

**Upper School Course Descriptions**  
**Mary McDowell Friends School**  
**2017-2018**

**ENGLISH**

**English 9**

This course is directed toward expanding students' knowledge of literature while improving their literacy and communication skills. Throughout the year, students focus on enhancing their reading, writing, and study skills, while improving their ability to speak articulately and think critically. Students are exposed to an array of literature and cross-curricular content that expands their understandings of different literary genres, including short stories, nonfiction, poetry, drama, and novels. The overarching theme of the course is "Self and Society." Through systematic, differentiated instruction, students produce various modes of writing with a focus on improving their sentence, paragraph, and essay structure. Students will use their improved communication skills to write essays that incorporate quotations and citations to help analyze the literature they study. Additionally, this course expands and develops students' vocabulary, grammar, and decoding skills as concepts are introduced within the context of course material. Sample texts may include *The Catcher in the Rye* by J. D. Salinger, *Siddhartha* by Hermann Hesse, *Maus I* and *Maus II* by Art Spiegelman, *Of Mice and Men* by John Steinbeck, *The Absolutely True Diary of a Part-Time Indian* and *Flight* by Sherman Alexie, *Lord of the Flies* by William Golding and *Persepolis* by Marjane Satrapi. (year-long, 1 credit)

**English 10**

English 10 is directed toward expanding students' knowledge of literature while improving literacy skills. Throughout the year, students focus on enhancing their reading comprehension, writing, and study skills while improving their ability to speak articulately and think critically. Students are exposed to an array of literature and cross-curricular content that extends their understanding of different literary genres, including short stories, nonfiction, poetry, drama, and novels. The overarching theme of English 10 is "Satire and Dystopia." Through systematic instruction, students produce various modes of writing with a focus on improving their sentence, paragraph, and essay structure. In doing so, students produce five-paragraph essays that include integrating and analyzing quotations. Additionally, this course expands and develops students' vocabulary and grammar skills as concepts are introduced in the context of course material. Sample texts include: *1984* by George Orwell, *Lord of the Flies* by William Golding, *Fahrenheit 451* by Ray Bradbury, *Feed* by M. T. Anderson, *The Circle* by Dave Eggers, and *The Handmaid's Tale* by Margaret Atwood. (year-long, 1 credit)

**English 11/12**

The primary purpose of English 11/12 is to expand students' knowledge of literature while improving literacy skills. Throughout the year, students focus on enhancing their reading comprehension, writing, and study skills while improving their ability to speak articulately and think critically. Students are exposed to an array of literature and cross-curricular content that extends their understanding of different literary genres, including short stories, nonfiction, poetry, drama, and novels. To that end, students explore literature with a thematic focus on "Classics" and "The Moral Dilemma." Students also produce various modes of writing,

including analytical essays exceeding five paragraphs. Additionally, this course expands and develops students' vocabulary and grammar skills as concepts are introduced in the context of course material. Sample texts include: *The Great Gatsby*, by F. Scott Fitzgerald. Other books that may be included are: *The Metamorphosis* by Franz Kafka, selected short stories by Langston Hughes and poetry by Emily Dickinson and *The Bluest Eye*, by Toni Morrison.

## **MATHEMATICS**

### **Life Skills Math**

This course is intended to consolidate and deepen the students' number sense and computational fluency as well as aid in solving everyday situational math problems. Topics studied include number properties, factors and multiples, rounding, estimation, and measurement. Students work with money, calculating change, tax, and tip to ensure confidence when exposed to these situations outside of the classroom. Fractional arithmetic and conversion between fractions, decimals, and percents are introduced. Geometric concepts such as properties of shapes and angles are also discussed. Strategies for mental computations and practice with basic mathematical operations are a main focus within all topics. (year-long, 1 credit)

### **Pre-Algebra Concepts**

Pre-Algebra Concepts begins with a review of number sense, and students learn about divisibility rules, factorization, prime numbers, and ratio. The key concept of order of operations is then reviewed, and the use of an unknown is gradually introduced into examples for this topic. The need for balanced equations is explored in order to lay the groundwork for an exploration of variables. Students are exposed to data, handling topics such as reading and constructing data charts, gathering, analyzing and representing data. An emphasis is placed on students' ability to accurately express their understanding of the core concepts at each stage of teaching, and students participate in lessons through whole group discussions, small group work, and independent work. Knowledge and mastery of the course is assessed through a combination of classroom participation, written assessments, projects and regular homework assignments. (year-long, 1 credit)

### **Pre-Algebra**

This course provides students with a solid foundation for future courses in algebra and geometry. Students work to review and strengthen their conceptual understanding of the properties of integers, basic mathematical operations, and computational skills, as well as develop problem-solving skills. Ideas are presented using practical applications with minimal need for abstract conceptualization. The topics covered in this course include: number properties; fractions and ratios; percentages; decimals; variables; word problems; and methods for solving equations. Knowledge and mastery of the material is assessed through a combination of classroom participation, written tests, projects, and regular homework assignments. (year-long, 1 credit)

