students investigate the life cycles and evolutionary connections among different phyla of marine organisms including humans. As a biology course, students will be required to acquire new vocabulary and an understanding of life and ecological processes. Lab and field work is an integral part of the course; several dissections are included in the lab portion of the course. A Marine Biology textbook is used to learn about organisms and ecological concepts, and journal articles and scientific publications supplement reading materials. Class time is driven by small group discussions of readings and hands-on experiences. Students are assessed by participation, tests, collaborative projects, presentations, and a final independent project. This course includes required off-campus field trips. Prerequisite: Conceptual Physics 1, Chemistry 1, and Biology 1.

Subject Area: Senior Signature Projects

Senior Signature Projects 1A/1B

This is a two semester course in design thinking and project planning and management. Senior Projects must satisfy three broad criteria:

- As capstones to the Bay experience, they embody the school's overall mission and philosophy.
- They provide 12th-graders opportunities to function as young professionals working in a field rather than high school students studying that field. These experiences foster and encourage growth mindsets by allowing students to make mistakes, learn from them, and grow.
- They are grounded in empathy so that they serve the needs of a constituency broader than the student in an intentional and mindful way.

Students serve as their own project managers by crafting proposals which articulate what they want to achieve and why. They draft project plans, timelines, and budgets that establish internal benchmarks and milestones. They conduct background research to ensure that their projects are innovative and add to the existing work in their chosen fields rather than replicate the work of others. They enlist the help of external mentors to provide guidance and field-based expertise throughout the two-semester process. Required culminations by the end of the course include completing their project work, delivering a formal Presentation of Learning, and participating in a public Exhibition Night event on campus. Required of all 12th-graders. No prerequisite.

Subject Area: Social Studies

All of the courses in this section are open to 11th- and 12th-graders only and are one semester in duration.

Climate Change

In addition to focusing on a crucial, interdisciplinary topic, this one term course is team-taught by two teachers, one with expertise in science and another in social studies. The course is project-based, where students build skills and content knowledge in large part through authentic, flexible, student-directed projects. The course gives students an integrated overview of the science of climate change and the implications of this change for patterns of daily life in their own circumstance and around the world. This course has four principal objectives:

- Introduce students to the science of climate change, drawing attention to the pattern of scientific data that has emerged in recent years
- Focus on the social changes and adaptations that human communities have made and those they will likely have to make as the Earth's climate continues to change
- Highlight the diplomatic efforts that have launched since the creation of the Framework Convention on Climate Change (FCCC) during the first Earth Summit in 1992
- Investigate the ethical challenges raised by climate change and explore questions of justice and personal responsibility as they apply to climate change

During the latter half of the course, students conduct in-depth research on a topic of their choice, undertaking a feasibility analysis for a particular possible solution to a problem caused by a changing climate. This course may be applied toward fulfilling **either** the Science **or** the Social Studies graduation requirement, but not both. Prerequisites: Conceptual Physics 1, Chemistry 1, Biology 1, and Humanities 2.

Comparative Government & Politics

This one-semester course is an in-depth comparison of different political systems and cultures that prepares students for informed participation in the global community. Students explore five different political systems (the United States, France, Mexico, Nigeria, and China) and simultaneously conduct independent research projects on a country of their choice. The course begins with an introduction to comparative politics and its conceptual framework. Then, students compare democratic systems in the United States, France, Mexico, and Nigeria exploring the following questions: What aspects do all democratic regimes and ideologies share in common? What are some variations in the institutional structures and practices of different democratic systems? In what ways do these systems fail to live up to democratic criteria? What can the U.S. learn from other systems, and vice versa? Next, students learn about authoritarian regimes by closely examining China through questions such as: Are economic

reform and political reform necessarily linked? Does economic growth promote democracy? During the final weeks of the course, students complete their country case studies and share their findings with their peers. [This course is considered an Honors course; see page 49 for more information.]

