

## Elective Options

**Note: These are electives that are being offered for the 2024-2025 school year. Enrollment is subject to availability. Please click course name or see the Program of Studies for course descriptions.**

### English Electives

Course Name	Offering	Open To	Pre-Requisite
<a href="#">Creative Writing</a>	Half Year	Grades 9-12	-
<a href="#">Fairytales</a>	Half Year	Grades 9-12	-
<a href="#">Journalism</a>	Half Year	Grades 9-12	-
<a href="#">Speech and Debate</a>	Half Year	Grades 9-12	-
<a href="#">Tales of Mystery and Suspense</a>	Half Year	Grades 9-12	-

### Science Electives

Course Name	Offering	Open To	Pre-Requisite
<a href="#">Deadly Outbreaks</a>	Alt Day Full Year	Grades 10-12	Living Environment
<a href="#">Health</a>	Half Year or Alt Day Full Year	Grades 10-12	-
<a href="#">Intro to Sports Medicine</a>	Half Year	Grades 9-12	-
<a href="#">PLTW Principles of BioMedical Science H</a>	Full Year	-	Enrolled in or completed Living Environment
<a href="#">PLTW Human Body Systems H</a>	Full Year	-	PLTW BioMedical Science
<a href="#">PLTW Medical Interventions H</a>	Full Year	-	PLTW Human Body Systems (or teacher recommendation)
<a href="#">PLTW Biomedical Innovations H</a>	Full Year	-	PLTW Medical Interventions
<a href="#">Science of Wellness of Mind, &amp; Body</a>	Half Year	Grades 10-12	-

### Social Studies Electives

Course Name	Offering	Open To	Pre-Requisite
<a href="#">Adolescent Psychology</a>	Half Year	Grades 9-12	-
<a href="#">American Sociology</a>	Half Year	Grades 11-12	-
<a href="#">Child Psychology</a>	Half Year	Grades 9-12	-
<a href="#">Criminal Law</a>	Half Year	Grades 9-12	-
<a href="#">Film as History</a>	Half Year	Grades 11-12	-
<a href="#">Forgotten Generation</a>	Half Year	Grades 10-12	-
<a href="#">Greatest Generation</a>	Half Year	Grades 10-12	-

### Math Elective

Course Name	Offering	Open To	Pre-Requisite
<a href="#">RCC Statistics</a>	Half Year	Grades 11-12	

<b><u>Business Electives</u></b>			
<b>Course Name</b>	<b>Offering</b>	<b>Open To</b>	<b>Pre-Requisite</b>
<a href="#">Career Exploration</a>	Half Year or Alt Day Full Year	Grades 9-12	-
<a href="#">RCC Intro to Business</a>	Half Year	Grades 11-12	
<b><u>Computer Electives</u></b>			
<b>Course Name</b>	<b>Offering</b>	<b>Open To</b>	<b>Pre-Requisite</b>
<a href="#">Intro to Coding</a>	Half Year	Grades 9-12	-
<a href="#">Intro to Computer Science</a>	Half Year	Grades 9-12	-
<a href="#">AP Computer Science Principles</a>	Full Year	Grades 11-12	Algebra 1
<a href="#">Cybersecurity</a>	Half Year	Grades 10-12	Coding & Intro Computer Science
<a href="#">Video Game Design</a>	Half Year	Grades 10-12	Coding & Intro Computer Science
<b><u>Music Electives</u></b>			
<b>Course Name</b>	<b>Offering</b>	<b>Open To</b>	<b>Pre-Requisite</b>
<a href="#">Jr Band / Band</a>	Half, Full or Alt Day Full Year	Grades 9-12	-
<a href="#">Concert Choir</a>	Half, Full or Alt Day Full Year	Grades 9-12	-
<a href="#">Jr Orchestra / Orchestra</a>	Half, Full or Alt Day Full Year	Grades 9-12	-
<a href="#">History of Music I</a>	Half or Full Year	Grades 9-12	-
<a href="#">Music Theory</a>	Alt Day Full Year	Grades 10-12	-
<a href="#">Jazz Band</a>	Alt Day Full Year	Grades 10-12	Audition Required
<a href="#">Jazz Choir</a>	Alt Day Full Year	Grades 10-12	Audition Required
<a href="#">Contemporary Strings</a>	Alt Day Full Year	Grades 10-12	Audition / Teacher Rec Required

<b><u>Art Electives</u></b>			
<b>Course Name</b>	<b>Offering</b>	<b>Open To</b>	<b>Pre-Requisite</b>
Animation 1	Half Year	Grades 10-12	Studio Art or Coding or Computer Science
Animation 2	Half Year	Grades 10-12	Animation 1
Ceramics 1	Half Year	Grades 10-12	Studio Art
Ceramics 2	Half Year	Grades 10-12	Ceramics 1
Ceramics 3	Half Year	Grades 10-12	Ceramics 1 & 2
Computer Graphics 1	Half Year	Grades 10-12	Studio Art
Computer Graphics 2	Half Year	Grades 10-12	Computer Graphics 1
Digital Photography 1	Half Year	Grades 10-12	Studio Art
Digital Photography 2	Half Year	Grades 10-12	Digital Photography 1
Drawing/Painting 1	Full Year	Grades 10-12	Studio Art
Drawing/Painting 2	Full Year	Grades 11-12	Drawing/Painting 1
Fashion Illustration	Half Year	Grades 10-12	Drawing & Painting 1
Metal/Jewelry 1	Half Year	Grades 10-12	Studio Art
Metal/Jewelry 2	Half Year	Grades 10-12	Metal/Jewelry 1
Studio Art	Full Year	Grades 9-12	-
AP Studio Art	Full Year	Grades 11-12	Drawing & Painting 1 & 2
<b><u>Technology Electives</u></b>			
<b>Course Name</b>	<b>Offering</b>	<b>Open To</b>	<b>Pre-Requisite</b>
Design & Drawing for Production	Full Year	Grades 9-12	-
CAD	Half Year	Grades 9-12	Design & Drawing for Production
Advanced CAD	Half Year	Grades 10-12	CAD
Architecture	Half Year	Grades 10-12	CAD & Materials Processing
Materials Processing	Half Year	Grades 9-12	Design & Drawing for Production
Manufacturing	Half Year	Grades 10-12	Materials Processing & Adv CAD
Engineering I	Half Year	Grades 11-12	Adv CAD & Manufacturing
Robotics 1	Half Year	Grades 9-12	Design & Drawing for Production

## ENGLISH ELECTIVES

### CREATIVE WRITING (C0036)

½ credit

**Grade Level: 9-12**

For students already proficient in mechanics of grammar and composition, this course is designed to provide an outlet for those interested in writing creatively. Concentration will be on the production of a memoir, a short piece of fiction and poetry. Stylistic devices will be studied, discussed, and various examples by established authors will be examined as guides to creating pieces of the same genre. Throughout the duration of the course students will be encouraged to submit their work for publication in *The Tenth Muse*, the school's literary magazine.