### **Integrated Algebra I**

Integrated Algebra I is a foundation course in the principles of algebra, which prepares students for future study in the field. It begins with a review of arithmetic and then provides the students with a gradual, progressive development of algebraic concepts, skills, and applications. The

topics of this course include: properties of real numbers; algebraic expressions; linear equations and inequalities; functional notation and vocabulary; and properties of standard functions. Real world applications are presented within the course content and a functions approach is emphasized. Knowledge and mastery of the course is assessed through a combination of classroom participation, written assessments, projects and regular homework assignments. (year-long, 1 credit)

### **Integrated Algebra 1-A**

Integrated Algebra 1-A is the first of a multi-year sequence designed to afford students the opportunity to explore the essential topics of algebra, which form the foundations for all further high school mathematics courses, at a pace that suits their learning needs and styles. Students begin the year in Integrated Algebra 1-A by becoming more proficient in the abstract use of symbols to represent unknown quantities. They also explore solving two-step equations and inequalities. The students then investigate polynomials, and solving and graphing quadratic equations. Integrated Algebra 1A students develop confidence in using functions and functional notation. Students participate in lessons through whole group discussions, small group work, and independent work. Knowledge and mastery of the course is assessed through a combination of classroom participation, written assessments, projects and regular homework assignments. (year-long, 1 credit)

### **Integrated Algebra 1-B**

Integrated Algebra 1-B is the second year of an elongated Integrated Algebra course. In addition to students developing a deeper understanding of the fundamental concepts explored in year one, the course introduces several new concepts such as radicals, simplifying radicals, and the Pythagorean Theorem. Students also investigate systems of equations, learning to solve them both algebraically and graphically. Students begin to model word problems algebraically. They are asked at this point to begin to express generalizations and verify conjectures in abstract form. (year-long, 1 credit)

### **Geometry Concepts**

This course combines the essential elements of geometry with a more exploratory, less rigorous approach that simultaneously affords students the opportunity to experience applications of geometric principles in nature, art, and architecture. Students begin by exploring the underlying elements of all geometry, points, lines, and planes, and how these relate to our familiar notions of dimension. From here, parallel and skew lines are introduced as well as the concept of the angle and its role in determining the nature of various polygons. This leads to a discussion of the simplest geometric shape, the triangle, its mathematical and physical properties, and its important use throughout history in art and architecture. In a similar manner, students investigate firsthand simple quadrilaterals and finally the circle. Throughout the course, students work with Geometer's Sketchpad to investigate relationships between different components of geometric figures. (year-long, 1 credit)

### **Geometry**

This course provides students with a thorough introduction to Euclidean geometry. Beginning with a formal definition of such familiar notions as dimension, point, line, plane, and angle, it first acquaints students with the concept of axiomatic systems and the importance of mathematical rigor. Students are then introduced to the triangle and taught methods of proof

using simple theorems about congruence, similarity, etc. An emphasis is placed on the traditional two-column proof. *Geometry* builds upon these ideas as it explores the properties of quadrilaterals and other polygons, culminating in the circle and its many unique characteristics. Finally, students return to the concept of dimension to investigate perimeter, area and volume, and the relationships between them. Students apply many of the skills learned in algebra within a geometric setting. (year-long, 1 credit)

### **Euclidean Geometry**

Using Euclid's classic, *The Elements*, as the text, this course employs a traditional axiomatic approach to explore the properties of space--shape, size, ratio, and their relation to number--as well as the basic principles of logical argument and deductive proof. In this way, students learn the core concepts of geometry that are essential for all future work in mathematics while exploring the challenges of building up knowledge from first principles and the need for analytical thinking and mathematical rigor. Each new idea is meticulously explored to afford students the traditional mathematical perspective of the topic. Topics include: points, lines and planes; circles; angles, triangles, quadrilaterals, regular polygons and platonic solids; perimeter, area, and volume; and constructions and transformations. Students apply many of the skills learned in algebra within the geometric setting. (year-long, 1 credit)

### **Algebra II**

The Algebra II course consolidates and deepens students' algebraic understanding using a functional approach. Topics include: equations and inequalities; polynomial, radical and rational expressions and equations; linear and quadratic functions; common parent graphs and their transformations; operations, compositions and inverses of functions; combinatorics; exponential and logarithmic functions; trigonometric functions and their relationships; and the unit circle. Students develop rules for sketching, translating, reflecting and applying the various functions they have been studying. Graphing calculators and the computer software program *GeoGebra* are used throughout the course. (year-long, 1 credit)

### **Pre-Calculus**

This course builds on the skills acquired in the algebra sequence to strengthen and deepen students' understanding of functions and their applications. Students cover a range of topics in coordinate geometry and trigonometry including: polynomial functions; rational functions; trigonometric functions; trigonometric equations and identities; exponential and logarithmic functions; combinatorics; conic sections; and an introduction to limits. If time allows, additional topics such as sequences, series, and matrices are explored. (year-long, 1 credit)

