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## Curricular Overview for Semester-Immersive Schedule

### 9th Grade

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

### 10th Grade

<table>
<thead>
<tr>
<th>Semester 1: Aug - Dec</th>
<th>Immersive 1: Jan</th>
<th>Semester 2: Feb - May</th>
<th>Immersive 2: May/June</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students take 5 courses</td>
<td>Students take 1 course</td>
<td>Students take 5 courses</td>
<td>Students take 1 course</td>
</tr>
<tr>
<td><strong>Humanities 2a</strong></td>
<td><strong>Core immersive:</strong></td>
<td><strong>Humanities 2b</strong></td>
<td><strong>Elective:</strong></td>
</tr>
<tr>
<td><strong>Chemistry 1a</strong></td>
<td><em>All 10th-graders take a</em></td>
<td><strong>Chemistry 1b</strong></td>
<td><em>Choice among upper-grade</em></td>
</tr>
<tr>
<td>arts elective, part b</td>
<td><strong>Humanities 2 immersive:</strong></td>
<td><strong>Civics (formerly Research)</strong></td>
<td><em>spring immersive electives</em></td>
</tr>
<tr>
<td><strong>math course, part a</strong></td>
<td><strong>Shakespeare Unbound</strong></td>
<td><strong>math course, part b</strong></td>
<td><em>(see catalog)</em></td>
</tr>
<tr>
<td><strong>language course, part a</strong></td>
<td></td>
<td><strong>language course, part b</strong></td>
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</tbody>
</table>

**Notes:** Some 10th-graders may elect to begin a new arts sequence with a "part a" arts course, or to take Computer Science or Robotics 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

<table>
<thead>
<tr>
<th>Semester 1: Aug - Dec</th>
<th>Immersive 1: Jan</th>
<th>Semester 2: Feb - May</th>
<th>Immersive 2: May/June</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students take 5 courses</td>
<td>Students take 1 course</td>
<td>Students take 5 courses</td>
<td></td>
</tr>
<tr>
<td><strong>American Studies a</strong></td>
<td><strong>Elective:</strong></td>
<td><strong>American Studies b</strong></td>
<td><strong>Elective:</strong></td>
</tr>
<tr>
<td><strong>Biology 1a</strong></td>
<td><em>Choice among upper-grade</em></td>
<td><strong>Biology 1b</strong></td>
<td><em>Choice among upper-grade</em></td>
</tr>
<tr>
<td>elective (math recommended)</td>
<td><strong>winter immersive electives</strong></td>
<td>elective (math recommended)</td>
<td><em>spring immersive electives</em></td>
</tr>
<tr>
<td>elective (language recommended)</td>
<td><em>(see catalog)</em></td>
<td>elective (language recommended)</td>
<td><em>(see catalog)</em></td>
</tr>
<tr>
<td>elective</td>
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<td>elective</td>
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</tbody>
</table>

**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. *Highly motivated students may elect to take Biology 2 (an honors-level course) as juniors. See course description for more information.

### 12th Grade

<table>
<thead>
<tr>
<th>Semester 1: Aug - Dec</th>
<th>Immersive 1: Jan</th>
<th>Semester 2: Feb - May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students take 5 courses</td>
<td>Students take 1 course</td>
<td>Students take 5 courses</td>
</tr>
<tr>
<td><strong>Senior Signature Project 1a</strong></td>
<td><strong>Elective:</strong></td>
<td><strong>Senior Signature Project 1b</strong></td>
</tr>
<tr>
<td>elective</td>
<td><em>Choice among upper-grade</em></td>
<td>elective</td>
</tr>
<tr>
<td>elective</td>
<td><em>winter immersive electives</em></td>
<td>elective</td>
</tr>
<tr>
<td>elective</td>
<td><em>(see catalog)</em></td>
<td>elective</td>
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<tr>
<td>elective</td>
<td></td>
<td>elective</td>
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</tbody>
</table>

**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. **One of which must carry the "American Studies - literature" designation. ***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).
Starting with the class of 2022, all 9th-graders also take a one-semester core course, The Creative Process.

Literature
In addition to the core Humanities courses that include literature and writing components
(Humanities 1, Humanities 2, Writing Workshop, Research in the Community (replaced by Civics in 2019-2020), and American Studies), students must complete 2 credits (4 terms) in literature electives. At least one of these electives 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 a science elective 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 (replaced by Civics in 2019-2020), 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