**Offered:** half-year course **Credit Type:** elective credit

[🔗 Back to List](#)

### FAIRYTALES, FANTASY, AND CHILDREN'S LITERATURE (C0032)

½ credit

**Grade Level: 9-12**

**Prerequisite:** a love of the classic fairytale

This one semester course traces the development of the genre cross-culturally with particular attention to its European and American roots, considering the impact of James Barrie's Peter Pan and the Utopian visions of the wonderful words of Baum's Oz, C.S. Lewis' Narnia, as well as through the lens of Walt Disney's cinematic fantasies and Lewis Carroll's Alice in Wonderland.

**Requirements:** completion of assessments and writing assignments and final exam project

**Offered:** half-year course **Credit Type:** elective credit

[🔗 Back to List](#)

### JOURNALISM IN THE 21<sup>st</sup> CENTURY (C0029)

½ credit

**Grade Level: 9-12**

In the Journalism course, students explore the field of journalism through the creation of articles, broadcast videos, and podcasts. Student work will be used in the creation of Pirate TV (the school's video channel), the Pirates' Log (the school newspaper), and various other outlets. Students will create various written, video, and audio segments as they examine ethical questions of journalism, gain experience in conducting interviews, and master the various journalistic writing styles. The class will also address the role of journalism and media in our lives through the use of documentaries, feature films, and articles related to media issues.

**Offered:** half-year course **Credit Type:** elective credit

[🔗 Back to List](#)

**SPEECH AND DEBATE (C0033)****½ credit****Grade level: 9-12**

This course gives students both the strategies and the opportunity to deliver a variety of speeches: introducing oneself, demonstrating a skill, delivering a dramatic recitation, and engaging in an impromptu speech. Students develop a deeper understanding of logos, pathos, and methods, the three modes of rhetoric, and various rhetorical techniques that improve both written and oral arguments. Students also learn how to spot and avoid fallacies and unethical appeals. Applying what they learn in the earlier speeches, students engage in Oxford style debates before a variety of audiences. To prepare for these events, students research controversial topics that interest them and learn strategies that help them argue either side of the controversy, refute opponents' arguments, and defend their positions. The most important objective of the class is to help students develop greater confidence in public speaking and to develop the communication, critical thinking, and collaboration skills necessary for success in college and the workplace.

**Offered:** half-year course **Credit Type:** elective credit

[🔗 Back to List](#)

**TALES OF MYSTERY AND SUSPENSE (C0028)****½ credit****Grade Level: 9-12**

This course will investigate the various techniques and characteristics typical of mystery, thriller-suspense writing and will explore the many forms of the mystery genre, from whodunit to thriller, from private eye to police procedural. The course will acquaint students with typical characteristics of mystery fiction as they play the role of "detective", working to gather clues, question suspects, record notes, and solve crimes. Analyzing various short stories, old time radio programs, plays, and participating in interactive games and activities, student investigators will discover the "truths" of the mystery genre.

**Offered:** half-year course **Credit Type:** elective credit

[🔗 Back to List](#)

## SCIENCE ELECTIVES

### DEADLY OUTBREAKS (C0122)

½ credit

**Grade Level:** 10-12

**Prerequisites:** Living Environment

Deadly Outbreaks examines the science of public health with a focus on human communicable diseases. The class will examine major epidemics/pandemics of the PAST, such as: influenza, bubonic plague, cholera, and smallpox, of the PRESENT: HIV/AIDS, Ebola, and E.coli, and of the FUTURE: Planetary health and Bioterrorism. It will address essential questions, such as: How do major outbreaks spread, and how can they be prevented, contained and controlled? How have these diseases shaped history? How have these diseases shaped our understanding of the origin of diseases?

**Offered:** full year / alternate day course **Credit Type:** elective credit

[↶ Back to List](#)

### HEALTH (C0152 or C0150)

½ credit

**Grade Level:** 10-12

Each student is required to complete one half credit in health education for graduation. The course continues and expands upon the topics covered in earlier grades. This course is designed to give students the opportunity to examine information and to develop attitudes that will have a positive effect on their health behavior. Health will also further develop decision-making skills that deal with total well-being. Topics will include mental health; suicide, eating disorders, disease prevention, substance abuse, human sexuality, safety, and other health related areas.

**Offered:** half year course or full year alternate day course. **Credit Type:** core credit

[↶ Back to List](#)

### INTRODUCTION TO SPORTS MEDICINE (C0153)

½ credit

**Grade Level:** 9-12

This course is designed to help students understand the connection between athletics and health. Students will examine the physical and physiological changes that occur in the body as a result of exercise and proper nutrition. The course will focus on knowledge and skills in the area of injury prevention, recognition and treatment.

**Offered:** half year course **Credit Type:** elective credit

[↶ Back to List](#)

**MARINE SCIENCE (C0120)****½ credit****Grade Level: 11-12****Prerequisites: Earth Science and Living Environment**

This course is designed to foster students' exploration of the features and processes of our oceans. Students learn how living and nonliving components of the ocean interact and the ocean's critical role for human civilization. Activities include field studies, projects, lab investigations, and data analysis. The course is a hands-on course with a great deal of time devoted to aquarium care. Topics include Sea floor features, Tides, Waves, Currents, Marine populations and ecosystems, Food webs, the Ocean-atmosphere system and climate, as well as Ocean resources.

**Requirements:** local final exam in January**Offered:** fall semester **Credit Type:** elective credit[🔗 Back to List](#)**FRESHWATER/HUDSON RIVER ECOLOGY (C0121)****½ credit****Grade Level: 11-12****Prerequisites: Earth Science, Living Environment, and Marine Science**

This course is a continuation of the Marine Science course but with a shift in focus from saltwater environments to freshwater, with particular emphasis placed on the Hudson River. Topics include Rivers, Lakes, Streams, Earth's water resources, Water pollution and conservation, Freshwater organisms, and Freshwater food webs.

**Requirements:** local final exam in June.**Offered:** spring semester **Credit Type:** elective credit[🔗 Back to List](#)

## **AP ENVIRONMENTAL SCIENCE (C0123)**

**1 credit**

**Grade Level:** 11-12

**Prerequisites:** The course is an excellent option for anyone who has completed two years of high school laboratory science, for example, a year of Biology and a year of Chemistry. Due to the quantitative analysis that is required in the course, students should also have taken at least one year of Algebra.