Globalization

Globalization refers to the economic, political, environmental, social, and cultural changes that are occurring with increasing speed in societies across the globe; these trends are highly controversial. In this project-based, interdisciplinary course, students learn the meaning and history of globalization and analyze how the process is impacting people's lives across the world by exploring the experiences and needs of others. For example, globalization has had a profound impact on the system under which the goods we consume in the US are produced and distributed. What are the economic, social, and ethical implications of these transactions for the myriad stakeholders and participants? By the end of the course, students develop informed opinions about the relative costs and benefits of globalization and whom it affects. Students also gain the information they need to question hidden assumptions, expand their sense of what constitutes a need versus a want, and explore their role as citizens engaged in an important public policy debate. The course includes a student-designed final project that combines academic and field research, writing, presentation, and advocacy for a cause. It is our hope that this course allows students to collaborate globally to start solving our interconnected challenges and be a part of authentic change.

Hip-Hop Culture, Politics and Production

In order to be culturally literate, one must understand our society's musical forms of expression and how they help to tell the American story. Though Hip-Hop is now a popular form of American music, it had its roots as a cultural form of expression designed to provide a sense of agency and existential freedom for marginalized people of color in the Bronx, in New York City. Given the current popularity of the music and a resurgence of Hip-Hop activism, students in this course examine how the music became an integral part of American identity by examining Hip-Hop through the historical and cultural lenses they have developed in previous Humanities courses. Students also learn how to affect change through the four elements of the culture (i.e., emceeing, dj-ing/music production, graffiti, and B-Girling/B-Boying). Throughout the term, students thus not only learn about the history and evolution of Hip-Hop music from its inception to the modern day, but also have multiple opportunities to explore the culture through rapping, dj-ing, and dance, as well as through the creation of graffiti and music. This course may be applied toward receiving credit **either** in the Arts department **or** the Social Studies department, but not both. Prerequisite: Humanities 2.

Islam

Islam, both a faith and a geopolitical force, is the religion of over 20% of the world's population. In this course, students work toward developing themselves as informed global citizens by examining the religious, historical, social, and geopolitical aspects of Islam. Beginning with a

look at “the time of ignorance” (jahaliya), the era before Muhammad’s revelations, the class first focuses on Muhammad—the “Perfect Man”—as prophet. Next, students study excerpts from the sacred texts of Islam, al-Quran and al-Hadith, to learn the key concepts and lessons of the faith. As part of the examination of al-Quran and al-Hadith, the course also places Islam’s major tenets within a monotheistic context, seeking to understand Islam’s relationship to Judaism and Christianity. The course then turns its attention to Muhammad as lawgiver and statesman to explore the beginnings of the Islamic state. By investigating how scripture is understood and transformed into cultural, social and legal (shari’a) norms in different parts of the Islamic world, students come to understand the growth and diversity of the Islamic world. Finally, students look at the modern Islamic state and consider the impact of Islamic theocracies and extra-national groups such as al-Qaeda on our world today. This course may be applied toward fulfilling **either** the Religion/Philosophy **or** the Social Studies graduation requirement, but not both.

Neighborhood Dynamics

The question “Who belongs here?” has been central to defining San Francisco throughout its history, and it is especially poignant in this time of rising prosperity and increasing cost-of-living. This course investigates what makes a neighborhood, the ways in which neighborhoods change over time, and what that looks like for the people who live in them. Students look at the processes of development and gentrification that many cities grapple with and examine how they apply to a “superstar city” like San Francisco. This interdisciplinary, project-based course blends economics, local history, ethics, sociology, and cartography with field work in the city to explore the causes and effects and costs and benefits of gentrification for the dynamic neighborhoods that surround us. Through group projects, students contribute to the vitality and inclusiveness of the neighborhoods they study. This course may be applied toward fulfilling **either** the Science **or** the Social Studies graduation requirement, but not both. Prerequisites: Conceptual Physics 1, Chemistry 1, Biology 1, and Humanities 2.

Social Movements of the Late 20th Century

An introduction to the social movements of the “long sixties” (1945 – 1975) in the United States, this course emphasizes the freedom movements of African American, Chicano/Latino, Asian American, Native American, Feminist, Gay and other marginalized racial, ethnic, or cultural communities. Students identify and evaluate the core tenets of specific social movements including leaders, organizations, events, identity politics, disappointments, and triumphs. Additionally, students evaluate interpretative differences among historians who have written about those movements. Students assess contemporary movements locally and globally (i.e. Arab Spring, Occupy and Black Lives Matter) to ultimately define “freedom” and “social justice” for themselves. Potential written works for the class include Juan Williams, Ian Lopez, Howard Zinn, bell hooks, Susan Chan, Paul Chaat Smith, and Robert Allen Warrior. Potential films include *Eyes on the Prize*, *I-Hotel*, *Walkout*, and *Stonewall Uprising*. The course methodology includes primary source investigations, class discussions, films, group work, unit

response papers and a final term paper. The core skills emphasized in the course are critical thinking, analytical and reflective writing, in addition to engaging in dialogue about difference.