<table>
<thead>
<tr>
<th>January Immersive Courses</th>
<th>May/June Immersive Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>9th-grade course offerings:</strong></td>
<td><strong>9th-grade core immersive:</strong></td>
</tr>
<tr>
<td>• Assembling San Francisco</td>
<td>• Humanities 1: Everyone Has a Story</td>
</tr>
<tr>
<td>• California Natural History</td>
<td></td>
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<tr>
<td>• The Biology of Health and Wellness</td>
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<tr>
<td>• The Mathematics of Digital Animation</td>
<td></td>
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<tr>
<td><strong>10th-grade core immersive:</strong></td>
<td></td>
</tr>
<tr>
<td>• Humanities 2: Shakespeare Unbound</td>
<td></td>
</tr>
<tr>
<td><strong>11th- &amp; 12th-grade course offerings by dept:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ARTS</strong></td>
<td><strong>10th- &amp; 11th-grade course offerings by dept:</strong></td>
</tr>
<tr>
<td>• Filmmaking</td>
<td><strong>ARTS</strong></td>
</tr>
<tr>
<td>• Hip-Hop Culture, Politics &amp; Production*</td>
<td>• Connecting to Place: Literature and Creative Practice*</td>
</tr>
<tr>
<td>• Immersive Art Studio</td>
<td></td>
</tr>
<tr>
<td>• Modern American Family*</td>
<td><strong>LITERATURE</strong></td>
</tr>
<tr>
<td></td>
<td>• Connecting to Place: Literature and Creative Practice*</td>
</tr>
<tr>
<td>• Humanities 1: Everyone Has a Story</td>
<td>• The Writer’s Life</td>
</tr>
<tr>
<td><strong>COMPUTER SCIENCE &amp; ENGINEERING</strong></td>
<td><strong>MATH</strong></td>
</tr>
<tr>
<td>• Engineering 2</td>
<td>• Cryptography</td>
</tr>
<tr>
<td><strong>LITERATURE</strong></td>
<td><strong>SCIENCE</strong></td>
</tr>
<tr>
<td>• Modern American Family*</td>
<td>• Atmospheric Science and Engineering: Launching Near-Space Weather Balloons</td>
</tr>
<tr>
<td>• The Writer’s Life</td>
<td>• Biochemistry and Pharmaceutical Design</td>
</tr>
<tr>
<td><strong>MATH</strong></td>
<td>• California Geology: A Field Experience</td>
</tr>
<tr>
<td>• Mathematics in Finance and Economics</td>
<td>• Water in the American West: The Eastern Sierra Nevada*</td>
</tr>
<tr>
<td>• Mathematics of Democracy*</td>
<td><strong>SOCIAL STUDIES</strong></td>
</tr>
<tr>
<td></td>
<td>• First Ascents: The Indigenous History and Literature of California</td>
</tr>
<tr>
<td><strong>RELIGION/PHILOSOPHY</strong></td>
<td>• Uncovering Cultural Bias</td>
</tr>
<tr>
<td>• Buddhism</td>
<td>• Water in the American West: The Eastern Sierra Nevada*</td>
</tr>
<tr>
<td><strong>SCIENCE</strong></td>
<td><strong>WORLD LANGUAGES</strong></td>
</tr>
<tr>
<td>• Applied Chemistry: Chemistry of the Kitchen</td>
<td>• Immersive Spanish: Cultural Diversity in the Bay Area</td>
</tr>
<tr>
<td>• Astronomy Immersive</td>
<td></td>
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<tr>
<td>• Biotechnology</td>
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<tr>
<td><strong>SOCIAL STUDIES</strong></td>
<td></td>
</tr>
<tr>
<td>• Hip-Hop Culture, Politics &amp; Production*</td>
<td></td>
</tr>
<tr>
<td>• Mathematics of Democracy*</td>
<td></td>
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<tr>
<td>• Wealth and Poverty</td>
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</table>
January Immersive – 9th-grade course offerings:

Assembling San Francisco: Geology of the Greater Bay Region
This 9th-grade 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 Mathematics.

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 performed and unpacked a monologue of their choice, and 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.

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.

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 midterm 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 makeup 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 or Literature.

**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 or Design 1b.

**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 makeup 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 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: Mathematics**

**Mathematics in Finance and Economics**
This course applies mathematics to determine the fair value of assets such as stocks and bonds, then to forecast future random stock price movements. The course is intended for students who have completed Analysis of Functions A. The course builds upon prerequisite knowledge to develop mathematical models that describe the time value of money, discounted cash flows, the Dividend Discount Model and the Capital Asset Pricing Model among other topics. These models form the valuation portion of the course which teaches students how to value a stock. The second portion of the course focuses on forecasting future price movements using statistics and Monte Carlo methods. The objective is for the student to calculate the fair value of a stock and then forecast future price movements to decide whether or not to invest in the stock. Limitations and failings of the models under study will also be discussed. Applying technological tools used in industry such as Excel spreadsheets are an integral part of the course. The course culminates in students presenting their work during Exhibition Night. 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**