The AP Environmental Science course is designed to be the equivalent of an introductory college course in environmental science. The goal is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Topics include Energy flow in ecosystems, Human Population Dynamics, Water Resources and water pollution, the Atmosphere and air pollution, Land Uses, Soil and Food Resources, Human Health, Risk, and Toxicology, Non-renewable and renewable energy resources, Solid and Hazardous Wastes, and Environmental Laws.

**Requirements:** The AP Exam is a course requirement and has a fee of approximately \$99 (price subject to change). A locally prepared final exam is required as well for course credit.

**Offered:** full year course. The class meets for a single period one day and a double period the following day, alternating on the school A/B day schedule.

**Credit Type:** elective credit

**This course is open to students in grades 11 and 12.**

[🔗 Back to List](#)

## **PROJECT ADVANCE FORENSIC SCIENCE (C0115)**

**1 credit**

**Grade Level:** 12

Syracuse University Project Advance Forensic Science (CHE 113) is focused upon the application of scientific methods to crime and law. In this course, science relevant to evidence detection and analysis will be explored. Emphasis is placed upon understanding the science behind the techniques used in evaluating physical evidence. Topics included are blood analysis, autopsies and death investigations, microscopic investigations of hair, DNA, anthropology, fiber comparison, ballistics, fingerprints, soil comparisons, and arson investigations among others. Students may earn four college credits upon successful completion of the course requirements.

**Prerequisites:** Chemistry

**Requirements include:** Teacher and counselor recommendation, final course grade of 75 or above in Regents/Honors Chemistry, Living Environment and Chemistry Regents exam grade of 75 or above; Four comprehensive exams and a completed laboratory investigation notebook. Students must be enrolled in Syracuse University to enroll in PA course at the high school level. Cost estimated \$460 for 4 college credits.

**Offered:** full year course **Credit Type:** elective credit through PRHS; 4 credits through Syracuse University

[🔗 Back to List](#)



**SCIENCE OF WELLNESS OF MIND AND BODY (C0125)****½ credit****Grade Level: 10-12**

This course explores the seven dimensions of wellness and the scientific benefits of each health. Wellness is the integration the seven dimensions of wellness, include physical, emotional, intellectual, social, spiritual, environmental, and occupational health. With the scientific understanding of these three entities, a healthy balance of wellness can be achieved. The benefits of each dimension will be researched, discussed, and, at times, demonstrated.

**Offered:** full year course / alternate day course **Credit Type:** elective credit

[🔗 Back to List](#)

## **PLTW PRINCIPLES OF BIOMEDICAL SCIENCE H (C0126)**

**1 credit**

In this course, students explore concepts of biology and medicine as they take on roles of different medical professionals to solve real-world problems. Over the course of the year, students are challenged in various scenarios including investigating a crime scene to solving a mystery, diagnosing and proposing treatment to patients in a family medical practice, tracking down and containing a medical outbreak at a local hospital, stabilizing a patient during an emergency, and collaborating with others to design solutions to local and global medical problems. **Project Lead the Way (PLTW) courses are rigorous courses that engage students in hands-on, inquiry-based learning, grounded in real-world application. In addition, PLTW offers the option of college credit.**

**Requirements:** Must be a freshman currently enrolled in Honors Living Environment or sophomores enrolled in Living Environment.

**Offered:** full year course **Credit Type:** elective credit (Honor-bearing)

***\*\*This course is the first in a sequence of four in Project Lead the Way (PLTW) Biomedical Science courses. Students will have the opportunity to earn up to 3 college credits from participating colleges if the minimum criteria are met for each of the courses in the pathway. It is anticipated that a new PLTW Biomedical elective will be added to the Program of Studies each year until the four courses are fully implemented.***

[🔗 Back to List](#)

## **PLTW HUMAN BODY SYSTEMS H (C0127)**

**1 credit**

**Prerequisite:** PLTW Principles of Biomedical Science H or teacher recommendation

**Prerequisites:** Must have successfully completed Living Environment, must be enrolled in Chemistry or higher-level Science Course

Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis in the body. Exploring science in action, students build organs and tissues on a skeletal manikin; use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases. **Project Lead the Way (PLTW) courses are rigorous courses that engage students in hands-on, inquiry-based learning, grounded in real-world application. In addition to college credit, PLTW offers many potential opportunities for students as they consider future studies in the Biomedical field.**

**Offered:** full year course **Credit Type:** elective credit (Honor-bearing)

[🔗 Back to List](#)

## PROJECT LEAD THE WAY (PLTW) MEDICAL INTERVENTIONS H (C0128)

1 credit

### **Prerequisite: PLTW Human Body Systems H**

Students follow the life of a fictitious family as they investigate how to prevent, diagnose, and treat disease. Students explore how to detect and fight infection; screen and evaluate the code in human DNA; evaluate cancer treatment options; and prevail when the organs of the body begin to fail. Through real-world cases, students are exposed to a range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics.

**Offered:** full year course **Credit Type:** elective credit (Honor-bearing)

[🔗 Back to List](#)

## PROJECT LEAD THE WAY (PLTW) BIOMEDICAL INNOVATION H (C0130)

1 credit

### **Prerequisites: PLTW Human Body Systems H and Medical Interventions H**

Students build on the knowledge and skills gained from previous courses to design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems. They will address topics such as clinical medicine, physiology, biomedical engineering, and public health.

**Offered:** full year course **Credit Type:** elective credit (Honor-bearing)

[🔗 Back to List](#)

*Course sequence:*

1. *PLTW Principles of Biomedical Science (9-10) Started Fall 2021*
2. *PLTW Human Body Systems (10-12) Started Fall 2022*
3. *PLTW Medical Interventions (11-12) Starting Fall 2023*
4. *PLTW Biomedical Innovation (12) Starting (anticipated) Fall 2024*

## SOCIAL STUDIES ELECTIVES

### ADOLESCENT PSYCHOLOGY (C0225)

½ credit

#### Grade Level: 9-12

This course examines psychological and developmental issues of adolescence; including the interaction between physiological, psychological, and social changes that occur during the transition from childhood through young adulthood. The course will provide a background in the principles of psychology and proceed to examine social and abnormal psychology. There is an emphasis on psychosocial factors influencing various peer relationships. The course is discussion and project based. Students will read, analyze, discuss, and present content. Additionally, various experiments will be conducted in class. Students will evaluate hypotheses, data, analysis, and conclusions to understand concepts and resolve conflicting ideas.

