

**CHARTIERS VALLEY**  
SCHOOL DISTRICT | *Inspiring excellence.*

**CV HS**

**2018-2019**

**Academic Handbook**

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The Chartiers Valley School District does not discriminate on the basis of race, sex, religion, handicap, national origin, or marital status, as required by Title VI of the 1964 Civil Rights Act, Title IX of the 1972 Education Amendments, and Section 504 Regulations of the 1973 Rehabilitation Act.

# Chartiers Valley High School

## Graduation Requirements

Minimum Requirements	
Each student is <i>minimally</i> required to successfully complete the following	
English	4 credits
Mathematics	3 credits
Science	3 credits
Social Studies	2 credits - American Cultures 1 credit - World Cultures
Physical Education	1 credit (.25/year)
Health	1 credit (.5 in 9 <sup>th</sup> and 10 <sup>th</sup> grade)
Elective or Technology	9 credits
Arts & Humanities	3 credits
Advisory	1 credit (.25/year)
State Assessment (Proficient or Advanced)	Algebra Keystone Biology Keystone Literature Keystone Or Approved Local Assessment/Project
<b>28 Credits and proficiency on Keystone Exams are required for graduation</b>	

The requirements mandated for graduation may change based on the Pennsylvania Department of Education's rules and regulations.

### Typical Units of Study

9th grade	8.00 credits (includes 0.25 Advisory units)
10th grade	8.00 credits (includes 0.25 Advisory units)
11th grade	7.50 credits (includes 0.25 Advisory units)
12th grade	7.50 credits (includes 0.25 Advisory units)

### Typical Promotion

6.25 credits
12.75 credits
19.25 credits
<b>28.00 credits</b>

One credit is earned by successfully completing a course that meets at least one period per day, five days per week. The minimum school-year load is *seven* subjects plus physical education.

\*Arts-Humanities courses that will satisfy this requirement include courses from Art, Engineering, Applied Engineering, & Technology, Family and Consumer Sciences, Modern Languages, Performing Arts, and certain courses in the English and Social Studies departments.

Students are responsible for knowing the requirements for graduation and what they need to do to meet the requirements. Additionally, students must keep their parents/guardians informed of progress toward graduation. School counselors are available to assist students and parents.

### Accreditation

Chartiers Valley High School is accredited by the Middle States Association of Secondary Schools and Colleges and by the Pennsylvania Department of Education.

### Class Rank

Official class rank is determined three times, at the end of the junior year, at the end of the third nine quarter during the senior year, and at the end of the senior year. All students are ranked together.

## Weighted Courses

### **Advanced Placement Courses** Weighted on 5.5. scale

Chartiers Valley High School participates in the Advanced Placement Program of the College Entrance Examination Board. This program serves the interests of three groups: high school students capable of pursuing college level studies, secondary schools that desire to offer these students the opportunity to work at an advanced level, and colleges that wish to encourage and recognize such achievements. Advanced Placement courses may have required summer assignments.

Chartiers Valley High School prepares students for the following Advanced Placement exams:

AP English Language	AP Biology	AP Macroeconomics	AP Spanish
AP English Literature	AP Chemistry	AP Microeconomics	
AP Seminar (Capstone)	AP Physics 1	AP Government & Politics	
AP Research (Capstone)	AP Physics 2	AP Psychology	
	AP Physics C	AP United States History	
AP Calculus AB	AP Physics E & M		
AP Calculus BC			
AP Statistics			
AP Digital Art (2D & 3D)	AP Computer Science Principles		
AP Studio Art	AP Computer Science A (Java)		

### **College in the High School (CIHS)** Weighted on 5.0 scale

College in the High School (CIHS) permits high school students to take university-level courses as part of their regular high school day. Chartiers Valley teachers, in cooperation with California University of Pennsylvania, Duquesne University, Rochester Institute of Technology (RIT), Carlow University and the University of Pittsburgh offer these courses during the regular high school day. The cooperating university has approved both the courses and the teachers that are part of the college in high school program. CIHS courses are regular university courses, and participating in the course requires an investment of time, effort and money. To transfer credits, since these high school courses also result in college credit, the student must request an official transcript from the college or university. CIHS credits are generally accepted as transfer credits by all colleges and universities. There is no guarantee, however, that all credits will transfer to all institutions. Universities, and even degree programs within universities, have varying policies on accepting transfer credits. A student who successfully completes a CIHS course will receive a university transcript with a grade for the course and three or more credits. Each university establishes their own guidelines for the minimum grade to receive college credits. Associated with each course is a fee for credit that may be earned. Currently the following courses are offered as College in the High School:

Principles of Accounting (Carlow University)	AP Psychology (Dual Described –University of Pgh)
Communications/Rhetoric (University of Pittsburgh)	Shaping of the Modern World (Duquesne University)
Calculus (Duquesne University)	Chemistry (Duquesne University)
C++ (Duquesne University)	French 4 (Duquesne University)
Cybersecurity & the Law (University of Pittsburgh)	German 4 (Duquesne University)
	AP Spanish 4A (Dual Described - Duquesne University)

## **Project Lead the Way (PLTW) CiHS Courses                      Weighted on 5.0 scale**

All PLTW courses are College in the High School courses and are noted with a PLTW in the course description. College credits may be earned provided the student meets the requirements. A fee is associated with college credits. Additional credit opportunities are available for all PLTW courses.