**Applied Chemistry: Chemistry of the Kitchen**
From baking a loaf of sourdough bread to creating flavored foams to preparing the perfect steak, the principles of chemistry are everywhere in the kitchen. In this immersive students will step into a kitchen that is also a laboratory. Students will get hands on experience applying scientific techniques (spherification, infusion, separation using a centrifuge, flash freezing) to the creation of edible dishes. This will be paired with discussions of the scientific phenomenon behind their creations: from exploring functional groups of organic molecules and their impact on the flavor of food, identifying the intermolecular forces involved in the creation of emulsions and infusions, marveling at the complex chemical reactions underlying baked bread and meats, utilizing thermodynamics to create temperature setting noodles, to investigating the role of solubility in preparing candy and chocolate. Students’ final project will be the preparation of a dish that utilizes at least three of the cooking techniques introduced through the course of the immersive. Prerequisites: Conceptual Physics 1 and Chemistry 1.
Astronomy Immersive
This immersive course sees students living lives as professional astronomers while using the Tuolumne Skies Observatory in Groveland, CA. The course will start at Bay, learning the basics of how to run our research level observatory and then spend 6-8 nights running the observatory. During our time at the Tuolumne Skies Observatory, we will sleep during the days and work during the nights. Students will learn the ins-and-outs of telescope operations skills, astronomical data collection, image processing techniques and data management skills. Students will run at least two types of projects: one as individuals with their own data and one in groups using archival data from public data sets. With our exclusive use of this observatory, students will be searching for exoplanets and looking for novel projects to do with our equipment. As they do these projects, they will be honing their strengths as observational astronomers. For exhibition, students will present some aspect of their work from the Observatory; examples might include a light curve, a scientifically “interesting” object or a polished astronomical image. Prerequisite: Conceptual Physics 1. *Notes: This course will most likely include a multi-day overnight trip as a required component of the student experience.

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.
Subject Area: Social Studies

**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.

**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**

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. Students should be prepared to spend approximately half of each day at a service learning site. 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...
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*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: Mathematics**

**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 tensions must we navigate individually and as a society as we choose between privacy/security and efficiency? How has the centuries-long “arms race” between code makers and code breakers driven scientific advancement and societal adaptation? Students explore a variety of cryptographic approaches that have been used from historical times to the present day and explore emerging trends in the field. They read The Code Book by Simon Singh and a variety of shorter supplemental readings. They view movies, both historical and fictional, in which cryptography plays a key role. They have an opportunity to visit academic and professional institutions to explore modern-day uses. Assessments include student-selected cryptography projects and presentations as well as summative assessments on core course material. Prerequisite: Math 3.

**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. Prerequisites: 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, 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 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 lead 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: 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.

**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 lead 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: 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 2A. Students may take this course in the same year they are taking Spanish 2.
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*Cross-listed course
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*Cross-listed course
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Subject Area: Arts
All courses in this section are one term in duration.

Advanced Drama: Technique & Analysis
Building on students’ experience from Drama 1, the focus of this course is on advanced scene-work and character preparation. Students deepen their knowledge and understanding through studying the work of a range of modern and postmodern 20th century drama theorists and works. Students experiment with directing and design for the stage and aid one another in producing work for performance. [This course is considered an Honors course; see page 46 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 46 for more information.] Prerequisite: Drawing 1B or Painting 1B. *Note: Students may retake this course for credit with the permission of the Dean of Academics and Innovation.

Advanced Projects in Digital Arts
This class looks closely at the creative intersection of art and technology. 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, motion graphics, animation, 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 46 for more information.] Prerequisite: Digital Imaging 1B or Video Production 1B.

Artist as Activist
Can art change the world? History and current examples show that it can, and that the effects are profound. This integrated course combines political, social and art history with hands-on studio art experiences to explore the ways in which the arts are a tool for social change. The course is team-taught by two teachers, one with expertise in art and one with deep knowledge of social studies and history. Students will research historical and contemporary social movements and produce original artwork reacting to a range of issues. Topics may include: labor and class; civil rights and racial
equality; feminism and gender; the environment; youth movements and culture; war and violence. Artists may use written or spoken words, posters, painting, photography and performance. The course is project-based; students build skills and content knowledge through authentic, flexible, student-directed projects. This course may be applied toward receiving credit either in the Arts department or the Social Studies department, but not both. Prerequisite: Humanities 2.

**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. Students will produce deliverables that are functional, aesthetically pleasing, and as a result will elevate 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.

**Design 1B**
This course builds on the skills of Design 1A as students more deeply investigate the design and production process through hands-on projects. Why does a careful, methodical approach balanced with creative thinking help designers produce strong solutions? As in Design 1A, students will be expected to design and fabricate working solutions but with a greater emphasis on basic engineering principles such as structural systems (how bridges work) to vehicle design (power and efficiency) and overall function. Through a series of projects, students will continue to develop their fabrication skills while simultaneously developing their design process and their project management skills. Prerequisite: Design 1A.

