

# USA AP & Elective Course Catalogue

## 2016-2017

*Table Of Contents*

<i>Department</i>	<i>Page</i>
Advanced Placement (AP) Courses <ul style="list-style-type: none"> <li>• AP Biology</li> <li>• AP Calculus</li> <li>• AP Chemistry</li> <li>• AP English Language &amp; Composition</li> <li>• AP English Literature &amp; Composition</li> <li>• AP Physics</li> <li>• AP Spanish Language &amp; Culture</li> <li>• AP Statistics</li> <li>• AP US Government &amp; Politics</li> </ul>	2-4
Humanities <ul style="list-style-type: none"> <li>• Creative Writing</li> <li>• Debate &amp; Public Speaking</li> <li>• EdRising</li> <li>• Journalism/Student Newspaper</li> </ul>	4-5
Math <ul style="list-style-type: none"> <li>• Financial Literacy</li> <li>• Statistics</li> </ul>	5
Science <ul style="list-style-type: none"> <li>• Anatomy &amp; Physiology</li> <li>• Forensics</li> <li>• Exploring Computer Science</li> <li>• Urban Ecology (Hydroponics)</li> <li>• Psychology</li> <li>• Wellness</li> <li>• Exploring Topics in Science (Science Fair Project Development)</li> </ul>	6-8
Arts & Music <ul style="list-style-type: none"> <li>• Intro to Photography</li> <li>• Intro to Visual Arts</li> <li>• Visual Arts Intermediate</li> <li>• Intro to Theatre</li> <li>• HS Chorus</li> <li>• Instrumental Music</li> <li>• Yearbook</li> </ul>	8-9
Other <ul style="list-style-type: none"> <li>• Tech Support</li> </ul>	9-10

**Note: The AP and elective courses listed above will only be offered if there is sufficient student interest.**

## **Advanced Placement (AP) Courses**

### **AP Biology – Full Year Course**

AP Biology can be taken in Senior year as a second year course following Biology I. It covers all the topics taught in a one-year college general biology course. AP Biology is taught at an accelerated pace, where the student is expected to be an independent learner and have excellent organizational skills. There is a major lab component requiring extensive lab reports and the maintenance of a student lab research notebook. Some Labs are performed outside school at Harvard Medical school. All labs required by The College Board for an AP Biology course will be performed, as well as many other labs. This course has an extensive summer requirement including 3 days of Bridge program in June in school, reading and other assignments. Work will generally be assigned over most vacations.

Prerequisite: Chemistry, Biology

Teacher: Ms. Saxena

### **AP Calculus – Full Year Course**

AP Calculus AB is an introductory college level course in single variable calculus. It is meant to expand your current knowledge and application of math. We will be studying the behavior of functions from its equation and graph, limits, differential calculus, and integral calculus. Students interested in computer programming, engineering, and math or students who are just thinkers should take this course.

Prerequisite: Pre Calculus

Teacher: TBD

### **AP Chemistry – Full Year Course**

AP Chemistry is the equivalent of a full-year college-level Chemistry course in which students may earn college credit (by passing the AP test) and can gain skills for handling college-level work.

Prerequisite: Chemistry

Teacher: Mr. Banks

### **AP English Language and Composition – Full Year Course**

From our daily conversations with our families and friends, to the advertisements that target our senses, to the movies we watch and the books we read, rhetoric surrounds us. The essential goal of this course, Advanced Placement English Language and Composition, is to help students become highly skilled communicators – readers and listeners who understand not only *what* a speaker says, but *how* and *why* she says it, and writers who effectively engage the world through writing for a range of audiences and purposes. Students in this college-level course will read and carefully analyze a variety of challenging texts, with an emphasis on non-fiction sources (expository, analytical and argumentative pieces). Through frequent writing, students will practice rhetorical strategies, strengthen their powers of composition, and become participants in conversations that shape our lives.

Prerequisite: Humanities 2

Teacher: Ms. Buesing

### **AP English Literature and Composition – Full Year Course**

In this course we examine some of the darkest and compelling instincts within human nature through the study of literature. From revenge to redemption, we examine how all of the range of human emotions influence how we treat others and ourselves.

Prerequisite: Humanities 2

Teacher: TBD

### **AP Physics – Full Year Course**

AP Physics 1 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations as they explore topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. This course is an ONLINE course in collaboration with Boston University (BU). In addition to the in school meetings, all students will come to BU once a week to receive additional mentoring and tutoring.