### **Calculus I**

This course covers the major concepts in the field of calculus. Students encounter the notion of limits and their properties, which will be used to develop their understanding of instantaneous rate of change. This leads to a formal treatment of derivatives and their application to familiar functions such as polynomials, trigonometrics and exponentials. Various methods for approximating areas under curves are investigated, culminating in the idea of integration, which is subsequently applied to calculating areas under curves as well as volumes of revolution. With supplemental work and support, the course is intended to provide students with the necessary knowledge to successfully undertake the Calculus AB examination. Algebraic skills are consolidated and developed in the context of calculus questions. Those students who wish to take

the course and sit for the AP exam must commit to completing independent summer work and to one additional class meeting outside of regular class time. (year-long, 1 credit)

### **Personal Finance**

The Personal Finance course is designed to help students develop their abilities to make informed consumer decisions. It will focus on the application of both general and specific mathematics skills in context. It will emphasise interpreting and comparing data that is primarily represented in graphical form. Topics covered will include: budgets and how to create them, banking, bills and taxes, credit cards, insurance, saving and investments, and mortgages and other loans. (year-long, 1 credit)

### **Statistics**

Statistics allow for better decision-making in our everyday lives. From healthcare to politics, sales, and everywhere in between, statistical analysis can give us a better idea of the best choice based on data rather than a guess. This elective-based course will give students the tools to read and interpret statistical data presented in multiple ways; they will use published statistical data to decipher biases, poor sample choices, and more. They will learn about how samples can help us find trends within a population, measures of “central tendency” (average, median, etc.) and their relevance, what a normal distribution (bell curve) looks like, and how standard deviation can tell us a lot about a population. Students will test hypotheses and create their own projects based on what interests them and what questions they would like answered about the world that surrounds them. (year-long, 1 credit)

### **STEM Fundamentals**

The STEM Fundamentals course will offer exposure to coding, making, and tinkering as opportunity to develop a practice of STEM core concepts. Through instruction in programming in Python, combined with exploration of physical electronics and robotics (Raspberry Pi, Arduino), the class will provide a means to engage in exploring STEM practices and phenomena. Tinkering typically blends the high and low tech tools of science along with a strong aesthetic dimension that supports students' self expression. Classwork will be team and project based, with a focus on cross-subject content matter in projects. This is a hands-on workshop, not a lecture-based class. Participation is essential! We want everyone to be making and tinkering together: trying things out, asking questions, sharing ideas, and reflecting together as a community. Peer review, as well as a student's own work, will make up the whole of their grade. (year-long, 1 credit) *\*students may opt to use this course to fulfill either a math or science requirement.*

## **SCIENCE**

### **Earth and Space Sciences**

The Earth and Space Sciences course is based on the historical results of inquiries into the physical sciences as a means of understanding the size, age, structure, composition, behavior of Earth, the sun, and the moon. The interactions and impact of life on the planet will also be explored. The course will examine the Earth as a set of systems—atmosphere, hydrosphere, geosphere, and biosphere—that are intricately interconnected. Labs and activities will center on

modelling these dynamic changes and how they relate to our world geography and topography as it exists today. (year-long, 1 credit)

### **Chemistry**

Chemistry is broken down into four main units: Alchemy, Smells, Weather, and Toxins. These units may cover topics such as Matter, Density, Atomic Structure, Bonding, Molecular Structure, Phase Changes, Behavior of Gases, Stoichiometry and Solution Chemistry. Chemistry examines the experimental evidence that supports the topics in the class. Students will perform lab experiments to form new knowledge. Math concepts are introduced and explained only after the concepts have been thoroughly reviewed. Not only will students confirm facts learned in class, but they will also sort and organize information, build molecular models, and evaluate the merits and shortcomings of physical models for explaining phenomena. In short, the way students learn chemistry mirrors how chemists carry out their work. (year-long, 1 credit)

### **Biology**

This course provides students with hands-on learning experiences that enable them to discover how biology can relate to their lives and the world around them. Students explore current research in biology through case studies and investigate scientific arguments and explanations. Students design and test hypotheses, collect and analyze data, generate arguments, and critique claims and evidence through lab investigations. The theme is to start big by exploring how organisms interact with their environment through the study of ecology. Then we work our way into the microscopic world of the cell to understand how we function at the molecular level. With the foundations of molecular biology, we finish off the year with anatomy and physiology. Other topics we hope to explore include genetics and heredity, photosynthesis and respiration, environmental issues, and evolution. (year-long, 1 credit)

### **Ecology, Evolution and Climate Change**

In this course, students explore the vast web of ecological interactions between organisms and the environment. Topics include biodiversity, sustainability, ecosystems, habitat destruction, climate change, human evolution, zoology, extinction, and genetics. This course provides students with the scientific principles and research methodologies to understand the interrelationships of the natural world. Students practice how to do scientific research through reading primary literature, conducting laboratory experiments and writing formal lab reports. Students will also incorporate knowledge from their past science classes and apply previously learned concepts to this course. (year-long, 1 credit)

