



Dive Curricular Overview

MIDDLE
SCHOOL

2019-2020

American Revolution (The): Trimester 3

Mr. Winslow
Grades 6-8

This class is a detailed study of the Revolutionary War. We will use a History Channel documentary series as the basis of the content. This class will include a study of the origins of the conflict and the events of the war through the formation of the government under the Articles of Confederation. Particular attention will be paid to the strategies involved and the significant events of our war for independence from Britain.

Archery: Trimester 1

Mr. Herrick and Mr. Miller
Grade 6

Students will learn the NASP style of shooting a bow and arrow. Students will learn about safety on the range, how to handle the bows and arrows safely, while commands and the eleven steps to archery success. The program is designed by NASP - National Archery Schools Program.

Boys Ensemble: Trimesters 2, 3

Ms. Springer
Grade 5-8

Boys will explore, learn and perform repertoire from all styles and genres

Chamber Music for Strings: Trimesters 2, 3

Ms. Butler
Grades 5-8

Chamber music for strings will include small group ensembles and a combined group. Sheet music including a variety of musical genres will be included. Performing off campus will be an option.

Cities: Trimesters 1, 3

Mr. Davis
Grades 5-8

In "Cities" students learn about the growth and development of cities from prehistoric times to today. They also have opportunities to design their own cities and consider how factors like geography and economics can impact the lives of city-dwellers living in different locations.

Civil War: Trimester 1

Mr. Winslow
Grades 6-8

This class is a detailed study of the American Civil War. We will use the Ken Burns documentary miniseries as the basis of the content. The class will examine the causes of the conflict, the events of the war and its impact on American society at the time.

Constitutional Law: Trimesters 1, 2 (BOTH)

Ms. Pang
Grade 8

In Constitutional Law, you will acquire "legal literacy" through an interactive exploration of the United States Supreme Court. You will read actual court opinions, understand the inner-workings of the Justices' chambers, and even make arguments of your own through mock trial, also known as moot court. We will answer questions like: What limits, if any, should there be on free speech in the United States? What issues should the state, rather than federal governments handle? What does equal treatment under the law look like? Be prepared to exercise writing, critical reading, and public speaking skills often in this seminar! Those interested should apply by turning in an application to Ms. Pang by Tuesday, May 28th.

Digital Coding Lab: Trimester 2

Mrs. McConaghy
Grades 5-8

In this class students will design and code a game or animation while also learning a computer language. They may choose to work through tutorials to learn computer science skills in JavaScript, Java, C++, Scratch, Python or another language. Tutorial choices include Khan Academy, CS First with Google, Codecademy, SoloLearn, and Code.org. In the process they will be learning fundamental programming building blocks and practices such as loops, variables, conditionals and working with variables. Students will also have access to a digital tablet for input and drawing as well as be able to design their own controller using Makey Makey. There will be a class website with a page for each project option. For each project a student completes, they will add images and a reflective paragraph in their personal digital portfolio (a Google site).

Digital Design Lab: Trimester 1

Mrs. McConaghy
Grades 6-8

Selecting from a wide variety of digital topics such as 3D animation, AR app prototyping, 3D architecture, 3D sculpting, movie making/editing, digital signage, web design, infographic design, and microcontroller designs/prototypes (such as drones and wearable technology), students choose and manage their own projects. They will have access to resources in the MS Lab, the MakerSpace, and have the option of bringing in their own equipment. There will be a class website with a page for each project option. Video tutorials will be created to help students work at their own pace. For each project a student completes, they will add images and a reflective paragraph in their personal digital portfolio (a Google site).

**Environmental Engineering and Sustainability (EE&S):
Trimesters 1, 2 (BOTH)**

Mrs. Geary
Grades 7-8

Environmental Engineering and Sustainability (EE&S) is a class offered to incoming 7th and 8th graders who have an interest in learning more about the environment around them and how they can make an impact. Possible topics of study include water pollution, oil spills, recycling, alternate fuels, etc. although the interests of the students are taken into account. Those interested should apply by emailing geary@wellington.org by Tuesday, May 28.

iLab: Trimesters 1, 2 (BOTH)

Mr. Backhurst
Grade 8

Want to be an entrepreneur, an innovator and a forward thinker? iLab is an innovation lab course that applies Stanford University's d.School product design process called "design thinking." In this class, students solve real world problems through prototyping and design challenges while learning about 21st century innovators, business leaders and forward thinkers. Please return your application to Mr. B. by Tuesday, May 28th.

Independent Science Research: Trimesters 2, 3 (BOTH)

Mr. Magas and Mr. Leadston
Grades 7-8

Students in this Independent Science Research course will delve into scientific research on a specific, real-world application. Students will either be paired up with an Upper School student with a similar interest to tackle a research project, or come up with their own research study. Researchers will follow the scientific method to collect and analyze data relevant to their topic, and focus on turning their data into solutions. Applications will open in the fall.