Prerequisite: Algebra I & Physics

### **AP Spanish Language & Culture – Full Year Course**

The AP Spanish Language and Culture course is a rigorous course taught exclusively in Spanish that requires students to improve their proficiency across the three modes of communication. The course focuses on the integration of authentic resources including online print, audio, and audiovisual resources, as well as traditional print resources that include literature, essays, and magazine and newspaper articles with the goal of providing a rich, diverse learning experience. Students communicate using rich, advanced vocabulary and linguistic structures as they build proficiency in all modes of communication toward the pre-advanced level.

Prerequisite: Spanish 3

Teacher: Ms. Zabala

### **AP Statistics – Full Year Course**

The purpose of this course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes:

Exploring Data: Describing patterns and departures from patterns

Sampling and Experimentation: Planning and conducting a study

Anticipating Patterns: Exploring random phenomena using probability and simulation

Statistical Inference: Estimating population parameters and testing hypotheses

Prerequisite: Algebra I & Geometry

Teacher: Mr. Julien

### **AP US Government & Politics – Full Year Course**

This course covers the structure and function of American government and politics. It begins with an analysis of the United States Constitution, the foundation of the American political system. Students study the three branches of government, administrative agencies that support each branch, the role of political behavior in the democratic process, rules governing elections, political culture, and the workings of political parties and interest groups.

Prerequisite: Humanities 2

Teacher: Ms. MacCormack

## **Humanities Elective Courses**

### **Creative Writing – ½ Year Course**

This course is for students who simply love to express themselves through writing. Students will write, publish, and share their own stories. Students will learn more about the fundamentals of fiction-based writing, as well as enhance their writing convention and editing skills.

Prerequisite: None

Teacher: TBD

### **Debate & Public Speaking – ½ Year Course**

Graduations, weddings, job interviews. These are just a few of the countless, important events in our lives that we will need to be able to *speak in front of a crowd*. Public speaking is no simple act and goes well beyond simply standing up and raising your voice for all to hear. In this course, you'll learn techniques for different types of speeches, the art and science of persuasion and argumentation, view powerful speeches from our past, and practice writing and delivering your own speeches. In previous years, students in this course have delivered persuasive speeches, wedding toasts, eulogies, and many other types of speeches. This course also focuses on debate. Being able to support strong claims with stronger evidence is an invaluable skill that people use everyday in their lives, whether they are applying for a job, defending their innocence in a court of law, or simply trying to be 'right.' Debate and Public Speaking will prepare you to enter most debates with the skills and knowledge to not get the last word, but to use the right words at the right time and get what you want.

The course will also offer extra credit for participation on the school's debate team. This is an excellent opportunity to find your voice!

Prerequisite: None

Teacher: TBD

### **EdRising – ½ Year Course**

If you're looking to have a learning experience that provides you with the opportunity to strengthen your leadership skills, to participate in an internship, and to work with elementary students, then consider enrolling in EdRising. This course, supported by Boston University (BU), is part of a national program designed to give juniors and seniors the experience, skills, and leadership opportunities to be successful in college and, perhaps, in their own classrooms in the future. In this course you'll have the

opportunity to develop essential skills (critical thinking, communication, collaboration, planning, and problem solving) and apply these skills through an ongoing teaching internship with elementary school students. The work with elementary age students will focus on science or math, allowing you to strengthen your own skills in these areas while helping younger children learn in the process. As part of this course, BU will offer a summer institute in 2016 designed to bring together EdRising students from across the country.

Prerequisite: None

Teacher: TBD

---

### **Journalism/Student Newspaper – 1/2 Year Course**

The first amendment of the Constitution mentions that ‘Congress shall make no law limiting the freedom of the press.’ This course will teach basic principles of journalism and non-fiction writing. Beyond the mid-term, the focus of our class will be publishing a monthly newspaper that is 95% student-run and generated. It should go without saying, but this course will be very writing-centered and is geared towards those students who enjoy reading and writing and those students who are seeking to improve their reading and writing. All students will learn the power of information, the importance of an informed, connected society, and how people depend on each other for the truth.

Prerequisite: None

Teacher: Mr. Mueller

## **Math Elective Courses**

### **Financial Literacy – ½ Year Course**

Why do I need math? When will I use this in life? Do you have a bank account? Do you know how to write a check? Have you ever wondered what the heck "the stock market" is? Do you know how to save money? This course is designed to answer these questions and more. Financial Literacy is a course designed to teach students the basics about finance and investments and how they are used in everyday life.

