



9th-grade January Immersive Offerings for 2019-2020

Bay's academic year is divided into four terms: two semesters (a fall semester and a spring semester) and two immersive terms (a January immersive term and a May/June immersive term).

During the immersive terms, students will take a single class, which will meet for 5-6 hours per day for three weeks. Immersives are a chance to "go deep" in a topic. Immersive courses are academic in nature: they will be graded, fulfill graduation requirements, and assign homework. The objective of the immersive term is to free teachers and students from the constraints of a rotating, campus-based schedule: these courses will carry significant project-based and/or field-based components. During the January Immersive term 9th-grade students have an opportunity to select from a range of courses (see below). During the May/June Immersive term all 9th-grade students will take a Humanities-based immersive course which fulfills a core graduation requirement.

Please take some time to review the 9th-grade January immersive options now. Students will be asked to rank the following offerings in order of preference when they visit Bay for placement testing during the week of April 22.

Assembling San Francisco: Geology of the Greater Bay Region

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

California Natural History

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



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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

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