**Requirements include:** students are required to complete a final assessment

**Offered:** half year Spring semester course **Credit Type:** elective credit

[↶ Back to List](#)

### AMERICAN SOCIOLOGY (C0229)

½ credit

#### Grades 11-12

A semester-long course that will focus on the influential role of music, movies, television and sports on American society. American Sociology is a theme-based course that follows trends in these topics from the 1920s until the present. Students will learn to analyze American history, politics and culture by using various forms of media outlets, including but not limited to popular music, television programs, film clips and sports broadcasts.

**Requirements:** a daily journal, and a final portfolio, which is a culmination of a variety of multi-media assessments

**Offered:** half year semester course **Credit Type:** elective credit

[↶ Back to List](#)

**CAREER EXPLORATION 9-12 (C0520)****½ credit****Grade Level: 9-12**

This course will provide students with the opportunity to plan for future educational and career goals as well as personal financial responsibility. Students will discover their own aptitudes and interests, to determine relevant college majors and career paths. Assessments will incorporate information from personalized surveys, and a database with over 7,000 colleges and universities; and over 2,000 occupations. Students will synthesize information from a range of sources that will allow them to make informed and effective decisions about their future educational and career plans. The assessments are intended to foster creativity and critical thinking, as each student completes unique, individualized projects.

**Requirements:** Students are required to submit a final assessment.

**Offered:** half year course or full year alternate day course **Credit Type:** core credit

[🔗 Back to List](#)

**CHILD PSYCHOLOGY (C0224)****½ credit****Grade Level: 9-12**

An introduction to child psychology class that affords students the opportunities to examine child psychology theories, abnormal child psychology, the impact of television on child development, and current issues. The course examines different theorists who focus on social learning development, patterns of behavior, the impact of love and affection, birth order, the impact and development of the brain, and many more. While child psychology examines cognitive, behaviorist, biological, humanist, and psychoanalytic perspectives, a major focus is on learning from infancy through childhood. This course is heavily based on discussion, which involves experiments, group projects, analysis of current event topics and reflection on one's childhood.

**Requirements include:** students are required to complete a final assessment.

**Offered:** half year Fall semester course **Credit Type:** elective credit

[🔗 Back to List](#)

**CRIMINAL LAW (C0222)****½ credit****Grade Level: 9-12**

This one semester course is intended to provide the student with a functional knowledge of the American legal system, with primary emphasis on criminal law. Topics studied include: the historical basis for establishing laws, how to advocate as citizens within the context of a legal environment, the nature and prevalence of crime, and the court system of the United States as it pertains to criminal law in the phases of investigation, defense, proceedings, and trials. Trial procedure will be taught, as well as how to write coherent and accurate legal briefs. Students will be required to analyze specific court cases related to the topics of study, as well as present their case research with clear and precise legal arguments (both written and through class presentations). Instruction will be primarily discussion-based, with emphasis on relating the topics of study to the expectations of responsible citizenship. A mock trial is conducted at the end of the course.

**Requirements:** a local assessment is given as the final exam

**Offered:** half year course offered in the Fall and Spring semesters **Credit Type:** elective credit

[🔗 Back to List](#)

**FILM AS HISTORY (C0220)****½ credit****Grade Level: 11-12**

Through the use of predominantly movies and documentaries, this course examines several major historical events that have impacted American History from the 2000 into the Twenty-first Century. Major events include the Election of 2000, the September 11th attacks, the War on Terror, the Great Recession of 2008, the Rise of Social Media, the Hunt for Osama bin Laden, and the Role of the Whistleblower. Each event studied will include historical information that is essential for understanding the event as students will be required to analyze and evaluate major historical events that have shaped American History. The focal point of each unit will be the viewing of a movie depicting the event. While viewing each movie, students are required to answer guided viewing questions and will be responsible for an assessment upon conclusion of the movie. In addition, class discussions and activities will be utilized to gain insight as to the historical accuracy of the movie as well as making connections to current American themes. A sampling of movies viewed include *Recount*, *The Big Short*, *Zero Dark Thirty*, and *Snowden*.

**Requirements:** students are required to take a final assessment.

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

## **FORGOTTEN GENERATION: A HISTORY OF THE KOREAN & VIETNAM WARS (C0226)**

**½ credit**

**Grade Level: 10-12**

In this semester-long Spring course, students will study the causes and effects of the Korean War and the Vietnam War as well as the significant events and leaders of the wars themselves. The course will expose students to the causes of each war, the leaders who led their nations, the men and women who fought valiantly on the front and at home, as well as the fascinating stories of bravery, the devastating acts of cruelty, and the lasting effects each war had on the world. Students will pay particular attention to a number of historical examples, including the Communist rise to power, the invasion of Inchon, the roles of the Chinese and the UN in Korea, the Tet Offensive, the counterculture at home, and the fall of Saigon. Using scholarly texts, primary sources, images, fiction, film, and other media, students will discuss the battles, leaders, technology, unspeakable acts, and foreign and domestic diplomacy associated with the Korean War and the Vietnam War. There are plans to supplement the course with field-work and guest speakers

**Requirements:** students are required to complete a final project.

**Offered:** half year Spring semester course **Credit Type:** elective credit

[🔗 Back to List](#)

## **GREATEST GENERATION: A HISTORY OF WORLD WAR II (C0228)**

**½ credit**

**Grade Level: 10-12**

In this semester-long Fall course, students will study the causes and effects of the Second World War as well as the significant events and leaders of the war itself. The course will expose students to the causes of World War II, the leaders who led their nations, the men and women who fought valiantly on the front and at home, as well as the fascinating stories of bravery, the devastating acts of cruelty, and the lasting effects World War II had on the world. Students will pay particular attention to a number of historical examples, including the Nazi rise to power, the bombing of Pearl Harbor, the D-Day Invasion of Normandy, the Nazi Holocaust, the controversial use of the atomic bomb, and the “Greatest Generation” of Americans. Using scholarly texts, primary sources, images, fiction, film, and other media, students will discuss the battles, leaders, technology, unspeakable acts, and foreign and domestic diplomacy associated with World War II. There are plans to supplement the course with field-work and guest speakers.

**Requirements:** students are required to complete a final project.

**Offered:** half year Fall semester course **Credit Type:** elective credit

[🔗 Back to List](#)

## MATH ELECTIVES

### RCC STATISTICS (C0318)

$\frac{1}{2}$  credit

**Grade Level:** 11-12

**Prerequisite:** Students must enroll with SUNY Rockland to take this half year course at the high school. Review of high school transcript may be needed to qualify for the course.

