



2018/2019 Course Catalog

Occupations

(Culinary) *Venom: Toxins and Poisons*

Our job in this class is to learn about some of those most dangerous substances that threaten our lives, both in the food world and in the natural world. What is the most deadly venom? How can one type of poison paralyze while another eats away at its victim? What is the strongest poison known to humankind? The answers may surprise you! We will explore such topics as types of plants and animals that use toxins to defend themselves and venom to subdue their prey, how their chemical weapons work, and how we deal with them as humans! Our group projects will look at possible toxins in our school environment as well as our greater community. We will also have plenty of time in the kitchen and continuing our great reputation of preparing the lunch for our whole school!

(Culinary) *Do you hear what I hear: Sensation and Perception*

Our job in this class is to dive deep into the hardware of how we experience our world. Did you know that our ears use bone vibrations to hear? What about that your eye is the most high-resolution screen in existence? We will also be taste-testing to experience what our tongues are capable of! We will explore such topics as the main five senses and the structures that allow us to experience them, how optical, tactile, and auditory illusions work, as well as how our brain gathers and uses information...and sometimes lies to us about it! Our group projects will look at creating at least one mural in the school, conducting a formal food sample test process using food science principles, and gathering perception data on our students. We will also have plenty of time in the kitchen and continuing our great reputation of preparing the lunch for our whole school!

(Culinary) *Viruses, Plagues, and Zombies: Infectious Diseases and the Micro-World*

Our job in this class is to discover all that we can about how some of the smallest life forms on Earth can be so powerful--most of the time they actually help us out a lot but they can get out of control very quickly! Some of humanity's most critical moments have been caused by bacteria, viruses, and other micro-aggressors. We will explore such topics as the structure of bacteria, cells, and viruses; sources, symptoms, and treatments for some of the more common or interesting diseases; and some of the most historically or politically-significant disease-related events in our history! Our group projects will look at possible contamination in our school environment as well as our greater community, and we will be collaborating on designing a card game based on real diseases-- the more diseases we research, the better the game will become! We will also have plenty of time in the kitchen and continuing our great reputation of preparing the lunch for our whole school!

Structures

It's time to finish the biggest construction project at DMHS. After a lengthy process acquiring a building permit, we'll use designs developed by past students and a professional engineer to build the greenhouse structure before cold weather sets in. Our construction work will allow us to test out the physics of wooden beams, foundations, and snow load calculations--hopefully leading to an even more well-designed greenhouse. In addition, we will visit nearby greenhouses for inspiration and consult with local builders and professionals about issues like city codes, construction techniques, and maintenance. In addition to the main greenhouse work, there will be opportunities for a variety of smaller building and construction projects around the farm.

Animals

The DMHS animal farm is growing! The chickens and rabbits are successfully producing eggs and fiber, respectively. Bees and fish are on the horizon as we continue to build our infrastructure. In this class, students will learn about animal anatomy, cell biology, and animal characteristics and needs. Additionally, students will study evolutionary biology, heredity, reproduction and genetics. Students will determine and implement a plan for continuing to support the animals we have and their production, while also investigating future animals we may want to add to our farm. Additionally, students will care for the animals and work to continue to integrate them into the micro-economy.

Farm -- Plant Care, Harvest and Planning!

Our farm is starting to produce vegetables and needs year round care. In this class we will do the farmwork necessary for each season. In the fall we will harvest vegetables and take care of our new orchard. In the winter we will plan our farm for the spring. In the spring we will be starting seedlings and transplanting them out into the garden. Students will also test and improve soil, fix and set up our irrigation system, harvest flowers and keep our small farm businesses going. This class will include lessons and labs on geology, soil formation, plant biology and ecology, local geology and climate issues.

Bicycles

Bicycles are fun and exciting complex machines that make living without a driver's license easier. In this Science Occupation, you will learn some of the basic laws of physics, including the simple machines and forces that allow a bicycle (and other moving things) to function. Students will have the opportunity to explore how things work—from a can opener to the building of the pyramids, from an axe to a car jack.

We will explore bicycles from many vantage points, possibly including riding. Students will tinker with simple machines in our world and continue the development of our very own bike shop by working with our already acquired bicycles, fixing them up, learning to ride them, and connecting with the Denver bicycle community. Students will have the opportunity to work on individual work and experiments exploring motion, and the interaction of forces. This occupation will culminate in a bicycle ride as a class. (P.S. You do not need to own a bicycle or know how to ride a bicycle to participate in this class!)

Humanities

Africa: The Real Wakanda

Before European contact, before the slave trade, before what we know today as “Africa,” a variety of cultures, societies, and civilizations thrived south of the Sahara desert. We will explore what characterized these different people and their cultures, and what forces shaped their daily lives. Often overlooked in many historical studies, we will examine this fascinating and important region and time period that still affects us today, including the values, aesthetics, and traditions represented in the movie *Black Panther* and other works of art and pop culture.