**Digital Imaging 1A**
Through a series of projects, students learn how to operate a digital camera, manipulate images using a variety of techniques and processes, and organize and output their work. 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 straight photography, composite imaging, special effects 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 students to the theater arts and guides students toward understanding how they can communicate authentically through theater performance. Students do not need any prior experience in theater to be successful in this course and, having completed the course, will feel increased comfort expressing themselves verbally and artistically. Day to day classwork involves exploring movement theories (LaBan, Alexander, Grotowski, and Suzuki) and vocal training, and studying improvisation as both a channel for creative energies and a forum for experimentation in character and scene development. Performances include developing and giving a morning meeting talk and performing 2-3 monologues (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 study of theatrical history and elements. The emphasis on authenticity in performance is stronger than in Drama 1A. Students in Drama 1b will begin developing technical theater skills and discover the functions of drama and theater throughout history and cultures, focusing on 19th century Romanticism and Realism and 20th century movements. The course will allow students to 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 and interpret and research dramatic texts, formally presenting their findings. Over the course of the term they develop the skills necessary to critique and evaluate the success of performances by classmates, professionals, and themselves, both formally and informal, and begin to learn the principles of directing. The class reads two whole plays and students work with partners on scene study and (at least 2) performances. 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-lifes, 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, as well as remix each other’s songs. 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.

**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. Students will also learn some basic sight-reading. 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 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. Students will develop their sight-reading and ear training. Additionally, students participate in a field trip to a jazz club. 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 46 for more information.] Prerequisite: Jazz 1B or instructor permission. *Note: Students may retake this course for credit with the permission of the Dean of Academics and Innovation.

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: Expressing Things/Curious Spaces
So much of art is up on the wall, looked at from far away. This class emphasizes the tactile -- art that is made to be held in hand, worn as clothing, inhabited as a social space. Students will learn to play with ideas that meld form and function. In this elective course students make things, engaging the “real” world of the 3-Dimensional. An emphasis will be placed on the diversity of tools and materials, and how they can construct remarkable things. The essential question guiding our study: How does a thing emotionally affect us in the three dimensional space of the Real World? Projects will range from wood-carving “everyday things”, like a spoon, making sculptural books with surprising folds that reveal themselves to the interactive reader, avant-garde clothing design, moving sculptures and hanging mobiles, and an engagement with the semester’s theater set design as an exploration of dynamic architectural space. 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: as a general arts elective, this course does not fulfill the 1A/1B arts requirement.

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 mechanics, visual language, film-grammar and storytelling. 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
This course is for the intermediate video-maker. It provides 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 collaboration and crew roles. 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 or Design 1A/1B sequence.

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 or Design 1A/1B sequence.

Computer Science 1
Curious about programming, but haven’t taken the plunge yet? This is a course for the beginning programmer in which we’ll create games, art, and animations, as well as explore some scientific applications, in order to master the basic abstractions of programming. Coursework will consist of computer programming projects which gradually increase in size and complexity over the course of the semester. 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. If you are interested in how computer programs work and want to play with the creative, playful art of programming, this is the perfect place to learn! 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-midsize projects. Prerequisite: Computer Science 1 or instructor permission.

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. The course is guided by the following essential questions: *Who is an American? What are American ideals? To what extent have they been upheld, ignored, or rejected? Who tells the American story and how? Where does your story fit? How have Americans’ responses to these questions changed and remained the same over time?* 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. Students also 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.

**Civics**
Civics is a required one-semester course for all 10th-graders. This project-based course will prepare students for civic engagement and political participation by helping students understand our political system and government’s role in American life. The overarching goal is to build civic literacy and to foster civic engagement. The course will center on these fundamental questions: *What role should government play in your lives? What are your rights and responsibilities as citizens? How can you make informed decisions? How can you influence and take part in the political process?* The course builds a foundation of research and media literacy skills, while allowing students to identify and examine a topic of personal interest. Topics will invite exploration of our political system and process, and be as varied as students’ passions—from the social to the scientific, from the economic to the environmental. Students will define a meaningful question, then use text-based and field-research techniques to gather information that they will ultimately share and present their findings.

**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. In this first year of the two-year sequence, students explore their and others’ journeys while asking essential questions about core human experiences: *Who am I? How does family shape my identity? What is community? Who belongs and who is excluded? What is culture? How does it change? What is society, and how does it influence its members?* Starting with the personal, students expand outward by examining the role of successively larger systems through cultural, historical, literary, political, and social lenses. Via a diverse range of literary works, students explore how systems
shape their and others’ identities and worldviews, thereby coming to better understand the intersections of race, class, gender, sexuality, ability, socio-economic class, immigration status, and age. Along the way, students develop skills essential to their work in the Humanities program: grammar foundations, critical thinking, collaboration, listening, speaking, reading for history and literature, and analytical writing.

**Humanities 2A/2B**

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, ethics, and the arts. The second year of this two-year sequence continues to examine the role of systems in social life by asking essential questions aimed at understanding our core experiences as human beings: How do values held by individuals and communities become systematized? How do these systems shape our history? How do individuals and communities interact with these systems — where does power lie? Students begin by studying the three Abrahamic religions—Judaism, Islam, and Christianity. After identifying founding values from primary religious texts and supplementary historical sources, students study how religious values inform historical and contemporary systems. Following the 10th-grade January immersive, Shakespeare Unbound, the spring semester begins with a literary examination of pre-colonial Nigeria. The course then turns from colonial empires to 20th century world events that reshaped the world order, including WWI, WWII, and contemporary conflicts that grew out of the post-war period. All the while, students develop critical reading and writing skills through their encounters with increasingly challenging primary and secondary source texts.