Introduction to Engineering: Trimesters 1, 2

Ms. Burkhalter
Grades 6-7

This course is a glimpse into basic engineering. Learning more about the various types of engineering through design projects and speakers. Students will have the opportunity to become certified on the 3-D printing machines, laser cutters and various power tools.

Jazz Band: Trimesters 1, 2

Mr. Becker
Grades 6-8

This class will give students an opportunity to learn about jazz music - its rhythms, styles and interpretation. We will work up several pieces for a performance. This DIVE is open to students on the following instruments: saxophone, clarinet, trumpet, trombone, baritone, percussion, bass and piano.

MS 101: Trimester 1

Mrs. Allen
Grade 5

This class focuses on anything and everything one needs to know in order to be a successful middle school student! Students will learn about basic organizational skills, study skills, learning styles, and intellectual strengths. Emphasis is placed on students finding strategies and processes that work best for them.

Middle School Library: Trimesters 2, 3

Mrs. Dunn
Grades 5-6

This class will explore award-winning books, as well as allow students to promote their personal favorites. We will become acquainted with a variety of authors, delving into their books and writing processes. Students will also create and share book "bites", reviews, audiobooks, and book trailers.

Neuroscience: Trimester 1

Mr. Magas
Grades 7-8

This Neuroscience course explores the major topics of neuroanatomy, sensation and perception, and memory and learning. We will begin by learning about neurons, the parts of the brain, and how they work together, even dissecting a sheep brain! We will then look at how all of our senses work and how our brain figures out the world around us. Finally, we will study how the brain learns, remembers, and make connections, even talking about some ways we can remember things better!

Robotics: Trimester 3

Mrs. McConaghy
Grades 5-8

Students will be learning the Graphical RobotC programming language and working with both virtual robots and the NXT robot. They will use a virtual challenge board and the underwater world of Atlantis to use scaling, arm movement, turns and wheel rotation to navigate their robot. Students who have already taken the basic movement introduction may continue with touch, ultrasonic and color sensor challenges. They will combine sensors with program flow using loops, conditionals and repeated decisions. They will also be asked to help as student teaching assistants for the younger students. (NOTE: The focus is on coding and not building a robot, though students will be doing both. NRC Sumo or Botball teams have priority.)

Roller Coaster Physics: Trimester 3

Mr. Leadston
Grades 5-8

I'm sure you love the fear factor and thrill of riding a roller coaster, but have you ever wanted to have a go at designing and constructing your own? In this hands-on course, you will learn about some of the fundamental aspects of physics, as you design and construct your own paper roller coaster. This course is predominantly a design challenge whereby students will work in small groups to construct roller coasters made from nothing but cardstock and tape, with added decorations to fit a chosen theme. It will test not only your knowledge of physics concepts, but also your problem solving and collaborative thinking skills.

Shakespeare: Trimesters 1 and 3

Ms. Crowley
Grades 6-8

Shakespeare is a class for any 6-8th grade student who enjoys good stories and theatre. You will learn about William Shakespeare and his influence on our lives; you will have fun with improvisation and will learn how to sling Shakespearean insults; and you will have fun designing sets, coming up with costumes, and acting in a shortened version of a Shakespearean comedy.

Sports and Recreation: Trimester 2

Mr. Herrick and Mr. Miller
Grades 5-6

This class is an extension of Physical Education where students will have an opportunity to go beyond units covered in class and occasionally experience new activities and games.

Stock Market: Trimester 2

Mrs. Allen
Grades 5-6

This class focuses on the basics of trading. Students are divided into teams and given a virtual cash account of \$100,000. They learn about different types of stocks, and strive to create the best-performing portfolio using a live trading simulation. They work together in teams and practice leadership, organization, negotiation, and cooperation.

Virtual Reality: Trimesters 1, 3

Mr. Rodgers
Grades 7- 8

Students who thrive on combining their creativity with emerging, interactive technology should consider taking this class. They will learn of the newest developments in virtual and augmented reality and its applications in education, medicine, business, and entertainment. The pros and cons of using this immerse technology will also be explored. After students learn to use 360-degree video cams, VR headsets, and simulation software (Co-Spaces), they will create a culminating project to be presented to the class and parents. Students interested in enrolling for the first trimester session should apply by turning in the application to Mr. Rodgers by Tuesday, May 28th.

World War 1: Trimester 2

Mr. Winslow
Grades 6-8

This class is a detailed study of World War I. A video documentary series will be used as the basis of the content. The class will examine the war from its causes and early events through the signing of the Treaty of Versailles that ended the global conflict. The involvement of the United States will be integrated into the class as a part of the war in its totality.