### **Neuroscience**

Recent developments in neuroscience have revolutionized our way of thinking about familiar human experiences such as sleep, pain, addictive behaviors and drugs. The cornerstone of this class is to engage in Socratic discussions where students explore questions that draw out their prior knowledge and misconceptions. They are also challenged to think critically, to provide evidence and to defend their opinions. Through selected readings, presentations, demonstrations and labs, students explore the structure and function of the nervous system from the microscopic inner workings of a single nerve cell to the staggering complexity of the brain, brainstem and spinal cord. We will study how our brains work and how neurological disorders and our choices can change our brains. (year-long, 1 credit)

## **Forensic Science**

Forensic Science introduces students to the analysis of physical evidence found at crime scenes. By drawing upon their knowledge of physics, chemistry, and biology, students explore the science used to evaluate crime scenes. This course starts with the general study of forensic science and evidence analysis before investigating more specific topics, such as: fingerprints; blood spatter; bone and skeletal identification; entomology (the study of bugs); DNA analysis; and toxicology. Students develop their critical thinking skills through laboratory investigations, simulations, demonstrations, and case study analysis. (year-long, 1 credit)

## **Astronomy**

The focus of this course will be to develop knowledge and understanding about the solar system, galaxy, and universe in which we live. Central to this understanding is an appreciation for how we have obtained this information about the universe. Students use tools of observation to learn about space and learn how other astronomers past and present have used tools available. Using the process of science, students will learn about the tools used to observe the sky, stellar astronomy and how stars change over time. Additional time will be spent on planetary astronomy and how interstellar spacecrafts are obtaining information about other bodies in the solar system including the search for extraterrestrial life. (year-long, 1 credit)

## **Paleontology: The Study of the History of Life on Earth**

The remains of life forms are found in rocks and are evidence of the abundant lifeforms that once inhabited the Earth. This course will examine how scientists use fossil evidence to reconstruct the history of life on Earth. What is known of the evolutionary patterns of plants and animals comes from the study of these fossils. The course will look at mass extinctions, speciation and the development of complex ecosystems through time. Major extinction events and subsequent recoveries form the basis of the Geologic Time Scale. Studies will follow life on Earth from early single cell organisms to the development of marine life; the transition to land based flora and fauna; the age of dinosaurs; and, finally, to the age of mammals, ultimately leading to the advent of the anthropocene. (year-long, 1 credit)

## **Topics in Physics**

Topics in Physics will cover both classical and current topics in physics. The class will begin with an exploration of electricity and magnetism. Subsequent topics, which will be determined by student interest, may include astronomy and space exploration, atomic physics and waves. (year-long, 1 credit)

## **STEM Fundamentals**

The STEM Fundamentals course will offer exposure to coding, making, and tinkering as opportunity to develop a practice of STEM core concepts. Through instruction in programming in Python, combined with exploration of physical electronics and robotics (Raspberry Pi, Arduino), the class will provide a means to engage in exploring STEM practices and phenomena. Tinkering typically blends the high and low tech tools of science along with a strong aesthetic dimension that supports students' self expression. Classwork will be team and project based, with a focus on cross-subject content matter in projects. This is a hands-on workshop, not a lecture-based class. Participation is essential! We want everyone to be making and tinkering together: trying things out, asking questions, sharing ideas, and reflecting together as a community. Peer review, as well as a student's own work will make up the whole of their grade.

(year-long, 1 credit) *\*students may opt to use this course to fulfill either a math or science requirement.*

## **SECOND LANGUAGE**

### **American Sign Language I**

American Sign Language I offers an introduction to the use of ASL as a second language. The course focuses on using the language in realistic conversations, learning vocabulary and grammatical structures that are relevant to student's daily lives. Students learn to communicate via ASL in addition to studying unique and important aspects of the Deaf community and culture in America. No prior knowledge of ASL is required. (year-long, 1 credit)

### **American Sign Language II**

American Sign Language II is the next class in the ASL as a second language sequence. The course is designed to move from introductory structures to an intermediate signing environment, including more advanced conversation techniques and descriptive signing. As students increase their signing vocabulary, the class shifts between voice-on and voice-off instruction. Students continue their study of cultural activities associated with the Deaf community in America. ASL I or its equivalent is required. (year-long, 1 credit)

### **American Sign Language III**

American Sign Language III is the third class in the ASL as a second language sequence. The course is designed to strengthen intermediate signing skills and move toward advanced proficiency. Students continue to improve their signing formations and grammar structures while creating extended stories and projects in the language. The class also experiences increased time in a voice-off format in order to increase the receptive and expressive skills of all students. Students continue their study of cultural activities associated with the Deaf community in America. ASL II or its equivalent is required. (year-long, 1 credit)