**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 student-driven, project-based course focuses on the genres of memoir, close reading, and short story. Over the course of the semester, students read mentor texts from each genre, and, applying what they have learned, compose works of their own. With the help of instructor and peer feedback, students take each project through 5-6 fully-revised drafts. In the process, students learn how to employ grammar-as-style to hone their personal writing voices in different genres. By the end of the term, students have composed three to four major pieces of writing. Likely authors Anne Lamott, Joan Didion, Jonathan Safran Foer, Roxane Gay, Richard Rodriguez, David Sedaris, Nadine Gordimer, Haruki Murakami, Flannery O’Connor, and Tobias Wolf.

**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 46 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: building a thesis about a piece through close reading; explicating texts both orally and in writing; and demonstrating a thorough understanding of literary conventions. The course’s honors designation reflects its increased reading load (up to 40 pages a night) and the difficulty of its culminating projects: a series of explications, a visually-rendered analysis of a chosen short story, a passage identification test, and a hands-on exercise in world-building. Likely readings include novels by William Faulkner and Jesmyn Ward, and short stories by Edgar Allan Poe, Henry James, Kate Chopin, James Joyce, Ernest Hemingway, Jhumpa Lahiri, Margaret Atwood, Ken Liu, and Ted Chiang. [This course is considered an Honors course; see page 46 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.

**Gender in Literature**

In this course, students explore questions of gender and its evolving representation and production in American literature. Students consider pre-twentieth century understandings of gender before examining 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, Zora Neale Hurston, Margaret Atwood, Ursula Le Guin, Junot Diaz, and Alexander Chee. *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.

**Modern Asian Literature**
When discussing the “greats” of modern literature, people may name Kurt Vonnegut or Toni Morrison. But what of Asia? Who are the authors who form the Asian canon? This course exposes students to the rich literature to come out of Japan, China, and India in the postwar years. Students look at the history of each of those countries since 1945 and learn the answer to the question: What stories do Asians want to tell? Students explore the universal themes of these works as well as what makes these novels unique in theme, point of view and style. Authors may include: Mishima, Oe, Ishiguro, Tanizaki (Japan); Yu Hua, Liu Heng, Dai Sijie, Mo Yan (China); Tagore, Desai, Roy, Rushdie (India). At the end of the course, students work on a creative writing project about what story they would want told about themselves.

**Poetry**
In this course, students will dive deeply into the wide, wonderful world of poetry. From the fundamental features and vocabulary of poetic craft to careful explication, the goal of this course is to both hone student facility with literary criticism and instill an abiding appreciation for the history, form, and political potential of poetry. Via this study, students will encounter distant geographical areas and time periods in an effort to expose how poets both respond to and help shape the cultures that surround them. In addition to small analytical assignments and one larger analytical piece, students will craft their own poetry, mimicking the styles they read as they search for their own poetic voice. All of this work will culminate in a Poetry Zine that includes poems read both in and out of class as well as a selection of their own original work.

**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, and 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, play a variety of games, 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.

**Utopia/Dystopia**
During this course, students explore both utopias – ideal societies, real or imagined, meant to be seen as better than the society in which readers live – as well as dystopias, or negative utopias – societies that were meant to be seen as worse than the society in which readers live. As students read and discuss, they discover that philosophers, literary authors, and authors of political documents like constitutions all grapple with notions of what would make the most ideal society and how to avoid a less ideal society. As part of this exploration, students work together to envision their own utopian societies. Though the reading list varies, texts read by previous sections have included *1984* by George Orwell, *Island* by Aldous Huxley, *Anthem* by Ayn Rand and *Herland* by Charlotte Perkins Gilman.

**Subject Area: Mathematics**

**Advanced Topics in Calculus**
Designed for students who have already completed Calculus A and B, this one-term course covers multivariable differential calculus. The course will cover three-dimensional (x, y, z) coordinate algebra and geometry, including vectors and matrix determinants before applying these topics to differentiating functions of several variables. Multivariable calculus topics covered include partial derivatives, the gradient, normal and tangent planes as well as an introduction to second-order partial derivatives. [This course is considered an Honors course; see page 46 for more information.]
Prerequisite: Calculus B.

**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. Students will develop strategies and formulas for a variety of counting situations, including permutations and combinations, as well as learn tools for determining the probability of an event occurring, using both geometric and algebraic approaches. 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 46 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, trigonometry, and statistics, including but not limited to: polynomial, rational, trigonometric and exponential functions, statistical inference, and sequences and series. The course’s major throughlines include the use of functions and other mathematical tools 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.

