



Course Descriptions 2023-2024

High School Expedition Courses

Borders and Immigration Expedition (9/10th Grade, Tri 1)

Who is an American? What characterizes the immigration experience throughout US history? What does it mean to be a nation of immigrants? Why has immigration been so controversial throughout US history and why is it so controversial today? Who gets citizenship and who doesn't and why? Through historical research, literature, and cultural immersion experiences, students in this course will explore historical and current issues pertaining to immigration in the United States. Students will identify the push-pull factors that lead to different people's decisions to immigrate to the United States. With an in-depth study of the Mexico-U.S. border, this expedition will explore the different conditions that exist on both sides of the border and the dynamics and issues that are occurring in the border region as those different conditions come together. Students will study how the history of the Mexico-U.S. border has shaped current events and attitudes, and how different economic, political, social, cultural, and physical conditions have led to current issues. Students will study different perspectives on issues of immigration, free trade, national security, the border wall, and the existence of the border itself. As part of the expedition, students will have opportunities to experience a number of diverse immersion experiences as they explore the immigrant experience in the U.S. today.

Canid Evolution Revolution (9/10th Grade, Tri 1)

How has life persisted? Life finds a way, and it does it through selection, complex genetic coding, and adaptations that allow it to survive on a dynamic planet with myriad biomes and ecosystems. One of the champions of environmental adaptation, flexibility, and "finding a way" comes from the well-studied, yet enigmatic group of mammals known as the canids: wolves, foxes, coyotes, jackals, and dogs. For the past 40 million years canids have been evolving, thriving, and occupying just about every niche on the planet. This course will teach students about evolution, genetics, and adaptation by using canids as a case study. Students will explore their spread across earth, survival and diversification into the 37 species we see today, and how their unusually plastic genomes and social behavior made them prime candidates for being humanity's first animal partner starting as early as 40,000 years ago.

Chemistry of the Elements: Air, Water, and Earth (11/12th Grade, Tri 1)

This is a comprehensive course that explores the fundamental principles of environmental chemistry with a focus on the interactions in air, water, and soil cycles. Students will gain an understanding of the chemical processes that occur in natural environments and how human activities can impact these processes. Students will learn about the sources and effects of pollutants, as well as methods for monitoring and controlling environmental pollution. Throughout the course, students will develop an understanding of the interconnectivity between air, water, and soil and how changes in one system can have

cascading effects on the others. Partnering with local organizations, labs, and universities, students will gain experience with environmental chemistry labs in the classroom and in the field. By the end of the course, students will have a solid foundation in the principles of environmental chemistry and the tools necessary to analyze and address complex environmental problems.

Caste and Class Expedition (11/12th Grade, Tri 1)

While the caste system in India was abolished in 1950, some would argue that such a system could never be fully dismantled—biases and prejudices remain omnipresent in a country that established social stratification since its inception. *Is the same true for the United States? Is meritocracy truly a thing?* In this class, students will have the opportunity to study the caste system in India as a comparative study to the United States's class system. This class will take time to understand the root causes of establishing caste and class systems and how the perpetuation of the stratifications may result in the dehumanization of a class or group of people within society. Students will have the chance to research, discuss and analyze how the eradication of caste or class systems might impact societal inequities, if at all.

Body and Soul Expedition (Humanities) (9/10th Grade, Tri 2)

In this course, students will use a philosophical lens to explore what it means to be a human being and an individual. Through various case studies, students will grapple with the concepts of consciousness, soul, and truth. They will explore various motivations behind human behavior and what gives people the capacity to do tremendous good or tremendous evil in the world. We will compare and contrast world philosophers from ancient times through the present. We will examine how and why societies evolved with different languages, cultures, and technologies. We will look at current advancements in artificial intelligence and genetics, and explore their implications on our traditional understandings of what makes us human. Our studies will include visits with local experts and fieldwork along the Front Range. Students will examine their own personal stories and beliefs throughout the term, culminating in a project that reflects on who they are individually and within the world. Students will complete the class with a developing sense of who they are both physically and spiritually.

Body and Soul Expedition (Science) (9/10th Grade, Tri 2)

This class will study the human body as a physical system by exploring how anatomical and physiological systems interact at increasing levels of complexity. *Physiologically, how and why are human beings different from other animals?* Through a study of genetics, students will compare and contrast genetic sequences to understand what makes humans unique and what differentiates individuals. We will also study how humans have evolved over time and how evolution informs our understanding of what it means to be human. Throughout the semester, students will create and conduct experiments that inform their understanding of evolution, genetics, and individual and social behavior. Our studies will include visits with local experts and fieldwork along the Front Range. Students will examine their own personal stories and beliefs throughout the term, culminating in a project that reflects on who they are individually and within the world. Students will complete the class with a developing sense of who they are both physically and spiritually.