U.S. Politics

This course prepares students for civic engagement and political participation by helping them understand our political system and government's role in American life. Students learn to make informed political decisions, to clearly articulate positions, and to meaningfully engage in civic life. The course focuses on the following three areas: Ideology & Citizenship; Political Institutions: Congress, the Presidency, Political Parties, and the Courts; Citizen Influence on Institutions: the Media, Interest Groups, and Elections. Throughout the course, students explore the following fundamental questions: what role should government play in citizens' lives; what are citizens' rights and responsibilities; how can citizens make informed decisions; and how can citizens influence and take part in policy making? Current events (including the 2016 Presidential Election) figure prominently in our investigation of these topics.

Subject Area: World Languages

Advanced Topics in Mandarin, Part 2

This semester-long course is for the advanced Mandarin Chinese language student who wishes to develop her/his language and critical thinking skills. In this course, students evaluate essays, short stories, films, and editorials in Mandarin Chinese that reflect current concerns in contemporary society. Parts 1 and 2 of the course run in alternate years; students should take these two segments in order. This course enables students to understand current issues facing Chinese citizens and to develop and express their opinions on these issues clearly and eloquently in Mandarin Chinese. Taught predominantly online and through a collaboration with teachers at Chinese American International School (CAIS), the course revolves around lessons via video conference, online activities, collaborative projects, and a variety of rich and multifaceted online assessments. Students enrolled in the course come to class at Bay as they normally do; once in the classroom on those days, they undertake the digital curriculum in collaboration with classmates and supported remotely by their teacher. [This course is considered an Honors course; see page 49 for more information.] Prerequisite: Advanced Topics in Mandarin, Part 1.

Mandarin 1A/1B

This is a two-semester introductory language course in Modern Standard Chinese (Putonghua). This course develops speaking, listening, reading, and writing skills. Students learn the tonal system, pronunciation, basic grammar, and the fundamentals of the Chinese writing system. Additionally, in view of the intimate relationship between language and culture, students learn about Chinese culture, recent history, and geography. During this first-year course, students develop the ability to carry out simple conversations in Chinese on a limited range of topics. No prerequisite.

Mandarin 2A/2B

In this two-semester course, students review and continue working with the concepts and skills introduced in Mandarin 1, simultaneously building new vocabulary and increasingly complex sentence patterns. There is further focus on the Chinese tonal system and character acquisition. Students increase their ability to acquire pertinent information through listening, to express themselves with more confidence, and to read and write characters with greater fluency and ease. Prerequisite: Mandarin 1 or placement exam.

Mandarin 3A/3B

This two-semester course further develops students' communicative abilities in listening, speaking, reading, and writing modern Chinese. Students largely focus on strengthening their listening and reading comprehension skills through increased exposure to authentic material. Upon completion of this course, students are able to handle most daily conversation with relative fluency and are comfortable speaking and interacting in the target language. Prerequisite: Mandarin 2 or placement exam.

Mandarin 4A/4B

This two-semester course enhances students' abilities to communicate fluently, precisely, and elegantly in modern Chinese. This course incorporates both Chinese literature and history, exploring current events and youth culture in Greater China. This course utilizes an advanced-level textbook, yet relies primarily on authentic primary source materials to broaden students' vocabulary, idiomatic expressions, and cultural knowledge. Students learn to master more complex sentence patterns for the purpose of sustaining longer, more in-depth conversations. Students apply their knowledge of complex sentence structures and advanced grammar patterns to various forms of written expression. Finally, students express their opinions and creativity through various modes of presentation. Prerequisite: Mandarin 3 or placement exam.