**Topology**

Topology is the mathematical study of shapes and spaces; it is the branch of mathematics created by ignoring things like size and angle. Bowls and plates, for example, share the same topological categorization, but a coffee mug is different because of the hole made by the handle. In fact, in topology, squares, rectangles, parallelograms, trapezoids, and circles are all considered to be the same. But here’s the tricky question: if one ignores these ways of measuring, how can one tell when two shapes are different? Students enrolled in this one-term course examine questions like this. They also explore shapes like the Mobius strip, the Klein bottle, the torus, and ideas about gluing, orientability, and dimension, including ways to represent the fourth dimension. 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.

**Comparative Philosophy**

This course grounds students in the study of philosophy through the exploration of central questions within a comparative framework. Students read a wide range of responses to shared concerns, largely centering on the following three core questions: *What is the good life? How do we make ethical decisions? What is justice and the just state?* To address these questions, students explore both classical and contemporary thinkers from the East and West. Potential authors and texts include Confucius, *The Analects*; Aristotle, *The Nicomachean Ethics*; The Dalai Lama, *Ethics for a New Millennium*; Zhuangzi; Xunzi; Peter Singer; Viktor Frankl, *Man’s Search for Meaning*; Kant; Mill; Ayn Rand; Jean Paul Sartre; Martha Nussbaum. The culminating work for the course is the film *Shawshank Redemption*. [This course is considered an Honors course; see page 46 for more information.]

**Ethics**

This foundational course examines what it means to live consciously and ethically, exploring our responsibilities both to ourselves and to our society. Students grapple with themes of freedom and obligation, individuality versus the collective, and the validity of established moral codes as presented through philosophy, film and literature. Through this class, students are asked to critically reflect on their own moral codes in light of the ethical frameworks and dilemmas studied. Students will explore these frameworks through short case studies (possible topics include social media, privatized health care, affirmative action, AI) and a project-based individual exploration of a topic of personal interest. The goal of this course is to make ethics accessible and applicable to real-world
contexts, meaning that all students—regardless of their interest in philosophy—can find something of value both in the questions this class poses and the problems it considers. While this course does not necessarily provide answers, it helps students reflect on the ways they want to move in the world and how they hope to influence others. Possible thinkers include: Mencius, the Dalai Lama, Aristotle, Kant, Mill, Hannah Arendt, Peter Singer, John Rawls, Elizabeth Anderson.

**Jewish Studies**
What is the Jewish tradition? Whereas some refer to Judaism as “simply” a religion, others view it as much more: an ethnicity, a nationality, a way of life. In this course, students receive an introduction to Judaism and investigate the problems inherent in describing, analyzing, and interpreting the complexities of this ever-evolving tradition. Students learn that Judaism has remained dynamic across centuries and that each new era has provided challenges and possibilities for what it means to be Jewish. Students gain valuable critical thinking skills as they study and discuss sources such as The Hebrew Bible (Tanakh), the Talmud, Jewish philosophy, and literature by and about Jews. Possible topics include Ancient Israel and the Prophets; the Second Temple and the aftermath of its destruction; Rabbinic Judaism, The Talmud, and Midrash; Rabbinic Philosophy and Jewish Mysticism; Orthodox, Conservative, and Reform Judaism; The Holocaust and Reconstructionist Judaism. By the end of this course, students will be able to articulate a nuanced definition and gain an in-depth understanding of the Jewish tradition. This course may be applied toward fulfilling either the Religion & Philosophy graduation requirement or the Social Studies graduation requirement, but not both.

**Subject Area: Science**

**Astronomy and Stellar Astrophysics**
Using telescopes and the night sky as their guides, students discover the behavior of the solar system, of our sun, of other stars and of the Milky Way galaxy. Students integrate their studies of physics, chemistry and biology to investigate how light that has been traveling for millions of years can help humans understand the composition of our everyday world. Starting from the basics of celestial mechanics and simple telescopes, the class uses a variety of methods to understand how supernovae and stellar rebirth brought the Earth to look the way it does today. Near the end of the semester students do a major presentation for the class on a topic of their choosing. Students learn how to run a telescope and an observatory through required, but weather-permitting, overnight observing field trip(s) to Tuolumne Skies Observatory as well as through optional evening events at Bay. Prerequisites: Conceptual Physics 1, Chemistry 1.

**Biological Psychology**
Human Psychology has fascinated people around the world through the millennia. This one-semester course will explore topics such as research in psychology (e.g. how to conduct a controlled experiment), the brain (what areas of the brain account for specific behaviors), sensation and perception (e.g. how the body reacts to and interprets stimuli), states of consciousness (e.g. assessing sleep patterns), cognition (e.g. memory strategies), motivation, and emotion (how different variables affect our behavior). Labs are included in this course. The course culminates in an individual project that allows each student to analyze and dive deeper into an area of psychology.
that the student is interested in. A psychology textbook is used, as well as a variety of readings from books, articles, and journals on the subject. Classes are lecture and discussion-based. Prerequisites: Conceptual Physics 1 and Chemistry 1.