Prerequisite: Algebra 1

Teacher: Ms. Mulligan

### **Statistics (Pre AP Statistics) – 1/2 Year Course**

This course will teach the fundamental Prerequisites to AP statistics. The main purpose of the course is to introduce students to new ways of critical and mathematical thinking about data gathering, description, and presentation. It will set the stage to modeling and analysis, which are of the main goal of AP Statistics

Prerequisite: Algebra 1

Teacher: Mr. Julien

## Science Elective Courses

### **Anatomy and Physiology – ½ Year Course**

If Biology is the study of living things consider Anatomy and Physiology as the study of the different parts of living things and how those different parts work. Like cars, living things have parts that have different names and functions. If you know the function of each of the parts of a car you have a better understanding of how a car works as a whole. Anatomy and Physiology is simply the study of the names of the parts and all of the functions of the different parts of the human body. It is the study of organs and organs systems. Understanding how each part of the human body works, how each system of the human body works, and how the different systems work together allows you walk away with a rigorous understanding of how the human body works as a whole. If you are curious about your own body and how it works than this is the course for you.

**Note: This course requires a weekly lab-based experience at Harvard Medical School.**

Prerequisite: None

Teacher: Mr. DiMario

### **Exploring Computer Science – Full Year Course**

Exploring Computer Science presents students with the conceptual underpinnings of computer science through an exploration of human computer interaction, web design, computer programming, data modeling, and robotics. While these courses include programming, the focus is on the computational practices associated with doing computer science, rather than just a narrow focus on coding, syntax, or tools. Exploring Computer Science courses teach students the computational practices of algorithm design, problem solving, and programming within a context that is relevant to their lives.

Prerequisite: Algebra I

Teacher: Mr. Ismeus & Mr. Oakland

### **Exploring Topics in Science (Science Fair Project Development) – ½ Year Course**

This course is for students desiring to have the time to engage in the scientific inquiry required to produce an exemplary science fair project that ultimately will meet the submission criteria for city and statewide science fairs.

Prerequisite: None

Teacher: TBD

### **Forensics – ½ Year Course**

Forensic science is the application of science and technology for the enforcement of the law. The field of forensic science has helped detectives, crime scene investigators, criminalists, anthropologists, and others try to understand events that took place at crime scenes or in the past by using many different areas of science. In this class you will learn how to collect evidence, process evidence, analyze different types of evidence, and reconstruct events from a crime scene to solve mysteries. You will also study real case studies to see how professionals use forensic evidence to solve crimes.

Prerequisite: None

Teacher: TBD

### **Urban Ecology (Introduction to Hydroponics) – ½ Year Course**

Students will be actually growing plants using solar powered hydroponics system. This is a research -based class that requires hands-on and a lot of personal time to launch experiments to grow plants and also perform chemical testing. You will learn how to put together a hydroponic system and how to start growing your first crop. We will also learn about food access and about food justice. You will have the option to present your experiment and findings as a science fair project.

Prerequisite: None

Teacher: Ms. Saxena

### **Introduction to Psychology – ½ Year Course**

Psychology is the study of behavior and mental processes.

This is a naturally very intriguing and exciting area of study. Quite a few of my past students have gone to major in psychology in college.

This one half year class will investigate:

- \* The theories of Sigmund Freud, the most famous psychologist of modern times.

- \* His theories on psychosexual development. (Specifically, the effect our parent's childrearing practices have on the development of our personalities.)

Freud's theories on the three constructs of the mind; the ego, superego and the id.

- \* The ten ego defense mechanisms; rationalization, repression, sublimation, reaction formation, and suppression to name just a few.

We will also explore other psychologists' theories on personality development.

Erik Erikson, Carl Rogers, Abraham Maslow and behaviorists B.F Skinner and Ivan Pavlov.

Further, we will study the DSM-V Diagnostic Statistical Manual of Mental Disorders (fifth edition) How it was developed and how it is employed today to guide psychologist and psychiatrists diagnoses and treatment of people suffering with psycho-pathological illnesses.

Additionally, we will examine the causes, symptoms and treatments of the major categories of Metal illnesses.

- \*Anxiety disorders: panic attacks, phobias, Post Traumatic Stress Disorder- Obsessive Compulsive Disorder

- \*Dissociative Identity Disorder (Multiple Personality Disorder) and Amnesic Fugue

- \* Psychotic disorders- Schizophrenia, Post-Partum Depression Psychosis

- \*Mood disorders: Bi-polar I and II (manic depression), depressive states, cyclothymia and dysthymia

- \*Personality disorders: narcissistic, borderline, histrionic, antisocial, schizotypal, schizoid to name just a few.

Two of the following will be required;

Research papers, presentations or group projects.

In addition, weekly/daily quizzes or check ups will be given.