Africa: The Slave Trade and Colonization

The advent of non-African cultures into the continent changed the course of history forever. We will examine the timeline and repercussions of the European and American slave trade and the colonization of regions of Africa by European nations. With a special focus on geography, tribal history, and global geo-political forces, we will try to understand more clearly why history unfolded as it did, and draw connections to the way the rest of the world interacts with Africa today and how the whole chain of events continued into the modern day. We will combine that with first-hand accounts of the experience of slavery and colonization and attempt to empathize with the personal stories of everyday people on all sides of the story.

Africa: South Africa and Apartheid

The story of the South African people’s struggle against apartheid and the revolution that restored indigenous control of the country is both dramatic and familiar to many Americans. We will examine the particular events, places, and people of that story, while taking a look at the way it compared to the post-colonization struggles of other African nations in the 20th century. We will immerse ourselves in music, art, and stories and try to bring together the work done by other students in the earlier Africa-based project classes to show a full arc of the African story.

Europe: Medieval Europe

The centuries that passed between the fall of the Ancient Roman Empire and the Renaissance are known to many as the “Dark Ages.” Christianity, feudalism, the rise of kings, and disease all played a prominent role in the lives of Europeans during this time. The result of many conflicts during this time was the rise of many of the nation-states that currently exist in Europe today. In this project, students will explore the roles of different individuals in medieval society and understand how the lack of social mobility affected the quality of life of all people: monks, knights, kings, lords and ladies, scholars, and peasants. Students will come to understand the governmental structure of feudalism, the effects of Christianity on culture, and the causes and effects of the plague. We will explore the ways in which agriculture served as the foundation of the social hierarchy that impacted all people, and we will explore the geography, landscape, and economics of the time. Exploration of the lives of individuals (common and notorious alike) will involve research, writing, performance, making costumes and props, dramatic enactment, and visual art.

Europe: British Colonization

Throughout the 17th and 18th centuries, the British Empire expanded its reach throughout the world: to the Americas, to Africa, to India, and more. At one point in time, the British were the most powerful empire in the entire world: they had a strong military, extreme wealth, and successful trade systems. As a result of their wide reach, the British impacted many different peoples throughout the world. In this project, we will learn about the reasons the British expanded their empire and colonized so many different peoples, the wide and successful trade systems that began the fast course to what we now call “globalization,” and the ways in which the British fundamentally changed the course of the lives of so many diverse peoples. Students will have the opportunity to

explore stories from many sides: first-hand accounts of British explorers and colonists, resisters and revolutionaries, and indigenous peoples throughout the world.

Europe: World War II

Considered by many to be the worst, and most justly-won, war in history, World War II and the holocaust live in our collective minds as an imperative to future generations--let us never repeat genocide. What were the forces that contributed to Hitler's rise to power? How did the world allow such savage cruelty, and how did the world unite to defeat it? In this unit, we explore economic, political, and social conditions of the time. Opportunities for work of the hands include small scale models of battles and weapons, tableau captured on film, and creation of graphic novel frames.

Latin America: The Ancient Maya

The Ancient Mayan civilization of Central America was known for its agricultural, architectural, and technological accomplishments. We will explore what characterized this ancient, very advanced civilization and research the geography, economics, agriculture, spirituality, art, and social hierarchy of this society. We will learn about the development of the civilization, as well as the causes of its collapse. We will place special emphasis on the ways in which the Ancient Maya have impacted Latin American culture today.

Latin America: Spanish Colonization

In the time of great transitions and exploration around the world, the Spanish traveled to what is today known as Latin America, interacted with the indigenous peoples throughout this area of the world, and left a lasting impact on the countries of today's Latin America. In the Spanish Colonization humanities project, students will study the interactions between the Spanish and the indigenous peoples of the Americas including the Inca, Maya, and Aztec. Students will learn about why the Spanish came to America, how they interacted with the people they found, and how those native groups responded. We'll explore the ways in which the Spanish impacted indigenous communities, the indigenous communities resisted, and the two cultures combined to develop to become *mestizo*.

Latin America: Revolutions

The 20th century saw the rise of people throughout Latin America as they revolted against the colonial powers that had invaded their land and exploited their people for hundreds of years. People across Latin America initiated many revolutions that helped shape the countries we know in this area of the world today. In this Humanities project, we will explore the phenomena of these revolutions: why they happened and what were their outcomes. Students will have the opportunity to explore the lives of individual revolutionaries through first-hand accounts, art (including music and poetry), and research. Throughout this project, we will come to understand how Latin American countries define themselves today as independent communities and the impact these definitions have on their cultures.

Micro-Economy + Coffee Shop (Economics)

This class will continue the work completed last year in opening Pinwheel Coffee Shop, supported by Great Work Montessori. Students in the Micro-Economy + Coffee Shop occupation will gain a deep understanding of the DMHS micro-economy as a central component of our school community. Students will design, make, and sell products to contribute to the micro-economy, using the Coffeeshop as our store's "home base." Students will also collaborate with other classes (including Occupations, Humanities, and Creative Expressions) to solicit products that will be sold at the Coffee Shop. The academic content of the course will focus on personal and community economics and finances -- students will gain an understand of how our school's micro-economy functions and, also, have the opportunity to contribute meaningfully to its development. Lastly, students will look at the role of economies, businesses, and currency in societies, cultures, and communities throughout history.