**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, which culminates with a month-long laboratory research capstone project at the end of the course. 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 ecology, animal anatomy and physiology, cellular inheritance and function, and genetics. Prerequisites: Conceptual Physics 1 and Chemistry 1.

**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. 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 46 for more information.] Prerequisites: Conceptual Physics 1, Chemistry 1, and Biology 1 (see exception below).

Highly motivated 10th grade students who are willing to study for and take a placement test this spring after completing assigned reading, and to complete independent study over the summer to build a foundational understanding of cell biology, may apply to take Biology 2 *instead* of Biology 1. Please talk to Jonna Smyth (room 316) or Hannah Lynch (room 220) for more information regarding this option. Seniors who have completed Biology 1 are welcome to take Biology 2 as an Honors option.

**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 X for more information.]
Prerequisites: Conceptual Physics 1, Chemistry 1.

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 better understand current trends in species extinction rates, discuss modern threats to biodiversity, and consider scientific approaches to maintaining biodiversity in the era of climate change. This class is project and discussion driven, and we will take several off-campus field trips to explore our local “Biodiversity Hotspot.” Prerequisites: Conceptual Physics 1, Chemistry 1.

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 46 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.
Senior Signature Projects 1A/1B

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

- A Senior Project serves as a de facto "final assessment" for being a graduate of The Bay School. As such, each project gives the senior the opportunity to demonstrate qualities that are highlighted in the school’s philosophy. This includes intellectual entrepreneurship, generating solutions to real-world problems, taking risks, responding gracefully to setbacks, and becoming an engaged citizen beyond the boundaries of the school.
- Senior Projects 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 in professional settings rather than classrooms.
- Senior Projects 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 who they seek to help beyond the Bay School community. 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 network to find knowledgeable professionals who can mentor them and provide guidance and 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.

Artist as Activist
Can art change the world? History and current examples show that it can, and that the effects are profound. This integrated course combines political, social and art history with hands-on studio art experiences to explore the ways in which the arts are a tool for social change. The course is team-taught by two teachers, one with expertise in art and one with deep knowledge of social studies and history. Students will research historical and contemporary social movements and produce original artwork reacting to a range of issues. Topics may include: labor and class; civil rights and racial equality; feminism and gender; the environment; youth movements and culture; war and violence. Artists may use written or spoken words, posters, painting, photography and performance. The course is project-based; students build skills and content knowledge through authentic, flexible, student-directed projects. This course may be applied toward receiving credit either in the Arts department or the Social Studies department, but not both. Prerequisite: 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 46 for more information.]

Jewish Studies
What is the Jewish tradition? Whereas some refer to Judaism as “simply” a religion, others view it as much more: an ethnicity, a nationality, a way of life. In this course, students receive an introduction to Judaism and investigate the problems inherent in describing, analyzing, and interpreting the complexities of this ever-evolving tradition. Students learn that Judaism has remained dynamic across centuries and that each new era has provided challenges and possibilities for what it means to be Jewish. Students gain valuable critical thinking skills as they study and discuss sources such as The Hebrew Bible (Tanakh), the Talmud, Jewish philosophy, and literature by and about Jews. Possible topics include Ancient Israel and the Prophets; the Second Temple and the aftermath of its destruction; Rabbinic Judaism, The Talmud, and Midrash; Rabbinic Philosophy and Jewish
Mysticism; Orthodox, Conservative, and Reform Judaism; The Holocaust and Reconstructionist Judaism. By the end of this course, students will be able to articulate a nuanced definition and gain an in-depth understanding of the Jewish tradition. This course may be applied toward fulfilling either the Religion & Philosophy graduation requirement or the Social Studies graduation requirement, but not both.

**Latin American Studies**
Latin America and the United States are increasingly intertwined, and will become more so in the years ahead. As the people of our regions continue to mix, understanding ourselves necessitates knowing our neighbors. Latin America encompasses a complex and fascinating diversity of people and places. In this course, students gain historical understanding of the region’s many identities while exploring their cultures, economies, politics, and societies. To this end, students examine a variety of sources, such as food and film, novels and short stories, painting and photography, poetry and songs. The course focuses on the 20th and 21st century topics of neocolonialism, nationalism, revolution, reaction, neoliberalism, and popular movements. Throughout, students investigate enduring topics such as class, gender, and race relations; political corruption; urbanization; and the influence of the United States.

**Social Theories of Race and Difference**
This course is an introduction to the interdisciplinary field of Ethnic Studies. The course exposes students to important theoretical frameworks about race, gender, religion, and sexual orientation as a way to understand the complexities of the world. Students explore theories of whiteness, compare/contrast phenomenon across specific racial/ethnic scholarship (i.e. Africana Studies, Native American Studies, Asian-American Studies, Raza Studies, Middle-Eastern Studies, Queer Theory), and examine the politics of representation. Students also reflect on their own positionality within the scholarship, and connect theory to praxis as it relates to current day-to-day experiences. Students unpack definitions and theories via multiple means, including unit response papers, Socratic Seminars, and a creative culminating experience project.

