

Arlington High School
Program of Studies 2022-2023
 Updates and New Courses

Last updated: 12/26/21

Policy and General Information Updates

- [MCAS policy \(See below\)](#): A statewide update based upon changing requirements for competency determined by availability of testing.
- Wellness Education Requirement (Covid Adjustment) - Removed.

Courses

<u>New Courses</u>	<u>Dept.</u>	<u>Level</u>	<u>Grade(s)</u>	<u>Credits</u>
AC####Z Introduction to Architecture	Visual Arts	Curr. A	Grades 9-12	2.5 credits
AC####Z Painting	Visual Arts	Curr. A	Grades 10-12	5.0 credits
CS####Z Cooking and Living on Your Own: Vegetarian Style (1 Semester)	FACS	Curr. A	Grades 10-12	2.5 credits
MA####Z SUPA Cyber Security - Honors	Math	Honors	Grades 10-12	2.5 credits
PA####Z Global Film Comedies: The International Convergence of Humor, Culture, & History	Perform. Arts	Curr. A	Grades 10-12	2.5 credits
PA####Z Symphonic Band (biweekly/year-long)	Perform. Arts	Curr. A	Grade 9	2.5 credits
SC4011Z AP Physics C	Science	AP	Grades 11,12	2.5 credits
SC####Z Science Training and Research	Science	Honors	Grades 10-12	2.5 credits
SC####Z Entomology	Science	Hetero	Grades 10-12	2.5 credits
SC####Z Teaching/Lab Assistant	Science	Hetero	Grades 10-12	5.0 credits
SC####Z Linguistics: The Science of Language	Science	Hetero	Grades 10-12	2.5 credits
SS####Z Intro to Personal Finance	History	Hetero	Grades 10-12	2.5 credits
SC####Z Geomorphology	Science	Hetero	Grades 10-12	2.5 credits

*Full Course Descriptions are given below.

Courses being adjusted

Reactivated

None

Dormant Courses: courses that will be offered again the following year 2023-2024

Astronomy	Science	Heterogenous	10-12	2.5 credits
JavaScript and Web Development - Honors	Math	Honors	10-12	2.5 credits
Artificial Intelligence (A.I.) with Python	Math	Honors	10-12	2.5 credits

Courses being removed

SS7392Z Power and Protest
PE7663Z AM Recreational Sports

Grades 10-12
Grades 10-12

2.5 credits
2.5 credits

Course Descriptions for New Courses

AC#####Z Introduction to Architecture - Curriculum A **Grades 9, 10, 11, 12** **2.5 credits**
Introduction to Architecture is a semester-long course that takes place in the CADD lab and the AHS Makerspace. We will explore the architectural design process from world-wide historical and modern perspectives. Students will create original designs and models using a combination of computer aided drafting, digital fabrication including 3D printing and use of the laser cutter, and traditional tools and materials.
There are no prerequisites for this course. *This course will fulfill 2.5 credits of the 5 credit Fine Arts Graduation Requirement.*

AC#####Z Painting - Curriculum A **Grades 10, 11, 12** **5 credits**
Painting is offered for students who want to explore painting as an expressive and individualized art form. Students use a variety of two-dimensional and three-dimensional materials in addition to different kinds of paint including acrylics and other materials to communicate personal narratives and feelings. Students learn how today's artists push the boundaries of traditional painting to include mixed media, collaborative projects, and subjects and themes that are inspired by the artist's personal experiences and beliefs. Hands-on studio work is supported by presentations of contemporary artists' work, technical demonstrations, class discussions, readings, and group critiques. The course fulfills the 5 credit Fine Arts Graduation Requirement. This full-year course offers opportunities for students to engage in longer projects, to participate in more exhibits and critiques, and to investigate more contemporary painters and painting styles.
Suggested Entry Criteria: Foundations in Studio Art or *permission of the instructor

CS#####Z Cooking and Living on Your Own: Vegetarian Style Grades 10-12 **2.5 credits**
(1 Semester)
Are you a vegetarian looking for some delicious dinner ideas or learning about vegetarianism? Or maybe you're a vegan with a sweet tooth? Learn techniques and recipes designed for a vegetarian lifestyle, including tasty meat alternatives in your cooking and vegan alternatives in your baking. In Cooking on Your Own: Vegetarian Style, you will create an inventory of great tasting and healthy recipes that will give your body the nutrients you need and can be easily and cheaply cooked when you're out on your own.