The SUNY Rockland Statistics course (MAT 125) is intended for students whose major area of study is psychology, sociology, economics, business, engineering, or education. Topics include probability, distributions, sampling, confidence intervals, hypothesis testing, inferences about means, proportions and standard deviations, correlation and regression, analysis of variance and non-parametric tests of hypotheses. The cost of the course is approximately \$65 per semester (price subject to change).

**Offered:** half year course **Credit Type:** elective credit through PRHS; 4 credits through SUNY Rockland

[🔗 Back to List](#)



## BUSINESS ELECTIVES

### **CAREER EXPLORATION 9-12 (C0520)**

**½ credit**

#### **Grade Level: 9-12**

This course will provide students with the opportunity to plan for future educational and career goals as well as personal financial responsibility. Students will discover their own aptitudes and interests, to determine relevant college majors and career paths. Assessments will incorporate information from personalized surveys, and a database with over 7,000 colleges and universities; and over 2,000 occupations. Students will synthesize information from a range of sources that will allow them to make informed and effective decisions about their future educational and career plans. The assessments are intended to foster creativity and critical thinking, as each student completes unique, individualized projects.

**Requirements:** Students are required to submit a final assessment.

**Offered:** half year course or full year alternate day course **Credit Type:** core credit

[🔗 Back to List](#)

### **RCC INTRODUCTION TO BUSINESS (C0230)**

**½ credit**

#### **Grade Level: 11-12**

The SUNY Rockland Introduction to Business course (BUS 101) is an overview of business in the American economy. It discusses basic economics, ethics in business, globalization, other forms of business, management functions, motivation, human resource management, and marketing and financial management. Enhancements to this course will also introduce concepts related to accounting, production, and data processing.

**Requirements:** Students must enroll with SUNY Rockland to take this half year course at the high school. Review of high school transcript may be needed to qualify for the course. The cost of the course is approximately \$65 (price subject to change).

**Offered:** half year course **Credit Type:** elective credit through PRHS; 3 credits through SUNY Rockland

[🔗 Back to List](#)

## COMPUTER ELECTIVES

### INTRODUCTION TO CODING (C0154)

½ credit

#### Grade Level: 9-12

This course is a basic introduction to coding on the computer. Students will learn how to program in both HTML and CSS. Students will learn how to build their own interactive web pages. The JavaScript language will also be explained. Students will write formal programs in this language, and later, learn how to incorporate code into their very own HTML web pages making them more adaptive. Students can choose to pursue elements of game programming or practical app development.

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

### INTRODUCTION TO COMPUTER SCIENCE (C0319)

½ credit

#### Grade Level: 9-12

This entry-level course uses the popular Python language to introduce students to the basic concepts of computer science. This course emphasizes techniques of programming design, and applies these concepts to problems that will demonstrate the power and functionality of the computer. Topics will also include the Internet, computer hardware functionality, and basic data processing. The ability to work independently and problem solve effectively are key components to be successful in this course.

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

### CYBERSECURITY (C0155)

½ credit

#### Grade Level: 10-12

#### **Prerequisite: Coding and Introduction to Computer Science**

This course will begin with a thorough examination of various cryptographic techniques which is the basis of modern cybersecurity. In addition, the creation of unique keys will be discussed as well as symmetric and asymmetric encryption used for Internet communication. Students will then be introduced to proper and safe methods of securing computers and small networks using Raspberry Pis. Security measures for larger networks will be discussed. In addition, students will be armed with a toolbox of techniques to make their online computing experience more secure.

**Offered:** half year course. **Credit Type:** elective credit

[🔗 Back to List](#)

**VIDEO GAME DESIGN IN UNITY (CO156)****½ credit****Grade Level: 10-12****Prerequisite: Coding and Introduction to Computer Science**

This course teaches the fundamentals of designing a game using the most widely accessed and preferred editing engine in the world. The intent of this course is to prepare high school students with the industry related skills needed for the workplace and higher learning environments. By the end of this course, students will understand the design planning process, be knowledgeable of industry related careers, and be able to navigate the Unity environment in order to create 3D games.

**Offered:** half year course. **Credit Type:** elective credit[↶ Back to List](#)**AP COMPUTER SCIENCE PRINCIPLES (C0317)****1 credit****Grade Level: 11-12****Prerequisites: Algebra I**

Students will follow an Advanced Placement curriculum which will focus on understanding how computing systems and the Internet function. In addition, students will craft an application featuring the JavaScript programming language for submission to the College Board. Highlights of the class include discussion of the Internet, digital representations of data, the role of big data in modern society, and programming fundamentals. Students will be required to take the AP exam at the completion of this course.

**Requirement:** The AP Exam is a course requirement that has a fee of approximately \$99 (price subject to change).

**Offered:** full year course **Credit Type:** elective credit[↶ Back to List](#)

## MUSIC ELECTIVES

### CONCERT CHOIR (C0680)

**½ credit / 1 credit**

A largely performance based course which touches on the basics of singing, sight reading, vocal anatomy, and performance etiquette.

**Requirements:** mandatory participation in the Winter Concert and Spring Concert, group voice lessons (2 per quarter), occasional parts quizzes, and daily participation in singing, breathing, and music reading exercises.

**Offered:** full year/half year/alternate day course **Credit Type:** Fine Arts requirement and/or elective credit

[↶ Back to List](#)

### JAZZ CHOIR (C0638)

**½ credit**

**Prerequisite:** audition required

A completely performance based course where singers learn Jazz, Contemporary, and Broadway Songs as well as minimal choreography.

**Requirements:** mandatory participation in the Winter Pops Concert and Spring Pops Concert as well as various community performances throughout the year.

**Offered:** full year / alternate day course **Credit Type:** Fine Arts requirement and/or elective credit

[↶ Back to List](#)

### MUSIC THEORY (C0635)

**½ credit**

This course focuses on music fundamentals (rhythm, note values, notation, scales, and harmony). Its primary goal is to develop a student's ability to recognize, understand, and describe the basic materials and processes of music that are heard or presented in a musical composition.

**Offered:** full year / alternate day course **Credit Type:** elective credit

[↶ Back to List](#)

**JUNIOR BAND (C0644)****½ credit / 1 credit**

**Grade Level:** 8<sup>th</sup> & 9<sup>th</sup> grades and select 10-12<sup>th</sup> graders who may be new to the music program.

**Prerequisite:** participation in Middle or High School Band, or Director approval

The concepts and skills learned in Junior Band will allow students to be successful in the upper level band the following school year. On a daily basis, students will work on basic theory concepts, individual instrument technique, ensemble technique and basic composition. Students will participate in regularly scheduled pullout lessons, which will focus on individual technique, instrument care and maintenance as well as small ensemble technique.