**U.S. Foreign Policy**
This course explores the development of U.S. foreign policy over time, with a focus on the present. The course begins by establishing a conceptual framework for the study of U.S. policy toward other nations. Students examine their own attitudes and ideologies about foreign policy, and learn different typologies by which foreign policy views are categorized. Next, they explore the major developments in U.S. foreign policy over the course of our history, with particular emphasis on the 20th and 21st centuries. Throughout, students examine the policy-making process, key domestic and international influences, policy consistencies and inconsistencies and historical and contemporary effects of U.S. policy on particular regions. The course culminates in the United States’ recent search for a policy appropriate to the multipolar world following the Cold War’s end and the global challenges of terrorism, rogue states, and climate change. [This course is considered an Honors course; see page 46 for more information.]
Subject Area: World Languages

Advanced Topics in Mandarin, Part 1
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 the beginnings of modern Chinese literature. In particular, students will study in-depth the origins and impact of the May Fourth Movement and of Lu Xun’s enduring influence on modern Chinese literature. This course enables students to develop comfort with reading historical and contemporary scholarly texts in Mandarin, to discuss historical and contemporary issues facing China in Mandarin, and to comfortably write essays and short responses in Chinese to express their understanding of the May Fourth Movement and Lu Xun. [This course is considered an Honors course; see page 46 for more information.]
Prerequisite: Mandarin 5.

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 Chinese 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. [This course is considered an Honors course; see page 46 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 46 for more information.] Prerequisite: Mandarin 4.

Spanish 1A/1B
This two-semester course is an introductory course for students who want to learn the language and cultures of Spanish-speaking countries. Students learn basic communication in speaking, listening, writing and reading. Students develop proficiency in communicating about familiar topics like school, family, personal interests and travel. Focus is placed on building confidence in self-expression, developing resilience in learning a second language, and cultivating curiosity about the Spanish-speaking world. During this course, teachers and students will communicate mostly in Spanish. 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. Students develop proficiency in communicating about topics like shopping and clothes, daily routines, food, and celebrations. Classroom work is concentrated on developing language proficiency through active communication and negotiation of meaning and ideas. Students will engage with authentic sources created by and for Spanish Speakers around the world in order to gain cultural understanding and competence.
During this course, teachers and students will communicate primarily in Spanish. Prerequisite: Spanish 1 or placement exam.

Spanish 3A/3B
This two-semester intermediate language course integrates students’ experiences and perspectives of the world around them. This course focuses on the sharing of ideas – using the four communication skills, through the analysis of authentic sources created by and for Spanish Speakers. Additionally, students will continue to employ what they have learned in previous language courses to fully communicate in Spanish about more complex situations. In this course, students continue to develop proficiency by communicating about topics such as technology, environment, housing and living situations. During this course, teachers and students will communicate exclusively in Spanish. Prerequisite: Spanish 2 or placement exam.

Spanish 4A/4B
This 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 news articles, sites, and other authentic resources 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. During this course, teachers and students will communicate exclusively in Spanish. Prerequisite: Spanish 3 or placement exam.

Spanish 5A/5B
This 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. During this course, teachers and students will communicate exclusively in Spanish. [This course is considered an Honors course; see page 46 for more information.] Prerequisite: Spanish 4 and endorsement of Spanish 4 teacher.
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.

The following courses will carry an Honors designation in 2019-2020:

**Arts:** Advanced Drama: Technique & Analysis, Advanced Drawing & Painting Studio, Advanced Projects in Digital Arts, Jazz 2

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

**Math:** Advanced Topics in Calculus, Calculus A/B

**Religion & Philosophy:** Comparative Philosophy

**Science:** Biology 2, Chemistry 2, Physics 2

**Social Studies:** Comparative Government & Politics, U.S. Foreign Policy

**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 46 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.

May I use the summer to take an outside Math course and potentially advance my Math track?
For students committed to finding ways to do additional coursework in math, summer study can be a way to do so. We are committed to supporting students whose passions or goals indicate that advancing a level in Bay’s math program by taking a full-year’s course over the summer is a good idea. Because of Bay’s unique integrated math curriculum, the only courses suitable for replacement by summer study are Analysis of Functions (replaced by a precalculus course that includes trigonometry) or Calculus. In order to determine if summer coursework is the right pathway for you, and that you’re comfortable with the restrictions and requirements Bay has with regards to summer math coursework, we’ve formalized our approval process. Interested students should reach out to our Math Department Chair, Bree Pickford-Murray, for more detailed information and timelines.

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 Robotics 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.

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. In order to avoid negative impacts to the college process, all senior schedule changes require the approval of both the College Counseling and Academic offices. In some circumstances, Bay will require written confirmation from colleges a student has received an acceptance that the schedule change will not negatively impact the status of their admissions decision. Please also 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.