MA#####Z SUPA Cyber Security - Honors **Grades 10-12** **2.5 credits**
Introduction to Information Security is intended to teach fundamental elements in information security and introduce the key areas of security challenges, countermeasures, and real-life examples. The course will focus on a comprehensive understanding of information security rather than a specific security area. Topics include security properties, vulnerabilities, cryptography, security policies, access control, authentication, firewalls, wireless security, Internet security protocols, security management, security evaluation, and case studies. Students will also have hands-on experiences in information security through customized online labs.
Suggested Entry Criteria: Open to students that either complete Computer Science Principles or have experience with the basics of computer programming.

PA#####Z Global Film Comedies: **Grade 10-12** **2.5 credits**
The International Convergence of Humor, Culture, and History
This course explores the universality of comedy as represented in the study of a diverse world cinema. We will delve into how comedic films reflect beliefs, values, and traditions of various global experiences. What is considered funny in Europe, Africa, and Asia reveals significant differences and embraces the common bonds we all have.

PA#####Z Symphonic Band - Curriculum A **Grade 9** **2.5 credits**
(biweekly/year-long)
For an option for grade 9 students that meets twice a week opposite your PE course. **Students in grades 10-12 require pre-approval from the instructor.**

SC4011Z AP Physics C (Electricity and Magnetism)**Grades 11, 12****2.5 credits**

AP Physics C is a laboratory science course that offers a conceptual and rigorous mathematical approach to physics, and an advanced understanding of high school math is assumed. This course forms the first part of a college sequence serving as the foundation in physics for students majoring in the physical sciences or engineering. Differential and integral calculus are applied to topics outlined by the College Board for the AP Physics C: Electricity and Magnetism exam. The course explores topics such as electrostatics; conductors, capacitors, and dielectrics; electric circuits; magnetic fields; and electromagnetism.

MUST ALSO BE ENROLLED IN AP PHYSICS C MECHANICS

Corequisite: Calculus. *Successful completion of a previous physics course is recommended. Teacher and Science Director approval is required.*

 SC####Z Science Training and Research**Grades 10, 11, 12****2.5 credits**


All students begin their first year working to build a critical mass of understanding of an area of research related to: physical science, life science, computer science, mathematics, or social science. Initially, students are taught the process of online bibliographic research and are able to access many professional scientific databases. Students use library and Internet research tools to identify specific subjects currently being studied within their chosen area of interest.

Students find and study several scientific journal articles then present the information from some of their articles to the class. Once an extensive amount of background material is acquired and a strong sense of understanding is gained, students make contact with research scientists within their field of interest. Often these are the local authors of the articles they have read. At this time, the students ask the scientists to serve as mentors, assisting in carrying out a research project in the area of interest over the upcoming summers and following school years, or to help find appropriate scientists to do so.

During the summer following the first year of the course, students participate in research that they design and conduct under the supervision of their mentors. Most often this occurs at the lab where the mentors do their research.

Due to the extensive amount of time many of the research projects demand, and the continuity required, **the majority of the research takes place over the next two summers** (leading into Junior and Senior years) with some work being done to maintain the project during the Junior year of school. Students therefore **must** schedule their summers appropriately. Extensive summer jobs or multi-week vacations (unless related to the research project) have often been the reason students may not take the course.

As Juniors and Seniors students actively continue working on their project as well as write a research paper documenting their work and enter all possible science competitions to present their research.

 SC####Z Linguistics: The Science of Language**Grades 10, 11, 12****2.5 credits**

There are approximately 6,500 languages across the world, and all of them are equally capable of conveying virtually any information. But how is it possible for there to be so many ways to say the same sentence? Where do these languages come from, and how different or similar are they? This course will approach language from a scientific perspective, examining the sounds (and hand movements) used in languages across the world, the massive variation in ways to put words together to communicate the same pieces of information, and the rules that transcend all spoken languages (or do they?). Topics covered include phonetics, phonology, morphology, syntax, semantics, historical linguistics, sociolinguistics, and a survey of global languages. Many other questions will be investigated, such as: which languages are related, and how; how do languages change over time; is any language or dialect superior to any others; how are speech and writing related; and why is English spelling so messed up anyway? Students will also be expected to perform fieldwork in working with a native speaker of a language they do not speak themselves. This course does not fulfill the science graduation requirement.