Mandarin 5A/5B

Conducted entirely in Mandarin, this two-semester course explores the enduring influence of traditional martial arts cultural heroes (real and fictional). It explores how the *wuxia* concept has historically evolved to its present form, as seen in film, comics, and pop culture. Potential topics include chivalrous bandit heroes in Ming and Qing fiction, the Boxer Rebellion in Late Imperial China, and anti-dynastic sectarian movements in Ming and Qing history. [This course is considered an Honors course; see page 49 for more information.] Prerequisite: Mandarin 4.

Spanish 1A/1B

This two-semester course is an introductory course for students who want to learn Spanish. Students learn the fundamental grammar and vocabulary necessary for basic communication in Spanish. Students develop partial capability in the four major communication skills: listening, speaking, reading, and writing. By the end of this course, students are able to express

themselves at a rudimentary level in both the present and past tenses. Focus is placed on gaining the confidence necessary to speak fluently. In addition, students learn an appreciation for the various cultures associated with the Spanish language. No prerequisite.

Spanish 2A/2B

This two-semester course continues the development of the four major communication skills (listening, speaking, reading, and writing) begun in Spanish 1. Although a text program is used as a resource, classroom work is concentrated on developing language proficiency through active communication. Increased focus is placed on reading and writing for the purpose of gathering and sharing information and understanding how different communities and cultures help to shape our world. Prerequisite: Spanish 1 or placement exam.

Spanish 3A/3B

Spanish 3 is a two-semester intermediate language course that focuses on the following objectives: first, to review all of the basic skills and vocabulary learned during the first two years of study; second, to increase the student's core vocabulary base and to expand their understanding and working knowledge of the more complex grammatical points; third, to connect the student's language skills with other academic disciplines; fourth, to increase the student's level of fluency, both written and oral, so that they can communicate effectively in Spanish; fifth, to make students aware of the richness of diversity in Spanish-speaking world. Prerequisite: Spanish 2 or placement exam.

Spanish 4A/4B

Spanish 4 is a two-semester intermediate to high-level course that integrates language and culture through the study of topics that reflect daily global news and work-related topics. The course uses current events, film, and literature from the Spanish speaking world to synthesize the development of all aspects of language skills with cultural awareness. Students demonstrate their knowledge through the preparation and presentation of several projects, daily conversations, and reading and writing activities. Prerequisite: Spanish 3 or placement exam.

Spanish 5A/5B

Spanish 5 is a two-semester advanced course that explores social and historical issues and advanced grammar topics through film, literature, music, and other media in the target language. Students demonstrate their knowledge through conversation, oral presentations, frequent writing, and the completion of an independent research project on a topic of the student's choosing. [This course is considered an Honors course; see page 49 for more information.] Prerequisite: Spanish 4.

Things to Keep in Mind about Honors Courses

Honors courses provide additional challenge to students interested in doing college-level work in a specific discipline. The decision to enroll in one or more Honors courses is not one to be taken lightly. Students are strongly urged to speak with the academic dean or the course instructor to gain a clear understanding of the requirements prior to enrolling in an Honors course. These courses:

- include a higher level of complexity, abstraction, and critical thought and analysis.
- involve more work outside of class, requiring up to 90 minutes of homework time per class meeting for a typical student
- move at a faster pace in terms of reading, discussion, and work time
- involve minimal review and require students to take responsibility for researching topics that support their understanding of the course material
- carry different grading expectations – students should expect to receive a grade at least one letter lower than in a standard course for the same level of effort

Students are good candidates for an Honors course if they:

- can thoughtfully articulate why they want to go above and beyond in the subject area
- desire to independently explore their own ideas and take the initiative to develop their understanding, interpretations and findings to a significantly greater degree than is required in a standard course
- are willing to take responsibility for their own learning to a significantly greater degree than is required in a standard course
- accept that the course will require more effort and will move at a faster pace than a standard course
- accept the possibility that they might earn a lower grade in the course than they are used to earning in other courses

Students must complete a written application for each Honors course in which they wish to enroll. 11th-graders are limited to 2 Honors courses per semester term, and may therefore request enrollment in no more than 4 total semester-length Honors courses. 12th-graders are limited to the equivalent of 3 Honors courses per semester term, and may therefore request enrollment in no more than 6 total semester-length Honors courses. While many colleges and universities do “weight” GPAs in Honors courses, Bay will not include a weighted GPA on a student’s transcript.

Things to Keep in Mind about Honors Courses continued...

