

## MSON Course Offerings

### **AMERICAN VOICE, AMERICAN SPEECH: WORD AS ACTION FROM ANNE BRADSTREET TO DONALD TRUMP** (Spring)

English

**Target Grade Level: 11-12**

**TEACHER: Sharon Louise Howell, Indian Springs School, Indian Springs AL**

**Monday / Wednesday, 3:35-4:35pm EST**

*Prerequisite: US History (prior or concurrent)*

In this course, students will listen across history to the American voice—from Bradstreet and John Winthrop, through Franklin, Thoreau, Whitman, Dickinson, Jacobs, Douglass, Twain, Cole Porter, James Baldwin, and Gertrude Stein, to MLK, Dylan, Steinem, and Obama. We will listen to music, look at art and film, and consider the more tangled “voice” of advertising, television, and political theater.

Even as it has proliferated and transformed, the American voice has maintained an urgent ambivalence about what it means to speak the truth, who should speak it, and to what end. Some of our guiding questions will be: what does it mean to speak as an American—to have an “American” voice? Does it have a distinctive character? Does it want to cause trouble, or solve problems, or both? Does it need to interact with history? We will look at the ongoing, central tension in much of American speech between the individual and the democratic collective, and also consider the related tension between reflection and action as conditions of possibility. We will also investigate what forms of speech are surrounding our students and how we might replicate them in order to understand them.

Among other writing assignments, students will maintain an ongoing analytical blog and submit a final paper on a topic of the student’s choosing in consultation with the teacher.

### **BUILDING UTOPIA** (Fall)

Art

**Target Grade Level: 9-12**

**TEACHER: Mary Ellen Carsley, Severn School, Severna Park MD**

**Monday / Wednesday, 3:35-4:35pm EST**

*Prerequisite: None; background in Ancient and European History recommended*

Utopia, “a good place,” as defined by the Greeks, is a term coined by Sir Thomas More referring to a fictional ideal island society. The act of intentionally shaping one’s environment to be “a good place” modeled after sustainability, economy, and delight is a uniquely human endeavor. This semester long study examines the course of Western Architecture from the Ancient Egyptians to the 21<sup>st</sup> century through the lens of the primary philosophic ideas that have been the drivers of aesthetic vision of Western civilization architecture through the ages. The course will offer an introduction to design principles, the visual language of architecture, and design analysis. The necessities, desires, and spiritual beliefs which go into the shaping of a culture’s aesthetic vision of their ideal built environment will be examined in a series of seven units of the course of the semester:

1. Forming the Human Universe: Mark Making and the Necessity of Shelter
2. Creativity and Humankind: Beauty Defined and the Building of Civilizations
3. Immortality and the Gods: Building for the Greater Glory
4. Getting Perspective: Perfect Geometry in Design and Building in the Humanist and Rational World
5. Power and Production: Society and the Machine
6. Modern Utopia and the Architect’s Vision: Shaping an Individual World
7. Back to the Future: Palimpsest and Irony

### **CREATIVE NON-FICTION WRITING WORKSHOP: IF ONLY YOU COULD SEE THIS PLACE**

English

(Spring)

**Target Grade Level: 11-12**

**TEACHER: Susan Conley, Waynflete School, Portland ME**

**Tuesday / Friday 2:30–3:30pm EST**

*No Prerequisite*

How do we write great non-fiction (and this includes all flavors of essays—college essays, literary journalism, memoir, and more), so that our stories have an injection of narrative tension that invites the reader to sit down inside our stories and stay a while? This workshop will help you become a better writer so that your stories contain an electrical charge that starts at the sentence level and travels through the entire piece. This tension, or electrical charge, is the engine that great non-fiction runs on. Students will search the places in one’s life that have mattered most, and using a series of fun writing prompts, generate new writing, using place as a portal to help land on the life stories that students’ most want to tell. Later, the class will move into workshops of each student’s work. Each session will also look at other specific craft aspects: primarily beginnings, endings, and the weaving of multiple story lines in one essay.