**Requirements:** students are required to participate in quarterly assessments as well as the winter and spring concerts.

**Offered:** full year course **Credit Type:** Fine Arts requirement and/or elective credit

[🔗 Back to List](#)

**BAND (C0640)****½ credit / 1 credit**

**Grade Level:** 10-12

**Prerequisite:** Junior Band or Director approval

Students within the Pearl River High School Band will perform two concerts a year as well as provide music for other various school and community activities. On a daily basis, students will work on individual instrumental technique, ensemble technique, basic theory concepts as well as basic composition. Students will also participate in regularly scheduled pullout lessons, which will focus on individual technique as well as small ensemble technique.

**Requirements:** students are required to participate in quarterly assessments as well as the winter and spring concerts.

**Offered:** full year/half year/alternate day course **Credit Type:** Fine Arts requirement and/or elective credit

[🔗 Back to List](#)

**JAZZ BAND (C0637)****½ credit**

**Prerequisite:** audition required

A completely performance based course where band players of all kinds (guitar, bass, and drum set as well) learn to play various subgenres of jazz, rock, pop and fusion. We will focus on song form and improvisation, as well as jazz theory/arranging.

**Requirements:** mandatory participation in the Winter Pops Concert and Spring Pops Concert.

**Offered:** full year / alternate day course **Credit Type:** Fine Arts requirement and/or elective credit

[🔗 Back to List](#)

**HISTORY OF MUSIC I (C0633)****½ credit****Grade Level: 9-12**

Students will explore the cultural, historical, and musical background of American Popular Music. Course activities will explore cultural connections, how music reflects social and cultural awareness and technological developments that affect the evolution of popular music. Each unit will focus on a different genre musical, or decade, and contain lessons based on the National Core Arts Standards of Creating/Presenting/Performing/Producing, Responding and Connecting with variable tasks.

**Offered:** half year course **Credit Type:** Fine Arts requirement and/or elective credit

[🔗 Back to List](#)

**HISTORY OF MUSIC II (C0631)****½ credit****Grade Level: 9-12****Prerequisite: History of Music I**

Students will continue to explore the culture, historical, and musical background of American Popular Music. Course activities will explore cultural connections, how music reflects social and cultural awareness, and technological developments that affect the evolution of popular music. This semester will explore the various types of media, music videos, vlogs, blogs and other tech available. Each unit will focus on a different genre musical, or decade, and contain lessons based on the National Core Arts Standards of Creating, Presenting/Performing/Producing, Responding and Connecting with variable tasks.

**Offered:** half year course **Credit Type:** Fine Arts requirement and/or elective credit

[🔗 Back to List](#)

**JUNIOR ORCHESTRA (C0694)** **½ credit / 1 credit**

**JUNIOR ORCHESTRA (C0694)** **½ credit / 1 credit**

**Prerequisite: participation in Middle or High School Orchestra, or Director approval**

Junior orchestra is a performing group open to string players in grades 8 & 9 and older students who are learning a string instrument for the first time\*. The concepts and skills learned in Junior Orchestra will prepare students for the more challenging music performed by the 10-12 orchestra. On a daily basis, students will work on basic theory concepts, individual instrument techniques, as well as ensemble technique. Students will participate in regular scheduled pullout lessons, with a focus on skills and techniques specific to their instrument. The members of the Junior Orchestra perform at annual concerts and also participate in local and state music festivals and competitions.

**\*Students who are learning an instrument for the first time will attend 8 lessons per quarter. Beginners will follow a modified curriculum in orchestra class and readiness for performance in the concert/s will be assessed by the teacher.**

**Requirements:** Mandatory participation in Winter and Spring Concerts, group lessons (4-5 per quarter), playing quizzes and exams, and graduation ensemble.

**Offered:** full year/half year/alternate day course and/or elective **Credit Type:** Fine Arts requirement credit

**This course is open to 8th & 9th and selected 10-12th graders who may be new to the music program.**

[↶ Back to List](#)

**ORCHESTRA (C0690)** **½ credit / 1 credit**

**ORCHESTRA (C0690)** **½ credit / 1 credit**

**Prerequisite: Junior Orchestra or Director approval**

Orchestra is a performing group open to string players in grades 10-12 interested in playing music from the standard classical orchestral repertoire as well as music from the modern and pop/rock genres. The members of the orchestra perform at annual concerts and also participate in local and state music festivals and competitions.

**Requirements:** mandatory participation in the National Honor Society induction ceremony, Winter Concert and Spring Concert, group lessons (5 per quarter), written tests and quizzes, and playing exams.

**Offered:** full year/half year/alternate day course **Credit Type:** Fine Arts requirement and/or elective credit

[↶ Back to List](#)

**CONTEMPORARY STRING ENSEMBLE (C0639)****½ credit****Prerequisite: audition and/or teacher recommendation**

A completely performance-based course open to string players (including electric bass) and percussionists. Players will learn music from the modern, pop, and rock genres as well as improvisation skills and performance techniques.

**Requirements:** mandatory participation in Winter Pops Concert and Spring Pops Concert.

**Offered:** full year / alternate day course **Credit Type:** Fine Arts requirement and/or elective credit

[🔗 Back to List](#)



## ART ELECTIVES

### STUDIO ART (C0600)

1 credit

**Grade Level: 9-12**

Students will develop basic art skills through the exploration of a variety of art materials, approaches, and processes. The course projects will help students develop the ability to work with the elements of art and the fundamentals of design. Students will need to use the design process to plan out, develop, and reflect on their ideas.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** full year course **Credit Type:** elective credit and meets the NY State Fine Arts requirement

**NOTE:** Successfully completing Studio Art is a prerequisite for all other art courses.

[🔗 Back to List](#)

### ANIMATION I (C0624)

½ credit

**Grade Level: 10-12**

**Prerequisite: Studio Art or Coding or Intro to Computer Science**

This course is an introduction to animation and the moving image. The history and basic principles of design and animation will be explored ranging from techniques that were used to animate Bugs Bunny up to the current day. Students will use traditional hands-on methods as well as learning to use software in the Adobe Creative Suite. Students will need to use the design process to plan out, develop, and reflect on their ideas. All students should have basic computer skills and be able to manage files and folders. It is helpful to have skills in drawing and geometry prior to signing up for this course.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