Vietnam: Colonization, Occupation, Globalization Expedition (11/12th Grade, Tri 2)

Vietnam's historical significance as a land of human population began over 20,000 years ago. Its earliest civilizations can be traced back to early humans from the Middle Pleistocene era. Over time, its rich landscape along the Red River Delta made it an ideal location for trade and settlement with the development of Vietnamese states emerging under dynastic rule as early as 2879 BCE. Since then, those states have been occupied by various countries and indigenous cultures, setting up millennia of rich history. This course will study Vietnam's long-standing record as a place of colonization, occupation, and globalization (neo-colonization). Students will have the opportunity to research, discuss and analyze the implications of these constructs and how Vietnam has evolved from the past to the present through colonial influences such as China and France, occupational influences such as the United States during the Vietnam War, and global influences in the 21st century under a socialist-oriented market economy.

Materials, Plastic, and Consumption: Rise of the Anthropocene (11/12th Grade, Tri 2)

What is the Anthropocene? Human technology includes the manufacturing of tools that help us adapt to a variety of environments and circumstances, changing the way we consume and use resources on our planet. However, food and shelter are not the only consumptive needs for humans, with social status playing a large role in human resource use and manufacturing. This course will explore these aspects of human behavior through time, from tanned skins to hard metals to modern plastics and their impacts on human lives and our planet. Students will explore the science behind how these materials are made, their discovery, what resources go into their manufacture, and the impacts these materials have on ecological systems. From the molecular makeup of the material, to the chemistry of production, to the energy requirements to make and move them, students will have a clear idea on how our past has affected our present and how we can affect the future to find more sustainable solutions to human consumption.

Gender, Media and Technology (9/10th Grade, Tri 3)

This course will explore the rising influence that media and technology have on an individual's ability to construct knowledge, develop identity and interact socially. While looking at a variety of media, we will investigate the relationship it has with gender to examine the influence of popular culture on how we see ourselves and how we see others. The course will look into gender theory to gain a more complex understanding of how gender and sexual identities are constructed, deconstructed, and reconstructed. Film, literature, fashion, television, and music will act as means for deciphering, demystifying, and interpreting poststructuralist and postmodern perspectives on gender oppression and liberation.

Biotechnology and the Future of Medicine (9/10th Grade, Tri 3)

Biology-based technologies are emerging in medicine: gene editing, 3D printed organs, programming cellular machinery to synthesize microstructures, stimulating developmental pathways to grow missing body structures, interfacing prosthetic machinery with nervous systems, and more. *How can medicine improve lives by using these innovations? How can we ensure that these technologies aren't used to harm people?* Students will explore the frontiers of medical science through reading, writing, and research, and discover the possibilities for healthcare through assessing the risks, benefits, and ethics behind these kinds of biological manipulations.

Truth, Trust and Conspiracy in America (11/12th Grade, Tri 3)

How have conspiracy theories shaped political and social identities throughout history in the U.S.? How do stories impact our conceptions of truth and trust as a nation? Through historical and contemporary case studies in American history, this class will explore the ways in which disinformation has impacted the socio-political landscape in America. *How does America's past inform our understanding of America's present and future?*

Nuclear Science and Sustainability: Balancing Energy Needs and Environmental Concerns (11/12th Grade, Tri 3)

This course will provide students with a comprehensive understanding of the principles, concepts, and applications of nuclear science. Students will learn about the fundamental properties of atomic nuclei, the nature of radioactive decay, the production and use of nuclear energy, and alternative fuel sources such as wind and hydraulics. The course will also examine historical events, such as Chernobyl, exploring safety and environmental considerations when using nuclear energy. The course will also explore the societal and ethical implications of nuclear science, including nuclear weapons proliferation and nuclear waste disposal. By the end of the course, students will have a deep understanding of the science behind nuclear technology and alternative fuel sources, as well as the social, political, and ethical implications of their use.

High School/ 8-12th Grade Skills Courses

Painting and Perception (8-12th Grade)

This course focuses on color theory, seeing colors as values, mixing colors, understanding the difference between hue, value, and intensity, and looking at both harmony and symbolism in color. Additionally, the course investigates optics and perception in an effort to understand how our eyes and our brain work in concert to interpret what we see. Final projects will be acrylic paintings on canvas with a focus on perceptual and pictorial color. All projects will be differentiated for skill, interest, and understanding. We will be investigating a range of historic and contemporary artists to understand historical perspectives, innovations, and techniques.