Math

Math (*ALL year*)

In consideration of the developmental needs of the adolescent, students continue to develop their “mathematical minds,” building a deeper understanding of the abstract logic inherent in the world in which we live. Using the Montessori Integrated Mathematics® (MIM) curriculum, students achieve higher levels of abstraction through their concurrent work with the head and the hands. All aspects of the math curriculum are aligned with the Common Core Standards.

Exeter Math (Elective Option)

Students will have the opportunity, in addition to the MIM curriculum, to participate in the Phillips Exeter math curriculum, a highly rigorous program that fosters collaborative learning through seminar discussions. Recurring strands of symmetry, rates of change, optimization, graphical representations, vectors and parameterization, modeling, and transformations are woven in throughout the curriculum.

Electives

***** Within their first two years at the DMHS Farm School (in 7th + 8th grades), students must take *at least one* semester-long elective from each of the following categories: Language, Physical Expression, Micro-Economy, and Visual and Performance Creative Expression.**

World Language

Spanish I, Spanish II, Spanish III, AP Spanish (online) (*ALL year*)

This year, there will be three Spanish classes. Spanish I is an introduction to the Spanish language. Spanish II explores the different aspects of the vocabulary and the present tense, preterite tense and imperfect tense. Spanish III explores different aspects of the vocabulary and practice the preterite tense and imperfect tense and explores the future and conditional as well as the subjunctive. Students will also explore aspects of the Spanish culture and will focus on improving written, oral, reading, and listening skills. In addition, some students will be taking AP Spanish online, in this class students will prepare for the AP Spanish exam that will take place in May 2019. If students pass the test they can earn college credits.

Physical Expression

P.E. (*Semester 1 or Semester 2*)

The physical education elective class will provide students opportunities to explore coordinated movements and athletic activities in a structured way so they can confidently pursue those activities further on their own. We will begin each unit with an overview of the format and rules to understand the big picture, and first work on basic movements that are fundamental to the more complex coordination and timing required in order to fully participate. By the end of each unit, students will have the knowledge, skills and confidence to participate in their chosen activity outside of class.

Human Development *(Semester 1 or Semester 2)*

The Human Development elective will open students to their own stage of development within the context of the entire developmental cycle of a human being, beginning at birth. This elective will rely on the Our Whole Lives Sexuality Curriculum, known as OWLS, which is a secular curriculum developed by the Unitarian Universalist Church that helps participants make informed and responsible decisions about their sexual health and behavior. The program hinges around the shared values of self-worth, sexual health, responsibility, and inclusivity. It equips participants with accurate, age-appropriate information in the areas of human development, relationships, personal skills, sexual behavior, sexual health, and society and culture. This elective will also incorporate information around drug and alcohol prevention and intervention as it relates to human development and behavior. Students will be introduced to characteristics of adolescent brain development, as well as body/mind connection activities, such as mindfulness and physical activities.

Micro-Economy and Farm

Micro-Economy Production Students will collaborate to design, create and then manufacture items to be sold at the coffee shop and at our community events. Students will also work on farm projects as needed.

Farm: Students will work on farm projects as needed to continue to build out our urban farm program. Students will also collaborate to design, create and then manufacture items to be sold at the coffee shop and at our community events.

Visual and Performance Creative Expression

Art - Get a Clue! *(Semester 1)*

Where did it happen? Who did it? And with what tool? Based on the game “Clue”, students will explore artists and art making techniques from around the world. Students will also learn to recognize the clues in art to better understand the things they see. This class will include units of study in drawing, mixed media, and ceramics.

Art - Pictionary *(Semester 2)*

If you’ve ever played the game “Pictionary”, then you know how important it can be to be able to communicate visually! This class will focus on using art a tool for communication, expression, and play. Students will work through units of study in ceramics, letter arts, and paper mache.

Public Speaking and Performance *(Semester 1 or Semester 2)*

Public Speaking and Performance will focus on the art of public speaking. Students will develop public speaking skills and confidence while learning skills such as voice projection, breathing, physical techniques for effective public speaking, as well as emotional expression, word economy in speeches, and power words and poses. Students will use their newly learned skills in units on improv, speeches, scenes/monologues, and debate.

Creative Writing *(Semester 1 or Semester 2)*

Students will learn poetic and story/novel forms and conventions such as characterization, world building, point of view, etc... and then create their own short stories, poems, and/or novel section, as well as edit and peer review each other’s work. By the end of the semester, students will have produced ~30 pages of polished and edited work, which they will be encouraged to submit to the school’s literature and art journal.

Game the System: Game Theory and the Science of Human Interaction *(Semester 1 or Semester 2)*

In “Game the System,” students will study game theory, defined as the study of logical decision making involving cooperation and competition in humans, animals, and computers. Through games and the study of real world applications of game theory, students will learn how to predict human reactions and interactions, and understand how situations of cooperation or competition may benefit or hurt certain involved parties, as well as how to facilitate cooperation in order to produce benefits for all parties.