### **American Sign Language IV**

American Sign Language IV is the fourth class in the ASL as a second language sequence. The course is designed to strengthen receptive and expressive skills in advanced learners. Emphasis is placed on classifiers, role-shifting, story building and natural fluidity. Students focus on utilizing this language in both formal and informal settings. The class is conducted in a voice-off format in order to increase the authenticity of conversations in a classroom setting. Students continue expanding their study of cultural activities associated with ASL and the Deaf community in America. ASL III or its equivalent is required. (year-long, 1 credit)

### **Spanish I**

This introductory Spanish course provides an exposure to high frequency vocabulary and grammatical structures through physical gestures, story, song, and theatre. Meaningful context is created to develop speaking, listening, reading and writing skills and to promote whole language acquisition. Materials and media in Spanish are carefully selected to incorporate history and culture of the Spanish-speaking world. No prior knowledge or study of Spanish is required. (year-long, 1 credit)



## **Spanish II**

Spanish II continues to expose students to high frequency vocabulary and grammatical structures. Through physical gestures, story, song, and theatre, meaningful context is created to further develop speaking, listening, reading and writing and to promote whole language acquisition. In addition to music and other media, level-appropriate readings are carefully selected to incorporate the history and culture of the Spanish-speaking world. Spanish I or its equivalent is required. (year-long, 1 credit)

## **Spanish III**

In Spanish III, students expand their knowledge of the language through high frequency vocabulary phrases. Storytelling, cultural readings, poetry recitations, and theatrical skits are used to create meaningful context and to promote whole language acquisition. Grammatically, students will learn how to better manipulate present tense phrases while beginning to incorporate the past tenses. Students will study snapshots of Mexican and Guatemalan history and these historical reference points frame the structure and content of the course. Students are required to perform live in the annual language festival evening in March.(year-long, 1 credit)

## **Spanish IV**

Spanish IV deepens students' knowledge of the language through continued exposure to high frequency vocabulary in both the present and past tenses and begins to incorporate more complex grammatical structures and idiomatic expressions. Level-appropriate novels, cultural readings, poetry, song, and theatrical skits that reflect both the students' lives and that of the Spanish-speaking world are used to create meaningful context and to promote whole language acquisition. Students will study the history of Puerto Rico and its complicated relationship with the United States beginning in the 19th century up until present day. This theme will form the structure and content of the course. A majority of the instruction is in Spanish, and students are expected to speak Spanish as much as possible in this course. Students are required to perform live in the annual language festival evening in March. Spanish III or its equivalent is required. (year-long, 1 credit)

## **SOCIAL STUDIES**

### **20<sup>th</sup>-Century World History**

The Upper School social studies curriculum begins with the study of 20<sup>th</sup>-Century World History in the ninth grade. 20<sup>th</sup>-Century World History is a chronological examination of world events, societal trends, and movements across the globe over the last 100 years. Themes studied include imperialism, the world wars, national and independence movements, ethnic and regional conflicts, totalitarianism and dictatorships, genocide, the cold war, and globalization. Students use a number of primary and secondary sources in the forms of texts, films, music, art, political cartoons and other media. Document-based questions and other writing and critical thinking strategies are introduced to help students engage with historical content. Students will complete papers, projects, and presentations, and engage in class discussions. (year-long, 1 credit)

### **United States History**

This is an introductory survey course focused on American history. This course covers America before the arrival of Columbus through present day. Students explore history through political,

economic, sociological, and cultural lenses. In addition, students examine the roles that race, class, and gender play in shaping institutions, political power, American cultural practices and the meaning of equality. As they engage with a wide variety of materials, students develop the analytical and critical thinking skills necessary to comprehend the complexities of American history. (year-long, 1 credit)

### **Global Studies**

Our goal is for students to gain a richer understanding of Latin America, Africa, the Middle East, and Asia today. To this end, we look back through history to find answers to questions about contemporary issues (Why is there so much Central American immigration to the US today? Why did piracy develop off the coast of Somalia? Why did ISIS take root in Syria and Iraq?). In answering these questions, students examine religion, political and economic ideologies, colonization, racism and ethnic conflict, revolutions and nonviolent resistance, and immigration. Over the course of the year, students will visit various houses of worship to support their study of world religions. (year-long, 1 credit)

### **Social Identity**

Social Identity is a discussion-based course that challenges students to examine everything they see, hear, think, and do through a critical lens. Students explore the concepts of race and gender, power and prejudice, and how they affect people's daily lives and life trajectories. Topics include white privilege, unconscious bias, the criminal justice system, economic inequality and gentrification, Islamophobia, the representation of women in the media, feminism, masculinity, transgender rights, and heteronormativity. In addition to uncovering the bias around us, students examine their own identities, privileges, and prejudices, and consider how they can work to promote equality. Sources include popular media, such as contemporary music, film, and advertising; news; social commentary; and students' own experiences. (year-long, 1 credit)