**CREATIVE WRITING IN THE DIGITAL AGE (Fall)**English**Target Grade Level: 11-12****TEACHER: Julia Maxey, Severn School, Severna Park MD*****Tuesday / Friday 2:30–3:30pm EST****No prerequisite*

Storytelling is as important today as it was hundreds of years ago. What has changed, in many cases, is the media through which writers tell their stories. Today's literary artists take advantage of digital tools to spread their messages and tell their stories in new ways that combine narrative and contemporary form. Students will begin with the traditional forms of poetry, short prose, and literary non-fiction and then go beyond those forms to explore how contemporary tools can enhance expression. We will study master writers in each of the traditional forms and be inspired by their examples. Then, we will look at how communication in the 21st century has provided us with even more ways to share our thoughts and to be creative. Possible explorations include hyperlinked narratives, social media as inspiration and tool, animated text, audio, videos, and all manner of nonlinear narrative. The class will ask an essential question: what happens when communication becomes wider and has an instant audience? The class routine, based around writing, reading, and discussion, will include weekly critiques of student work and required writing, including in some non-traditional, contemporary formats.

**DIVERSITY IN A GLOBAL COMPARATIVE PERSPECTIVE (Fall)**History & SS**Target Grade Level: 11-12****TEACHER: John Aden, Canterbury School, Ft. Wayne, IN*****Wednesday / Friday 4:40 – 5:40 pm EST****No prerequisite*

This course examines the ways our Human Family has sought to create, marshal, contest, and maintain identities through Culture and relations of power. These identities can be appreciated through "lenses of analysis." The course critically engages the traditional "Big Three" lenses of analysis: Race, Class, and Gender, understanding that Culture serves as an important backdrop against which these identities emerge. Once students appreciate the important ways the Social Sciences have engaged with, written about, and debated these three core modes of analysis, the course expands to incorporate other, equally rich, lenses: age, ableism, intellectual diversity, geographic diversity, cognitive and neurological diversity, and the business case for Diversity, as well as how to study synergistically intertwined phenomena. Film and Critical Film Studies, as well as the role Colonialism has played in the major conflicts of the last 500 years, each serve to enrich student understandings of Diversity.

**ETYMOLOGY OF SCIENTIFIC TERMS (Fall)**Science**Target Grade Level: 11-12****TEACHER: David Seward, Winchester Thurston School, Pittsburgh PA*****Tuesday / Friday 2:30 – 3:30pm EST****No Prerequisite*

The purpose of the course is, to quote the textbook, "By teaching ... the root elements of medical terminology – the prefixes, suffixes, and combining forms of Greek and Latin ... not only to teach students modern medical terminology, but to give them the ability to decipher the evolving language of medicine throughout their careers." This is in many ways a language course, and deals with elements that are used to create terms to meet the specific needs of medical scientists. As material is introduced, students will complete practice exercises during each class meeting, as well as complete approximately one quiz per week. Outside of class, students are expected to analyze and define fifty terms each week. Additional material deals with especially complex etymologies, the history of our understanding of certain aspects of medical science, and relevant material from Greek and Latin texts.

## **MAN'S INHUMANITY TO MAN: GENOCIDE AND HUMAN RIGHTS IN THE 20<sup>TH</sup> CENTURY**

History & SS

(Spring)

**Target Grade Level: 11-12**

**TEACHER: George Dalbo, Mounds Park Academy, St. Paul MN**

**Wednesday / Friday 4:40 – 5:40 pm EST**

*No Prerequisite*

The story of genocide in the 20th century stands in stark contrast to the social progress and technological advancements made over the last 100 years. As brutal culmination of nationalist and racist attitudes and policies, as well as a poignant reminder of both the cruelty and resilience of human beings, these genocides punctuate modern history with harsh reality. This course explores the many facets of genocide through the lenses of history, literature, art, sociology, and law. We will turn our attention to understanding the framing of genocide as a legal concept. Using the holocaust as our foundation, we will examine examples of additional genocides from the 20th century. Ultimately, we will train our attention to the enduring legacy of genocides around the world, especially as we consider attempts to recognize, reconcile, and memorialize genocide from the individual to the collective. Students will read and analyze primary source material, secondary historical accounts, genocide testimony and memoirs, in addition to examining individual fictional and artistic responses and the collective memories and memorials of whole societies.

