



Art: Introduction to Art

Available to grades 9, 10 11 & 12

Students taking Introduction to Art will have the opportunity to explore and create using a variety of mediums. Throughout the year students will be introduced to contemporary artist as well as learn the styles and movements from the historical artist. On top of creating unique works of art, students will be learning how to critically analyze and discuss their own work and their fellow classmate's work through a critique held at the end of a project. This class isn't just for creating, students will learn valuable skills in communication, imagination and problem solving that is transferable to other subjects and future careers. This course will give students the tools to develop their own artistic persona while building strong technical skills in the various mediums we work with.

Art: Ceramics/Sculpture

Available to grades 10, 11 & 12 (pre-requisite SJHS course Introduction to Art)

This year-long course will provide students an in depth study of sculpture and lead students into the art of ceramics. Students will have the opportunity to work with a variety of materials to build and create original art work. Using the elements and principles of design, students will learn the basic technique of sculpture while discovering their creative and expressive side. Students will work individually on projects and have numerous chances to create art in a group atmosphere. Project critiques after every assignment helps students learn how to analyze and discuss their peer's art while providing positive and constructive feedback. Using artist from history and present day will help give students an insight on how art has transformed throughout the years and how their art has progressed within the class. Ceramics and Sculpture will provide students an in depth study of the various three dimensional art forms while showing students that creativity isn't bound to a flat piece of paper.

Art: Drawing and Painting

Available to grades 10, 11 & 12 (pre-requisite SJHS course Introduction to Art)

This year-long course will study in depth various forms of drawing and prepare students with the proper technique to begin painting. Painting and Drawing will teach students the elements and principles of art while unleashing their inner creativity through open project prompts and learning activities. The students will all participate in various art shows throughout the year and have multiple opportunities for scholarships within the local area. Drawing and Painting provides students a vehicle for self expression and opportunity to learn an in depth study of two dimensional arts in an open and creative environment.

Art: CHS Drawing I (AR -111 Basic Art: Drawing I Carlow University)

Available to grades 11 & 12 (pre-requisite SJHS course Drawing and Painting)

(This course is currently Pending Approval from Carlow University for 2017-2018)

3 college credits

Students taking College Drawing will study the 2 dimensional drawing techniques and concepts. This junior/senior course will educate students about line, value, perspective and composition within a variety of projects. Students will be given the opportunity to study anatomy and still life while also creating original works of art throughout the year. Students taking this course must complete the Introduction to Art course and has had at least one year of Drawing and Painting.

Chinese Cultures

Available to grades 9, 10, 11 & 12

This is a one-year option in addition to another world language. This course is designed to introduce students to the fundamentals of Chinese language and culture. Emphasis is placed on the four communication skills of listening, reading, writing and speaking.

Choir (Saint Vincent College)

1 college credit

Available to grades 9, 10, 11 & 12

This course is a survey of choral music from different genres and musical periods. There will be an emphasis on vocal technique and development and ensemble singing. The choir ensemble will sing for events and for concerts throughout the year.

Computer Programming with Java (CS 0401 Intermediate Programming University of Pittsburgh)

3 college credits

Available to grades 10 11 & 12

Computer Programming with Java is a one-year elective teaching computer programming skills using the Java programming language. Students will learn computer logic, data storage and manipulation, program flow and control, data structures, interfacing with users and hardware, and object-oriented programming, skills which translate to any high-level programming language. Students will complete several programming challenges throughout the year, applying their skills to perform tasks to build intuitive user interfaces or building industrial control systems with robotics.

Instrumental Ensemble

Available to grades 9, 10 11 & 12

This course provides an opportunity for players of woodwind, brass, string and percussion instruments to perform various styles of Band and Orchestra literature. A basic knowledge of music and the ability to play an instrument are required. The group performs two evening concerts (December/May). A minimal of 8 students is required for the course to run.

Music Appreciation (MU101 Saint Vincent College)

3 college credits

Available to grades 9, 10 11 & 12

A survey of classical music of Western culture: how to listen, what to listen for. Representative composers and works of the major periods of classical music will be discussed. The goals of the course are to have the student learn how to appreciate music of all styles, periods and genres, through an understanding of various forms, compositional techniques, historical factors and musical practices.

Robotics and Engineering

Available to grades 9, 10 & 11

Students will explore robotics, technical education and STEM studies following a course of lectures, interactive instruction, and hands-on lab work. Students learn the engineering process, lab and shop safety, safe operation of hand and small power tools, robotics techniques including mechanical assembly, sensor use, remote control techniques, simple programming, and project management techniques. As the class progresses, groups are challenged to brainstorm, design, build, and test solutions to complex engineering problems related to robotics. All students learn a C-based language used for programming the robotic system, and later learn 3D CAD using industry-standard software. The final challenge is an in-class competition to successfully build, program and control mobile robots that score points by performing specific tasks.

Robotics and Engineering II

Available to grades 10, 11 & 12

Students learn how to use additional power tools to speed the build/test workflow, and learn more advanced programming techniques to help solve their challenges. Groups are challenged with designing, building and programming autonomous robots to perform tasks without human control. Students learn advanced CAD techniques and are introduced to 3D printing and machining, with opportunities to use the in-class 3D printer and CNC mill to create the objects they have designed. Class projects are more open-ended and require teamwork and critical thinking to apply techniques learned in class and through research to solve complex problems.

Science Research

Available to grades 9 & 10

Science Research is a course for students who plan on participating in either PA Junior Academy of Science or the Pittsburgh Regional Science and Engineering Fair. It is designed to assist students as they develop an experiment, research, organize, and implement the procedure. If you are planning on a career in science this will be helpful, and it is required for students who are doing PJAS or PRSEF at any time during their high school career. This does not replace Physics I as a science course.

Probability & Statistics (Math 1040 La Roche College)

3 college credits

Available to grades 11 & 12; also grade 10 with teacher recommendation.

The study of the fundamentals of probability theory with applications to natural and social sciences as well as to mathematics. Discrete and continuous distributions, sampling theory, linear correlation, regression, statistical inference, estimation and analysis of variance are included. Students will learn how to use a statistical computer package.

Psychology (PY100 Introduction to Psychology Saint Vincent College)

3 college credits

Available to grades 11 & 12

Psychology is the scientific study of mind, body, and behavior. Discussions, lectures, and assignments will introduce the student to developing an understanding of human behavior. The primary questions addressed in the course, will be "Why do people act the way that they do in specific situations?" and "How can people change behaviors?"

Topics covered will be: Motivation and emotion, sensation, development over the lifespan, learning, thinking and intelligence, memory and psychological disorders. Students will also learn about the methods psychologists use in their science and practice. In addition, students are expected to develop their critical thinking skills throughout the course, while building their reading, writing, and discussion skills.

Web Design (CS 0134 Web Design and Development University of Pittsburgh)

** This course is offered every other year, and will **NOT** be offered in the 2017-2018 school year. Students may be interested in course Computer Programming with Java (CS 0401 Intermediate Programming University of Pittsburgh), which is offered each year.*

3 college credits

Available to grades 10, 11 & 12

Web Design and Development is a one-year elective teaching the principles of web design, HTML, and programming with JavaScript. Students will learn how to use HTML5 to create web sites, while learning file system organization, basic web design principles, web element styling using CSS, program flow and control, data structures, interactive features, and site design. Students complete design projects that allow them to grow and demonstrate their skills, and experiment with design techniques. Programming with JavaScript allows students to add interactivity and learn basic computer programming techniques.