**ANIMATION II (C0625)****½ credit****Grade Level: 10-12****Prerequisite: Animation I**

This course builds on the foundation of Animation I. In this course, students are not only making figures move across the screen - they are making them come to life. Students will learn to do this through The Principles of Animation. We will introduce the concepts of Physics and how they apply to animation motion. This will require students to use the design process to plan out, develop, and reflect on their ideas. Students will continue developing their skills with the Adobe Creative Suite.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit

[↶ Back to List](#)

**CERAMICS I (C0617)****½ credit****Grade Level: 10-12****Prerequisite: Studio Art**

This course offers an introduction to clay through an emphasis on hand-building, decorating and glazing techniques. There is an emphasis on using the design process to learn and develop skills and techniques. Techniques and methods taught reflect a broad understanding of various ceramics styles across different traditions and cultures. Students will need to use the design process to plan out, develop, and reflect on their ideas.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit

[↶ Back to List](#)

**CERAMICS II (C0618)****½ credit****Grade Level: 10-12****Prerequisite: Ceramics I**

This course builds on the curriculum and skills established in Ceramics I. This course offers intermediate challenges in clay design, construction, decoration and glazing. There is an emphasis on using the design process to continue developing ideas, plan out their projects, improve their skills and techniques and reflect on their process. Students will continue to develop their own artistic voice through their artwork. Beginning wheel-throwing techniques may be offered as well as the opportunity to independent work (time - permitting).

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit

[↶ Back to List](#)

**CERAMICS III (C0620)****½ credit****Grade Level: 11-12****Prerequisite: Ceramics II**

This advanced course is suggested for self-motivated students who have successfully completed Ceramics I & II and are looking to pursue more advanced challenges. Students will work to develop their artistic voice by using advanced hand-building and decorating techniques to complete assigned projects as well as to create a connected body of work of their choice. Heavy emphasis will be placed on researching ceramic artists and using their work to inform their own personal choices. Students will need to use the design process to plan out, develop, and reflect on their ideas.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

**COMPUTER GRAPHICS I (C0615)****½ credit****Grade Level: 10-12****Prerequisite: Studio Art**

This course will stress the role of design concepts in the production of digital images. Students will use traditional hands-on methods as well as learning to manipulate original images creatively using the software in the Adobe Creative Suite. There will be limited use of digital scanners and digital cameras to capture these images. Students will need to use the design process to plan out, develop, and reflect on their ideas. Drawing skills and digital organization/file management are necessary to be successful in this class.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

**COMPUTER GRAPHICS II (C0616)****½ credit****Grade Level: 10-12****Prerequisite: Computer Graphics I**

This class builds on skills learned in Computer Graphics I. Creative problem solving and the design of original computer graphic images will be explored further. Students will begin to experience moving images on the screen and computer generated animation. Students will need to use the design process to plan out, develop, and reflect on their ideas. Drawing skills and digital organization/file management are necessary to be successful in this class.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

**DIGITAL PHOTOGRAPHY I (C0611)****½ credit****Grade Level: 10-12****Prerequisite: Studio Art**

This elective is an introduction to digital photography. Students will learn about the history and evolution of cameras and how picture-taking has advanced into the digital age. Students will learn how to operate the manual controls on a digital single lens reflex camera (DSLR). The design aspects of photography as an art form will be addressed through composition, line, tone, motion, depth of field, portraiture and landscape. Students will need to use the design process to plan out, develop, and reflect on their ideas. Digital organization/file management are necessary to be successful in this class.

**Requirements:**

- Students should have a digital single lens reflex camera with manual adjustments for shutter speed and aperture. A Memory Card for their specific camera is also needed.
- Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit[🔗 Back to List](#)**DIGITAL PHOTOGRAPHY II (C0612)****½ credit****Grade Level: 10-12****Prerequisite: Digital Photography I**

This course continues to build upon the skills and concepts taught in Digital Photography I. Advanced compositional content, photo journalism, context, special effects and technical experimentation will be explored further. Students will need to use the design process to plan out, develop, and reflect on their ideas. Digital organization/file management are necessary to be successful in this class.

**Requirements:**

- Students should have a digital single lens reflex camera with manual adjustments for shutter speed and aperture. A Memory Card for their specific camera is also needed.
- Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit[🔗 Back to List](#)

**DRAWING AND PAINTING I (C0601)****1 credit****Grade Level: 10-12****Prerequisite: Studio Art**

This is a full year study of drawing and painting techniques. Pencil, pen and ink, colored pencil, charcoal, and pastel drawing are explored as well as tempera, watercolor, and acrylics. Color theory and compositional skills are emphasized. Students will learn about the key developments in art history as well as experiment with media and their own artistic voice. Students will need to use the design process to plan out, develop, and reflect on their ideas. Digital organization/file management are necessary to be successful in this class.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** full year course **Credit Type:** elective credit

[🔗 Back to List](#)

**DRAWING AND PAINTING II (C0602)****1 credit****Grade Level: 11-12****Prerequisite: Drawing and Painting I**

This is a full year study of a variety of drawing and painting techniques. Students will continue to learn new techniques, processes, and approaches to artmaking - but there will be an emphasis on developing their independent artistic voice. Students will be encouraged to take a closer look at who they are as artists and the media they choose to effectively express themselves. Students will need to use the design process to plan out, develop, and reflect on their ideas. Digital organization/file management are necessary to be successful in this class.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** full year course **Credit Type:** elective credit

[🔗 Back to List](#)

**FASHION ILLUSTRATION (C0626)****½ credit****Grade Level: 10-12****Prerequisite: Drawing and Painting I**

This course introduces students to the exciting world of fashion illustration and design. Curriculum includes the history of fashion illustration, historical costume, anatomy and proportion, and rendering a draped and clothed figure using media such as charcoal, watercolor, marker and gouache. Students will discover how the Elements of Art and Principles of Design apply to clothing and accessories. Students will learn about “Croquis” and create presentation boards.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit

[↶ Back to List](#)

**METAL / JEWELRY I (C0607)****½ credit****Grade Level: 10-12****Prerequisite: Studio Art**

This course is an introduction to metal / jewelry design as an art form. Students will learn basic techniques necessary for the design and fabrication of jewelry and small three-dimensional forms. Sheet and wire metals such as copper, nickel silver and brass will be used to explore techniques such as cutting, filing, sanding and forming. Students will learn how to safely use equipment including the drill press, buffing wheel, roller mill and more while learning the fundamentals of contemporary jewelry design. Students will learn about the key developments in art history as well as experiment with media and their own artistic voice. Students will need to use the design process to plan out, develop, and reflect on their ideas.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit

[↶ Back to List](#)

**METAL / JEWELRY II (C0608)****½ credit****Grade Level: 10-12****Prerequisite: Metal/Jewelry I**

This course is a continuation of Metal/Jewelry I and builds upon the skills and techniques previously learned. Students will learn more advanced techniques in metal work as well as being challenged with more complex design work. Techniques may include hot connections (soldering) and bezel work for setting stones. Students will learn about the key developments in art history as well as experiment with media and their own artistic voice. Students will need to use the design process to plan out, develop, and reflect on their ideas.