Digital Design 1 & 2 (8-12th Grade)

Digital Design is a course that introduces students to the most common software programs utilized by industry creatives within Adobe Creative Suite. Work during this class will add to students' repertoire of skills for use at Watershed and beyond. This class requires time, patience, and imagination. Simple practice exercises will serve as the basic steps to more complex design challenges that will serve as project assessments. Students in this course will take the time to understand the tools of the trade as a basis for extended learning or application to other Watershed School projects. Digital Design 1 focuses on graphic presentation and design. Digital Design 2 focuses on UI and UX projects. Prerequisite for Digital Design 2 is Digital Design 1. Students in both classes must have a computer capable of running Adobe Creative Suite programs. Please verify specifications with the instructor prior to beginning the course.

Gods, Heroes, & Games 1 (8-12th Grade)

Before there was Marvel and DC, there was Hesiod, a poet who shared the first stories of Greek mythology in 730-700 BCE. From this first collection of poems came stories that shaped decades of pop culture. These characters and storylines morphed into today's movies, comics, video games, and much more. This course takes a spin through the study of Greek mythology and then utilizes these stories to segue into the design, illustration, and programming of 2D video games. Students will be immersed in all aspects of game design and program their own games based on new or existing storylines derived from the contemporary retellings by Stephen Fry in *Mythos* and *Heroes*. In this course, be prepared to read literature, develop game designs, illustrate digital game assets, and program game code in Java. While no experience is necessary, this course combines multiple skills in a single class and can be challenging.

Gods, Heroes, & Games 2 (8-12th Grade)

Picking up where Gods, Heroes, & Games 1 left off, this second iteration of the course steps up game design and development, taking it to the next level with 3D graphic modeling and game design. Students will be immersed in all aspects of game design and program their own games based on the second half of Stephen Fry's contemporary retellings in *Mythos* and *Heroes*. In this course, be prepared to read literature, develop game designs, illustrate digital game assets, and program a 3D game. This course combines multiple skills in a single class and can be challenging. Prerequisite for Gods, Heroes, & Games 2 is Gods, Heroes, & Games 1. Students in this class must have a computer capable of 3D software development and rendering. Please verify specifications with the instructor prior to beginning the course.

Chasing Down the Story (8-12th Grade)

This course will focus on both reading and writing in an effort to explore the world of journalism. Students will look closely at current events and longer pieces of journalistic writing to unpack the purpose, form and style of this means of communication. Students will explore what constitutes news, how news is best presented and reported and how journalistic stories can be conceived and executed. With respect to writing, students will engage in a variety of rhetorical practices, looking closely at different techniques for pieces focused on persuasion, commentary or criticism.

3D Graphic Design (8-12th Grade)

This course introduces students to the design and development of 3D graphic design and modeling through Adobe Dimension, Adobe Substance, Blender and/or Maya. Students will learn how to create 3D models, apply textures and materials, and use lighting to create realistic 3D compositions. They will work to conceptualize, plan, and execute 3D projects for use in marketing, animation or game design environments through a series of hands-on projects that will amplify and challenge their digital design skills. By the end of the course, students will have basic skills in the world of 3D design for use in Watershed courses and beyond. The prerequisite for this course is Digital Design 1.

High School Spanish

Spanish Courses are designed to help students build and strengthen language skills in order to achieve a higher level of proficiency in all modes of communication: Interpretive, Interpersonal and Presentational. From the beginning levels, students will be able to understand main ideas and key details from more complex texts and information, communicate and request information using connected sentences, and grow in their cultural competence as they engage in weekly exchanges with students from Mexico, interact with many hispanic local community groups and engage in service learning through volunteering at Columbine Elementary School (in Spanish led classes). At the Intermediate and Advanced levels, students will continue to build and grow their personal level of proficiency inside increasingly complex linguistic contexts. Students with different learning styles are welcomed and encouraged to participate in this class, as everyone will be connecting with the language and culture from their unique starting point.