### **International Relations**

Students will examine the world's most pressing issues: climate change, war, inequality, human rights, nuclear proliferation, famine, and refugees. The class aims to help students understand how and why specific policy decisions are made by individual nations, regional partners and international organizations, including the United Nations. Students will write critical, reflective and argumentative papers, and create presentations. (year-long, 1 credit)

### **Art History Survey**

A survey of artistic expression from the earliest rock paintings to today's multimedia and conceptual artwork. Students will learn to look at art and see it within the social and political context of the time in which it was created. We will take field trips to museums, galleries, and artist studios. Students will write traditional art history comparative papers, as well as create multi-disciplinary responses to works. (year-long, 1 credit)

### **Current Events**

This class will examine selected topics in current events in depth. While the focus is contemporary issues, the class will explore relevant historical, cultural, and political contexts to better ground students in their understanding of developments in the world today. Topics may include domestic politics, international relations, or subjects of particular interest to students. (year-long, 1 credit)

## **Empires**

Empires examines history's most expansive and powerful empires. Students learn about, research and discuss how empires grow, produce and supply food, govern themselves, support the arts and conduct warfare. This course addresses essential questions surrounding imperial longevity, ethnic diversity and cultural life. A few of the empires we will investigate are the Mongol Empire, the Roman Empire, the Byzantine Empire, the Holy Roman Empire, the Inca, the Qin dynasty and the Ottoman Empire. By the end of the course, students will be able to make connections between ancient empires and modern imperialism. (year-long, 1 credit)

## **VISUAL AND PERFORMING ARTS**

### **DRAMATIC ARTS**

#### **Foundations of Theater**

This course is designed as an introduction to the world of theater styles, genres and techniques. Students gain a better understanding of the world of theater and its importance through an exploration of skill development, improvisation, performance and collaboration. This is a foundation course for those who hope to gain self-awareness and confidence as well as an energetic hands-on experience that provides the groundwork for further theatrical exploration and participation. No experience needed. (year-long, 1 credit)

#### **Fundamentals of Improvisation**

This class introduces students to the fundamentals of improvisation and storytelling skills through long-form improvisational structures. Through exercise and games, students will learn the basic skills of improvisation and will learn advanced techniques for improv scene-work, including The Montage and Time Dash. Students will have fun developing their spontaneity, playfulness, and imagination, while expanding their character range and increasing their confidence as performers. No experience needed. (year-long, 1 credit)

#### **Advanced Theater**

This is an advanced theater course for students interested in deepening their skills and theatrical exploration and participation. Students learn to advance their creative process including text analysis, given circumstance, and pursuit of intention in coordination with exercises and improvisation designed to enhance concentration, imagination, resonance, movement, and projection. Prerequisite: Foundations of Theater or instructor approval is required. (year-long, 1 credit)

## **MUSIC**

### **TIMARA (Technology in Music and Related Arts)**

This course introduces basic recording techniques, composition, and sound design through hands-on training with microphones, synthesizers, MIDI-controllers and laptop-based sequencers. The course focuses on electronic, hip-hop and pop music but students are welcome to explore any style of music. After an introduction to the equipment and software, students will compose and produce their own music or recreate songs from scratch with the tools being

studied. Students will also learn basic music keyboarding skills as a necessary tool for composing. Throughout the school year students will be presented with opportunities to share their work with the MMFS community. No prior experience with music production is required to take this class. Vocalists and instrumentalists are encouraged to register. (year-long, 1 credit)

### **Band**

Band is a performance-based course in which students strengthen their skills as instrumentalists and/or vocalists in a small ensemble. The course focuses primarily on modern music, such as rock and jazz, though styles vary according to student and teacher interest, as well as the particular instrumental make-up of any given ensemble. The class focuses on skill development, collaboration, improvisation and performance. The ability to play an instrument is not required, but is helpful. Specific instruments vary, with guitar, percussion, voice, bass, and keyboard as typical components of the ensemble. Each semester's activities will culminate in a performance before a live audience of MMFS community members. (year-long, 1 credit)

### **Singing**

Students in Singing class will learn the basics of vocal technique including breathing, resonance, and healthy sound production. During each class period, students will practice singing exercises and explore a variety of songs from various styles and cultures. Folk, classical, jazz, and musical theater will be explored. Students will also learn to read music and expand their critical listening skills. (year-long, 1 credit)

### **Piano Workshop**

Students in Piano workshop will learn the fundamentals of playing the piano, including sight-reading and playing by ear. The piano will also be used as a tool for understanding the basics of music theory and harmony. In each class, students will work on a variety of activities on the keyboard including structured exercises such as scales and chords, as well as more independent activities like improvisation and composition. Students will also be given the opportunity to play music of their own choosing, using sheet music or chord charts. (year-long, 1 credit)

### **World Music**

Students in World Music will explore the traditional music of various cultures and nations around the world including West African, Southeast Asian, Caribbean, South American, Indian, and Native American. American forms such as Blues and Jazz will also be explored. Daily class time will be spent on a variety of activities including listening to ethnographic field recordings, reading primary source documents, singing, and playing instruments. Students will also be exposed to the fundamentals of ethnomusicology, the study of music of different cultures.