**Requirements:** Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

**AP STUDIO ART 2D DESIGN PORTFOLIO (C0623)****1 credit****Grade Level: 11-12**

**Prerequisites:** Students need to have completed at least 3 credits of art (Studio Art, Drawing and Painting I and II are suggested) prior to this class, in addition to portfolio review and permission of the instructor.

This course allows dedicated art students to complete the AP2D Studio Art portfolio. This portfolio requires the development and creation of 20 portfolio pieces to be submitted for review as part of the AP Exam. Students will need to use the design process to plan out, develop, and reflect on their ideas/artistic voice as they create a sustained investigation that they propose and develop. This class is ideal for highly motivated students that are able to work independently in class **AND** outside of class. Critiques will be an integral part of this class. Meeting deadlines, digital organization, file management are necessary to be successful in this class.

**Requirements:**

- The AP Exam is a course requirement and has a fee of approximately \$99 (price subject to change).
- Students are expected to demonstrate their ability to create, present, respond, and connect according to the NYS standards

**Offered:** full year course **Credit Type:** elective credit

[🔗 Back to List](#)

## TECHNOLOGY ELECTIVES

### DESIGN & DRAWING FOR PRODUCTION (C0540)

1 credit

Grade Level: 8-12

Design and Drawing for Production is a full year introductory course for the technology program where students will study the design elements, technical drawing and the problem solving process in order to produce various models, prototypes and hands-on projects. These activities use a system approach requiring design and problem solving, data analysis, mathematical modeling, experimentation, and applying scientific principles and laws of nature. In addition, students will be introduced to the world of graphical communication using mechanical drawing skills to complete single view, multi view, isometric and architectural designs. Students will also learn basic hand tools and machine use when building their models, prototypes and various projects, as well as computers and online CAD programs such as Sktechup, as tools for increased productivity.

**Offered:** full year course **Credit Type:** elective credit and meets the NY State Fine Arts requirement

**NOTE:** This is a prerequisite for all other Technology courses.

[🔗 Back to List](#)

### ROBOTICS 1 (C0567)

½ credit

Grade Level: 9-12

**Prerequisite:** Design & Drawing for Production

In this class students will learn about the field of robotics through Vex Robotic platform. Students will study how and why they are used, the advantages and disadvantages of their use, and their basic programming and functions. As a class, we will dive into the world of robotics through the building of a robot and programming the robot to do different actions. Students will study and experiment with different control systems such as remote control, preprogrammed operations, and autonomous functions. Also, we will learn about different sensors and different coding blocks to make the robot achieve a goal in an efficient manner. Students will design and test robots primarily based on tasks and challenges provided by the teacher.

**Requirements:** Robot design and construction, robot basic programming, completion of multiple control simulations, completion of multiple robotic tasks and functions

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)



**MATERIALS PROCESSING (C0546)****½ credit****Grade Level: 9-12****Prerequisite: Design & Drawing for Production**

Students will learn how to process various materials from a raw state to finished product. Focusing primarily on wood with some metal and plastic use, students will work on numerous projects as they learn to properly and safely use hand tools, powered tools/machines and computer integrated machines. During the course students will progress through each project by creating a materials list and using the design, separating, forming and finishing processes. This will help students to understand the materials, tools and machines needed to complete a project.

**Requirements:** one wood/metal hand tools project, one wood/metal/plastic machine project and one final self-design project

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

**MANUFACTURING (C0547)****½ credit****Grade Level: 10-12****Prerequisite: Materials Processing, ADV CAD**

Manufacturing focuses on advancing materials processing skills and applying them to the manufacturing process. Students will continue to work with wood and metal materials as they learn about manufacturing processes including and apply it to a culminating manufacturing project. Working in teams, students integrate and employ knowledge and skills developed in previous courses as they learn and apply product design, material processing, managerial and organizational principles and functions to the creation and mass production of a product and the operation of a manufacturing enterprise. Students also develop resource materials for teaching manufacturing/production concepts.

**Requirements:** one advanced hand tool project, one wood machine project, one metal machine project, one student designed project

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

**COMPUTER AIDED DRAWING (C0542)****½ credit****Grade Level: 9-12****Prerequisite: Design & Drawing for Production**

Building off of the skills students learn in Design & Drawing for Production, students will exercise a variety of drafting and design skills using CAD software to execute both two and three-dimensional drawings and illustrations. Students will produce drawings of their own design as well as assigned exercises. Students will also learn how to use CAD software to do basic Laser Engraving and 3D Printing.

**Requirements:** series of single view drawings, series of multi view drawings, two student design projects, and a final exam drawing

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

**ADVANCED CAD (C0543)****½ credit****Grade Level: 10-12****Prerequisite: Computer Aided Drawing (CAD)**

Students will use a 3D solid modeling software called Inventor/Fusion 360 to create drawings, assembly files, and design projects. Students learn to model objects in a 3D space and have the opportunity to create their own design. Students will be tasked with learning how the modeling tools work and projects that demonstrate their knowledge on those tools. Projects include using the 3D Printers, Laser engraver, and CNC Machine.

**Requirements:** multiple 3D drawings, multiple assembly drawings, student design drawing, and final exam drawing.

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

**ARCHITECTURE (C0544)****½ credit****Grade Level: 10-12****Prerequisites: Design & Drawing for Production, CAD, Materials Processing**

Students study residential house design and styles as they work on various floor plans and drawings on the AutoCAD Architectural software program. Students will also learn about the basics of residential construction as they complete a model of a sample home.

**Requirements:** series of floor plan drawings and elevation drawings, model building of residential construction,

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)

**ENGINEERING I (C0548)****½ credit****Grade Level: 11-12****Prerequisites: Advanced CAD, Manufacturing**

Students will study the basic elements and principles of engineering through the design process and problem-solving method. Students will work on design problems in various areas of engineering by researching and creating models/prototypes to test out their ideas. During this course we will start with reverse engineering to help us understand how technological devices and systems work together.

**Requirements:** multiple group and individual design problems, individual model/prototype building, reverse engineering project, and a final “design firm” problem-solving project.

**Offered:** half year course **Credit Type:** elective credit

[🔗 Back to List](#)