The following courses will carry an Honors designation in 2018-2019:

Arts: Advanced Drama: Creating & Performing, Advanced Drawing & Painting Studio, Advanced Projects in Digital Arts, Jazz 2

Literature: Advanced Seminar: Essay and Memoir, Advanced Seminar: Fiction, Existentialism*

Math: Advanced Topics in Calculus, Calculus A/B

Religion & Philosophy: Comparative Religion, Existentialism*

Science: Biology 2, Chemistry 2, Physics 2

Social Studies: Comparative Government & Politics

World Languages: Advanced Topics in Mandarin, Mandarin 5, Spanish 5

Frequently Asked Questions

May I fulfill my World Languages graduation requirement by taking a few years each of Spanish and Mandarin?

Bay celebrates students who choose to take both Spanish and Mandarin; we do require, however, that students complete at least three years of a single language (Spanish or Mandarin) in order to meet our graduation requirement.

May I sign up for only the first semester, or “part A”, of a two-semester course like Spanish 3 or Analysis of Functions?

Yes. As long as doing so does not compromise the student’s completion of graduation requirements, the student may sign up for only a “part A” if they so choose. We recommend, however, that students take both halves of a course in order to get the full learning experience. Completion of both halves of a two-term course is required if the student intends to use that course as a prerequisite for advanced coursework.

How do I decide whether to sign up for Honors courses?

Honors courses provide students the opportunity to study a topic in-depth, with a high degree of challenge and intensity. The decision to enroll in one or more Honors courses is not one to be taken lightly; please see page 49 for more information.

What Math course should I take after Math 3?

Math 3 represents the completion of Bay’s core math sequence. Upon completion of Math 3, students should think about their interests and future plans in choosing their next math course. Students who think they may have any desire to study a math- or science-related field in college should take Analysis of Functions, as this course is the gateway to Calculus (which students may take either at Bay or in college); Calculus is required for the college-level study of math and science. Bay offers a variety of elective math courses that may be taken in addition to or instead of Analysis of Functions, depending on a student’s plans and interests.

What options do 9th- and 10th-graders have for their elective block during the semester rotation?

Our 9th-grade students may choose any introductory (1A) Arts course for their elective block. 10th-graders may continue their work in Arts during their elective block or may enroll in a Computer Science or Engineering course.

May I choose what terms I will have certain courses to “balance out” my schedule?

Because Bay offers so many unique and specialized courses, our scheduling process is quite complex. This means we are unable to allow students to select the term in which a given course will appear on their schedule. Students should therefore be prepared for occasional imbalances in their schedule, such as a term with multiple reading- and-writing-intensive courses or a term with multiple math and science courses. When signing up for courses, students should keep in mind that any five of the courses for which they sign up might occur in a single semester.

Frequently Asked Questions continued...

Am I allowed to change my schedule?

Students are permitted to adjust their courses after they receive their academic schedule over the summer. We require that all course changes be finalized prior to the start of the term in which the courses to be changed will occur; this means all course changes must be initiated with the registrar at least one full week prior to the start of a new term. In unique situations with extenuating circumstances, some course changes may be allowed within the first week of a term. In order to support the college admissions process, 12th-graders are not permitted to change their courses after December 15 except in the event of significant extenuating circumstances. Please note that Bay does not make schedule changes based on preference for a given teacher or preference related to the timing (block or term) of a certain course.

Who gets preference in the scheduling process?

Rising 12th-graders usually receive preference in the scheduling process; however, we are not able to guarantee any student, regardless of grade level, every top-choice course. We do our best to enroll every student in as many of their top-choice courses as we can.

Will all of the courses in the catalog actually take place next year?

Occasionally, a course must be cancelled because it failed to draw enough student interest or because Bay's staffing configuration has changed. This is quite rare — we work as hard as we can to avoid it — but it does occur from time to time.

What other courses will appear on my schedule?

In addition to courses listed above, all students take supplementary co-curricular courses. While the nature of these courses does change from year-to-year for curricular reasons, 9th- and 10th-graders should expect that in at least one semester they will take a co-curricular class focusing on health, wellness, and community values. These courses meet once per week during the student's flex period. 11th- and 12th-graders take Bay's college counseling and test prep courses during their flex periods; these courses meet once or twice per week in total, varying based on the life-cycle of the college applications process.