Prerequisite: None

Teacher: Mr. Sweeney

### **Wellness – 1/2 Year Course**

Wellness is a course that will help students become a healthier person both physically and mentally. When one is healthy, they are ready to learn which in turn will increase academic performance. Through this course students will reflect on

their lifestyle, connect with their peers, gain knowledge and skills to be healthier as well as gain support from the classroom community. One of the many goals of this course is for students to strengthen their decision making, communication, and analysis skills to develop into a thriving successful adult. In this class we will focus on the science of food, the science of nutrition, healthy lifestyles, and healthy balance.

Prerequisite: None

Teacher: TBD

## **Arts Electives**

### **Introduction to Photography – ½ Year Class**

Students will learn their way around a digital SLR camera as well as the basic principles that make for good photographs. Students will also learn to develop their own 'eye' and photographic point-of-view, as well as basic mounting and framing techniques. (\$20 materials fee)

Prerequisite: None

Teacher: TBD

### **Introduction to Theater – ½ Year Class**

Using improvisation as its core, the Stage One Theater class includes an emphasis on group work for the development, shaping, and presentation of ideas. Students in the class will develop acting techniques while also creating original individual and group-based scenes. The class will produce at least one piece per quarter dealing with social, political and academic issues relevant to a high school-aged population.

Prerequisite: None

Teacher: Mr. Milord

### **Visual Arts – ½ Year Class**

Visual Arts is a semester-long course designed to develop a student's artistic ability by teaching them about the elements and principles of design through the creation and critique of artwork. Students will use a variety of art materials, processes, mediums, and techniques, and appropriate technologies for creating and exhibiting visual art works. In addition, their definition of art will be challenged, validated and expanded through their own self-exploration and through the artists they will be exposed to.

Prerequisite: None

Teacher: Ms. Chesnakas

### **Intermediate Visual Arts – ½ Year Class**

Intermediate Visual Arts builds on the techniques, elements, and principles of design introduced in Visual Arts. Students in this course have the opportunity to develop a portfolio that can be used to support their application to art schools.

Prerequisite: Visual Arts

Teacher: Ms. Chesnakas



### **HS Chorus – ½ Year Class**

You should understand that by its very nature music is technical. Accordingly, the material that the students must learn in and of itself is not simple. I want the students to enjoy their musical experiences therefore; emphasis is placed on teaching the students to perform some of the music that they themselves like in addition to exposing them to music that they have not previously been exposed to. I therefore try to teach the students the following:

- how to identify musical staff, lines and spaces and to repeat musical scales
- how to identify musical notes and rest values (whole, half and quarter notes)
- how to identify treble clef and bass clef
- learn to recite, compose and perform different pieces of music

Prerequisite: None

Teacher: Mr. Taylor

### **HS Fundamentals of Music (Instrumental Music) – Full Year Class**

You should understand that by its very nature music is technical. Accordingly, the material that the students must learn in and of itself is not simple. I want the students to enjoy their musical experiences therefore; emphasis is placed on teaching the students to perform some of the music that they themselves like in addition to exposing them to music that they have not previously been exposed to. I therefore try to teach the students the following:

- how to identify musical staff, lines and spaces and to repeat musical scales
- how to identify musical notes and rest values (whole, half and quarter notes)
- how to identify treble clef and bass clef
- learn to recite, compose and perform different pieces of music
- learn to play an instrument of their choice

Prerequisite: None

Teacher: Mr. Taylor

### **Yearbook – ½ Year Class**

This class is comprised of seniors who are tasked with laying out and constructing USA's Yearbook for the Class of 2017.

Prerequisite: None

Teacher: Ms. Marcano

## **Other Electives**

### **Tech Support – ½ Year Class**

~IT Essentials

This course provides students with hands experience in the field of Technical support. Some of the topics include hardware, installation and configuration, software installation, hardware and software troubleshooting, networking, website design, and security. Apply basic and intermediate elements of Microsoft Office Excel to create a series of electronic spreadsheets.

~Website Design

This course is designed to introduce students to basic website planning, design, testing, and implementation using HTML5, CSS3, as well as various image editing software.

Upon successful completion of this course, students will have a good foundation in web design using HTML and CSS.

Additionally, students will be able to:

- Understand technical terms such as web browsers; URL, web hosting, DNS, and web server.
- Write sample HTML code
- Design and incorporate basic forms and tables into web pages.
- Incorporate basic internal and external Cascading Style Sheets into web pages.
- Effectively plan, design, test, and implement multi-page websites.

Prerequisite: None

Teacher: Mr. Ismeus & Mr. Womack