## **VISUAL ART**

### **Ceramics**

This class will introduce students to the fundamentals of working with clay! Projects will invite students to identify and explore an individual response to conceptual prompts. Students will be guided through a series of exercises to develop their personal research practice as artists. Class time will be divided between studio time and the study of historical and contemporary examples

of artwork that engages in the conversation with pottery and sculptural ceramics. Students will mostly develop their skills hand-building through a variety of methods (pinch pot, slab construction, coil construction and modeling). Students will also have the chance to explore throwing functional forms on the wheel and learning how to apply a variety of glaze techniques to achieve different decorative effects. As a class community, we will engage in personal reflection and in-process critiques. (year-long, 1 credit)

### **Sculpture**

This class will introduce students to the fundamental elements of three-dimensional design. Students will learn the foundations of planning, designing and constructing sculptures while investigating how to express their ideas through the use of materials. We will use the rich history and resources of New York City to support class discussions about contemporary sculpture and make connections to our own lives. Projects will be based on conceptual prompts, material demonstrations and students' individual research practice. Materials might include: paper, wood, clay, metal, fiber, as well as found objects and assemblage. Throughout this course, students will develop a range of interdisciplinary skills and learn problem-solving strategies in regard to spatial relationships. (year-long, 1 credit)

### **Drawing & Painting**

Drawing and Painting students are introduced to techniques that create a strong foundation in order to allow them to explore and express their artistic voice in a sophisticated manner. Traditional media and subject matter such as pastels and still lifes are taught alongside contemporary assignments that utilize digital media. There is a strong art history component, which also helps students to discover their unique processes as artists. The course utilizes the wealth of resources in NYC, including museums, galleries and artist studios. Students develop a level of visual literacy that helps expand their artistic expression. Connections are made to many aspects of the Upper School curriculum, including Field Studies. Students also learn how to analyze their own work and that of their peers through structured critiques. Students also maintain a sketchbook throughout the course, which aids in charting the development of their artistic voice. (year-long, 1 credit)

### **Advanced Painting**

This course will provide an introduction to the basic language of the painting discipline. Topics covered will include tools, preparation process for both canvas and wood panels, color theory, the use of acrylic paints and additive mediums, painting procedures, and the care of finished paintings. Students will complete painting assignments designed to enhance both the form and concept of their work. Prerequisite: Drawing and Painting or its equivalent with teacher permission. (year-long, 1 credit)

### **Digital Art**

“Digital Art” is any art that incorporates the use of technology as an essential part of the artistic process and creation of the work. In this course you will be exposed to successful contemporary artists who incorporate technology in their own art-making practice. You will investigate the medium's short but rich history, and explore specific programs such as Adobe Photoshop, Premiere, and InDesign. You will learn a variety of photographic techniques and develop a discerning eye. During the second semester you will be encouraged to design projects that enable you to focus on an area of digital art production that is most interesting to you. Finally, you will

hone and develop your own artistic voice. (year-long, 1 credit)

### **Photography**

The world of photography encompasses everything from fun apps, to cool cameras, to high tech equipment and software, to low tech imagery. However, none of this will help you make a great photograph. Knowing how to use light, create compositions, and turn what is in your head into a print are the keys to being a great photographer. Students will develop technical and conceptual skills that will be the foundational building blocks for creative control over the outcomes of their photographs. Students will carry out several different assignments from start to finish, learning the capabilities of manual digital SLR cameras, lighting, Adobe Bridge, Adobe Photoshop and quality printing techniques. Each student will build skills by setting individual goals through project planning, articulating their ideas, and reflecting upon their own creative processes. At the end of the course, students will have experimented with various genres and will be able to organize and sequence their best photographs in a portfolio edit. (year-long, 1 credit)

### **Advanced Photography**

Advanced photography pushes the boundaries of the medium and strives for expanding and elevating how you create your work. Students will be challenged to explore a range of different styles and develop more personal and independent projects. The class will focus on the nuances of studio lighting, careful practices in intentionally choosing camera settings, properly organizing files in Bridge, and developing one's own style using finesse and subtlety with photo editing software. Students will review the works of contemporary and historical photographers and learn how to create prints using traditional and experimental means of image making. Students will reflect upon their own creative processes and constructively critique the works of your peers. Ultimately, students will organize and sequence their best photographs in a portfolio edit. Each student will create an artist statement to accompany their portfolio of a cohesive body of work. (year-long, 1 credit)

*Prerequisite: Advanced photography students should have taken Photography at MMFS or submit a portfolio and be prepared to demonstrate understanding of how to manually use digital SLR cameras and manipulate images using Photoshop.*