** Students have the option of earning Honors Credit through more extensive and in-depth assignments, fieldwork, tests, and projects.*

 SC####Z Teaching/Lab Assistant**Grades 10, 11, 12****5 credits**

This elective course trains students in generalized laboratory techniques and safety procedures. The course emphasizes practicality and is designed to develop individual facility and dexterity while performing common laboratory practices. Students will also serve as teaching assistants and will help reinforce lessons by tutoring individual students or small groups. Students must be able to work independently. Must have a teacher recommendation.

SC####Z Entomology

Grades 10, 11, 12

2.5 credits

This course is designed as an introduction to insects and their allies. Morphology, anatomical adaptations, classification, identification, ecology, and social applications will be discussed throughout the course. Laboratory activities will include identification investigations, observing live specimens, preparing specimens, and dissection. An endangered insect species from the IUCN Red List of your choice will be researched and a proposal for conservation will be presented.

SS####Z Introduction to Personal Finance (semester course) Grades 11, 12

2.5 credits

This class is designed to give students the tools needed to successfully manage their personal finances by learning basic financial concepts and research skills. Students will learn about the pressures to spend and how to avoid spending haphazardly by making financial statements which includes budgets. They will investigate credit, so they can know how to have a high credit score while limiting bad debt. In addition students will learn how to navigate major purchases like college, housing, and automobiles while protecting themselves from economic peril by learning about insurance. Finally the students will also engage in an in depth study of saving and investing.

**Students have the option of earning Honors Credit through more challenging research and project work.*

SC####Z Geomorphology

Grades 10, 11, 12

2.5 credits

The planet Earth is sculpted by tectonic plates, gravity, the movement of water and glaciers, air patterns, and other surficial processes. The topography of the land in turn affects the flow of matter and energy and how humans and other organisms are able to interact with it. In this course, students will explore the surface processes that have and continue to carve Earth into its current form, spend time outside observing examples of landmasses, construct a geologic history of the Greater Boston region, and build 3-dimensional models to test and represent their understanding.

Policies

MCAS

The COVID-19 pandemic has had a significant impact on The Department of Elementary and Secondary Education's (DESE) policies regarding MCAS testing as a graduation requirement. All students must meet the state's competency determination in the areas of English Language Arts (ELA), Math, and Science, Technology and Engineering (STE) however several adjustments and interim standards have been instituted for high school students impacted by the pandemic. Below is an overview of the graduation requirements followed by the link to the DESE's website with more detailed information on the state graduation requirements.

Class of 2023

Math - Pass the NextGen MCAS with a scaled score of 469 or higher*

ELA - Pass the NextGen MCAS with a scaled score of 455 or higher*

STE - waived from the STE exam but must demonstrate competency by passing an equivalent Science, Technology or Engineering course (Examples include but are not limited to: Biology, Introduction to Physical Science, Chemistry, Physics)

Class of 2024

Math - Pass the NextGen MCAS with a scaled score of 469 or higher*

ELA - Pass the NextGen MCAS with a scaled score of 455 or higher*

STE - Pass the legacy STE with a scaled score of 220 or higher

Class of 2025

Math - Pass the NextGen MCAS with a scaled score of 469 or higher*

ELA - Pass the NextGen MCAS with a scaled score of 455 or higher*

STE - Pass the legacy STE with a scaled score of 220 or higher

***Math scores in the 469-485 range and ELA scores in the 455-471 range will require an Educational Proficiency Plan (EPP)**

Class of 2026

Pass Math, ELA and STE MCAS. Scaled score ranges are TBD by DESE.

[MCAS Graduation Requirements DESE](#)

Wellness Graduation Requirement (adjusted for Covid)

The following stipulation around the graduation requirement for Wellness will be removed from the program of studies as it no longer applies to any students.

***Covid-19 update**

Members of the Class of 2022 enrolled in Term 4 Physical Education classes in 2020 will not have an opportunity to complete those credits because of our remote status in the 2020 school year. Making up this term in later years will substantially reduce opportunities for them to explore other academic offerings and will require them to take more than the usual amount of PE in one year.

For this reason, we will reduce the Physical Education graduation requirement for the Classes of 2022 by one term of Physical Education (requiring Grade 9 PE and a total of 3 quarters of PE during grades 10-12)

Class of 2022 - will require 4 PE courses (9th grade PE and 3 quarter electives)

Class of 2023 - will require 5 PE courses (9th grade PE and 4 quarter electives)

Class of 2024 - will require 5 PE courses (9th grade PE and 4 quarter electives)

Class of 2025 - will require 5 PE courses (9th grade PE and 4 quarter electives)