Upcycled Mosaics (9-12th Grade, Tri 1 & 3)

In this hands-on class we will explore the ancient art form of mosaics. The course will include an investigation into art history, where we'll explore the five thousand year old history behind this medium. Students will approach the making of mosaics from a constructivist approach, where they will investigate how the materials and tools work best. Students will be responsible for making a personal mosaic, as well as a collaborative mosaic focused on a social justice issue or theme. Students will also be reading and writing to reflect on their understanding as well as deepening their understanding. Critiques, revision and refinement will be central components of this course. Additionally, the course is designed to facilitate risk taking, deep concentration and effort, as well as problem-solving and critical thinking.

Ceramics Through the Ages (9-12th Grade, Tri 1)

This art course connects skill-building with clay to forms of pottery from different times in history. Students will balance creative work with investigation and experimentation as they dive into traditional styles of making, decorating, and firing a variety of forms and vessels. Our primary area of focus will be the ceramic history of the US Southwest. Students will interact with artists, historians, and experimental archaeologists as they unravel the role of ceramics in Four Corners history and work to replicate creations using traditional materials and methodology. The class will travel to the 2023 Southwest Kiln Conference in Blanding, Utah where they will have the opportunity to connect and work alongside artists and makers exploring the beautiful and intricately decorated pottery of Mesa Verde and beyond. In the second half of the course, we will turn our attention to how the forms, decor, and function of historic southwestern pottery has inspired modern and contemporary ceramic artists. In particular, we will study and connect with indigenous artists who draw direct lineage to the potters of old. This course offers a true hands-on approach to studying art history as students strive to build empathy for and knowledge of the potters who inspire artists to this day.

Studio Ceramics (9-12th Grade)

This course is designed to introduce students to clay and the many forms that can be created through handbuilding. Students will fashion a variety of pots by using forms, making attachments, sculpture, and working with slabs. We will also explore a variety of decorative techniques including texturing, sgraffito carving, painting, and slip-trailing. Through a variety of projects, students will be challenged to make a collection of functional and artistic creations. Along the way, students will sketch out ideas; document new techniques and information; participate in constructive critique; reflect on their process and finished work; and maintain a digital portfolio page for the course. The course culminates with a student-designed project where they incorporate aspects of their newfound skills into a summative clay creation.

Cinema Studies: Genres and Filmmaking (9-12th Grade)

In the range of film studies, students will have the opportunity to uncover the scope of film from its innovative infancy with the likes of the Lumiere brothers and Thomas Edison to the contemporary digital medium that commands so much of the mediascape today. Students will journey through the history of cinema by focusing on a collection of film genres. Individual students will be provided the opportunity to specialize in a genre they're curious to know more about and lead their classmates through a presentation of their own learning using a collection of films spanning different decades. Seizing on the opportunity to connect cinema with social and cultural issues, students will have the chance to connect history with the experiential arc of African-Americans in front of and behind the camera. As budding filmmakers, students will immerse themselves in the craft of filmmaking as a medium for storytelling. The class will examine both narrative films as a way to understand the constructs of effective cinematic storytelling. Students will deconstruct the process of moving a well-crafted story to a script and moving that script into production to produce a short film. Each student filmmaker will have the opportunity to complete a series of formative short films honing visual storytelling skills. Through constructive critique workshops, students will develop the skills of offering and acting on feedback to improve the overall craftsmanship of their cinematic stories. Filmmaking skills will culminate with students teaming up to complete a short genre-homage film.

Independent Study/ Directed Study/ Internships

Students interested in pursuing an area of demonstrated passion are able to design their own independent coursework and internship opportunities or enroll in directed study courses (accredited online/ college coursework) . This includes identifying learning goals, making connections in the community, and completing coursework in their topic area. These courses and opportunities are designed to offer an experience for students ready to take on more challenge and self-direction in their learning. Reach out to Jen Curtis for more details if this opportunity excites you.

Math Courses

Students move through seven years of math starting with Math A in the 6th grade. The Watershed mathematics curriculum focuses on helping students develop not just computational fluency but also flexible, robust quantitative reasoning skills. Through projects and real-world mathematics, we support students to increase their mathematical fluency and ability to use math in their day-to-day lives. More and more, future citizens need a flexible understanding of mathematical thinking, with an increased emphasis on data analysis, engineering applications, and computer science. Beginning in the fall of 2021, most of our math courses are expanded to include a focus on these emerging STEM areas. This enhanced math program allows us to make math more relevant to our students' lives both today and in the future.

Watershed Math Courses

- Math A & Introduction to Computer Science
- Math B & Topics in Computer Science
- Algebra 1 & Topics in Data Science
- Geometry
- Algebra 2 & Topics in Engineering
- Statistics
- Precalculus
- Calculus