## **PHYSICAL EDUCATION**

### **General Physical Education**

Physical Education students are introduced to the fundamentals of physical fitness, team and individual sports. Sports language, skills, rules and strategies are discussed to improve overall knowledge. Physical fitness is incorporated into every lesson. Our physical education classes aims to lay the foundation for lifelong movers by developing, inspiring and cultivating student's confidence in movement activities. To that end, the physical education curriculum provides a rich and expansive range of activities for students to participate in. Emphasis is placed on personal fitness, individual growth and appreciation for movement. Classes are held in the gymnasium, fitness room, local facilities and outside at local parks when possible. Appropriate clothing, attitude and effort in daily activities constitute a large portion of each semester grade. (year-long, 1 credit)

## **STUDENT DEVELOPMENT**

### **Health & Wellness**

All students in the Upper School participate in the Health & Wellness program through year long courses or specialized workshops. The program gives students the opportunity to practice health enhancing behaviors and reduce health risks through exposure to a wide range of practical and age appropriate topics. Students discuss a variety of issues that affect their personal health as well as issues affecting the global community, such as health promotion, disease prevention, and access to care. The Health & Wellness program aims to help all students make independent, informed decisions concerning their physical, mental, emotional, intellectual, environmental, and social health. Throughout the program, students will analyze the influence of family, peers, culture, media, technology, and other factors on personal health and healthy habits, as well as discuss how they can advocate for personal and community health. The Health & Wellness program covers a range of topics, including, but not limited to, nutrition and fitness, adolescent development, alcohol, tobacco, and drug use, sexual health, interpersonal relationships, stress management, goal-setting, decision-making, independent living skills, and global health issues.

### **College Seminar 11**

This is a full year, pass/fail class for all juniors. In this course, we explore post-secondary options; we discuss how to do a college search, what goes into college applications, how one's learning disability plays into one's search, how to get the most out of a campus visit, and how to start the college essay. While this is a group course, students also have ample time to meet with the Director of College Guidance individually. (year-long, ¼ credit, pass/fail grading, required for juniors)

### **College Seminar 12**

This is a full year, pass/fail class for all seniors. In this course, we spend most of the fall working individually on college applications. Throughout the spring, most of the discussions revolve around choosing the right school, how to advocate for oneself in college, how to secure accommodations, course selection in college, and health and wellness issues. (year-long, ¼ credit, pass/fail grading, required for seniors)

### **Field Studies**

The Upper School Field Studies program provides students with an opportunity to expand their learning environment well beyond the physical boundaries of the classroom. The program is woven into the curricula and provides a venue to explore concepts in depth. It acts to enrich student knowledge and experience of the community and world outside of academics. Past Field Studies days have included explorations of Brooklyn neighborhoods, investigation of the power of ten, seeing theatrical productions as a school including War Horse and Rime of the Ancient Mariner as well as addressing social justice issues such as immigration, the death penalty and LGBTQ rights. (year-long, ½ credit)

### **Freshman Workshop**

Freshman Workshop is a ninth grade class that covers a wide range of topics all pertaining to a healthy transition from middle school to high school. The students learn appropriate use of

technology at school highlighting the programs that are used day to day as well as supplemental programs to aid students in completing their school work. Since every student at our school has some sort of learning disability, we do a unit on identifying different types of learning in order to help the students understand their personal learning style. We also focus on social development through the use of Social Thinking to help students navigate their personal and school-based relationships in a healthy way. This unit focuses on the understanding and ability to identify the various levels of friendships and interactions that arises in the school community. We end the year in a transitional unit that highlights the idea of plagiarism and appropriate citation in order to get them ready for Learning Strategies in the tenth grade. (year-long, ¼ credit, pass/fail grading, required for freshmen)

### **Quaker History and Practice**

This course examines Quakers of historical importance and the practices that have given Friends a worldwide reputation as peacemakers. It focuses on the core values of Friends, including simplicity, peace, integrity, community, equality and service/stewardship. The course is designed to be experiential and to allow opportunities for individual reflection and group growth. The course also contains elements of comparative religion and ethics as it seeks to make universal connections among values upheld by peaceful people who strive to live their lives with integrity in all cultures and faiths. (year-long, ¼ credit, pass/fail grading, required for freshmen)

### **Learning Strategies**

Learning Strategies meets twice every seven-day cycle. The class is about learning: different ways people learn, common learning disabilities, and related issues such as working memory, attention, and executive function. Students will learn about the development of the teenaged brain and how this relates to learning and behavior. We will explore how specific learning disabilities can affect a person's experiences and strategies students can use to succeed academically. We will also explicitly study and practice strategies for academic tasks required in many classes, such as studying for exams, note-taking, paraphrasing, citing sources, and creating and supporting a thesis. Students will access content through videos, websites, class discussion, and simulations of various learning challenges. (year-long, ¼ credit, pass/fail grading, required for sophomores)