## **POSITIVE PSYCHOLOGY (Spring)**

Science

**Target Grade Level: 10-12**

**TEACHER: Blake Keogh, Waynflete School, Portland ME**

***This course has a split time schedule – Monday 4:40-5:40pm / Thursday 3:35-4:35pm EST***

*No prerequisite.*

This course begins by providing a historical context of positive psychology within broader psychological research, and helps explain why the field is of particular importance to those in a high school or college setting. Students will be introduced to the primary components and related functions of the brain in order to understand the biological foundation of our emotional experiences. Current research will be used to develop a broader sense of what positive psychology is and is not, and how it can be applied in students' own lives. Additionally, students will gain an understanding of basic research methods and their application to the science of psychology.

This course will require substantial reading (sometimes on par with 100 level college courses) and writing. Students will be asked to reflect regularly on their individual experiences in order to integrate course material into their daily lives. One of the key learning outcomes is to have each participant identify his or her own strengths while simultaneously recognizing and respecting the attributes others bring to the course.

## **ADVANCED MATH TOPICS: ADVANCED APPLIED MATH THROUGH FINANCE (Spring)**

Math

**Target Grade Level: 11-12**

**TEACHER: Julien H. Meyer III, Severn School, Severna MD**

**Monday / Wednesday, 2:30 – 3:30 pm EST**

*Prerequisite: Algebra II*

This one-semester course will provide students a mathematical and conceptual framework with which to make important personal financial decisions using algebraic tools. Specifically, the class will investigate i) the time value of money (i.e., interest rates, compounding, saving and borrowing) using exponential functions; and ii) the characteristics and risk/reward tradeoff of different financial instruments/investments, such as stocks, bonds and mutual funds, using algebra, probability and statistics. Other financial algebra topics selected with student input may include financial accounting, depreciation methods and foreign currency exchange. The course will stress use of the TI-83/84 calculator, Excel spreadsheets and iPad apps. Students should be comfortable with exponential growth models and, preferably, the concept of the number  $e$  for continuous compounding. They should be willing to exhibit an interest in mathematical reasoning and display a hefty dose of curiosity about the language and problem solving nature of personal finance.

## **COMPARATIVE ECOSYSTEMS (Spring)**

Science

**Target Grade Level: 11-12**

**TEACHER: Marks S. McWhorter, St. Andrews Episcopal School, Ridgeland MS**

***Tuesday / Thursday, 4:40-5:40pm EST***

*Prerequisite: High school Biology*

Comparative Ecosystems will provide an opportunity for students to study and understand large-scale interactions between biological communities and their physical environments on a global scale. Students will study geological processes, soils, and nutrient availability, analyze how these characteristics shape environments, and examine nutrient cycling, weather and climate, water cycles, and organismal interactions among these systems.

Students will engage in interactive lab-based projects examining ecosystems within their own environments, and compare these results with their peers, as well as data from ecosystems around the globe. This style of analysis creates an opportunity for students to compare and contrast data and understand how statistics and collection methods are used to appropriately study communities and ecosystem processes. Students will also collect data on the environment in which they live. By studying material in an immersive setting, this approach provides an opportunity for students to see how ecological interactions occur and appreciate how climate systems connect these habitats on a global scale.

Materials required: Lab kit

## **DATA STRUCTURES AND DESIGN PATTERNS (Year)**

Computer

**Target Grade Level: 11-12**

**TEACHER: J.D. DeVaughn-Brown, Chadwick School, Palos Verdes CA**

***Monday / Thursday, 4:40-5:40pm EST***

*Prerequisite: Completion of AP Computer Science or equivalent*

This course is a yearlong course that will give advanced students the strong foundation needed to build complex applications using object-oriented principles. This course covers the design and implementation of data structures including arrays, stacks, queues, linked lists, binary trees, heaps, balanced trees (e.g. AVL-trees) and graphs.

The course will also serve as an introduction to software design patterns. Each pattern represents a best practice solution to a software problem in a specific context. The course covers the rationale and benefits of object-oriented software design patterns. Numerous problems will be studied to investigate the implementation of good design patterns.

Materials required: Laptop