Computer Integrated Manufacturing	Civil Engineering and Architecture
Digital Electronics	Principles of Biomedical Sciences (PBS)
Introduction to Engineering Design	Human Body Systems
Principles of Engineering	Medical Interventions
Environmental Sustainability	Biomedical Innovation (new)
Engineering Design and Development	

The Engineering, Applied Engineering and Technology Path is comprised of rigorous and relevant courses from Chartiers Valley and Project Lead the Way (PLTW). This project-based curriculum is designed to provide students with the foundation they need to become the next generation of leaders and innovators in our community and beyond.

### **Engineering Academy Requirements**

#### **Year One**

Required College Bound Core Classes: English, Social Studies, Engineering, Math, Science, Health, Physical Education, Modern Language

#### *Required Engineering Classes*

- |  |           |      |
|--|-----------|------|
| ● Introduction to Engineering Design (IED) | Full Year | PLTW |
| ● Applied Engineering                      | Full Year |      |

#### **Year Two**

Required College Bound Core Classes: English, Social Studies, Math, Science, Physical Education

#### *Required Engineering Classes*

- |   |           |      |
|---|-----------|------|
| ● Computer Integrated Manufacturing (CIM) | Full Year | PLTW |
| ● Principles of Engineering (POE)         | Full Year | PLTW |
| ● Mass Production                         | Full Year |      |

#### **Year Three**

Required College Bound Core Classes: English, Social Studies, Math, Science, Physical Education

#### *Required Engineering Classes*

- |                                      |           |      |
|--------------------------------------|-----------|------|
| ● Engineering Design and Development | Full Year | PLTW |
| ● Product Development                | Full Year |      |
| ● Engineering Elective               |           |      |

#### *Engineering Electives*

- |  |           |      |
|--|-----------|------|
| ● Civil Engineering and Architecture (CEA)       | Full Year | PLTW |
| ● Digital Electronic (DE)                        | Full Year | PLTW |
| ● Computer Assisted Design and Drafting (CADD) 1 | Full Year |      |
| ● Computer Assisted Design and Drafting (CADD) 2 | Full Year |      |
| ● Construction Systems                           | Semester  |      |
| ● Drawing and Design                             | Semester  |      |
| ● Materials                                      | Semester  |      |
| ● Modern Infrastructure                          | Semester  |      |
| ● Robotics                                       | Full Year |      |

<b>Engineering, Applied Engineering &amp; Technology Certificate Program Requirements</b>
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To obtain an Applied Engineering and Technology (AET) certificate, four related credits in a specific area must be completed. These credits will be taken as electives. In addition, students will be required to complete the Chartiers Valley graduation requirements for all certificate programs.

**Career Interests**

Certificate programs may lead to careers in robotics, advanced manufacturing, engineering technology and drafting.

**Engineering Certificate**

Drawing and Design	IED
Materials	POE
Modern Infrastructure	CIM
Construction Systems	CEA
Applied Engineering	
Robotics	

**Machine and Fabrication Technology Certificate**

Materials	Applied Engineering
Drawing and Design	Product Development
Mass Production	

**Architectural Design and Modeling Certificate**

Courses: Drawing and Design, Materials, CADD 1, CADD2, IED, CEA

**Mechanical Design and Modeling Certificate**

Drawing and Design
Materials
CADD 1
CADD 2
IED

**Honors Courses**

**Weighted on a 5.0 scale**

Honors English 9/Composition 1  
Honors English 10/Composition 2  
Honors World Literature

Honors Development of the United States  
Honors World History

Honors Algebra 2  
Honors Combined Geometry  
Honors Pre-Calculus

Honors Biology

**Advanced Courses**

**Weighted on a 4.5 scale**

All remaining courses are on the 4.5 scale.

## **Grading Scale**

	<b><u>Grade</u></b>	<b><u>Standard Quality Point Value</u></b>	<b><u>Honors &amp; CIHS Courses</u></b>	<b><u>Advanced Placement</u></b>
97-100%	A+	4.5	5.0	5.5
93-96%	A	4.25	4.75	5.25
90-92%	A-	4.0	4.5	5.0
87-89%	B+	3.5	4.0	4.5
83-86%	B	3.25	3.75	4.25
80-82%	B-	3.0	3.5	4.0
77-79%	C+	2.5	3.0	3.5
73-76%	C	2.25	2.75	3.25
70-72%	C-	2.0	2.5	3.0
67-69%	D+	1.5	2.0	2.5
63-66%	D	1.25	1.75	2.25
60-62%	D-	1.0	1.5	2.0
59% & below	F	0	0	0

## **Advisory Program**

The Advisory program offers a positive resource that ensures that every student feels a sense of community and personalization at Chartiers Valley High School. Advisory is a proactive connection between teachers, students, school counselors, and administrators. All high school students are assigned to a small group "Advisory" led by an Advisor/Teacher. Advisory groups meet 2 times per month using an alternative bell schedule and student participation and attendance is expected.

Students will participate in group discussions led by their Advisors. Students may also be asked to utilize digital tools (Family Connection/Naviance, Pennsylvania CareerZone) with consultation by School Counselors and the Collegiate Coordinator. Discussion topics such as self-advocacy, persistence, resiliency, and precision will be major themes. Activities will focus on Character Education, Citizenship and Volunteerism, Goal Setting, Career Exploration, and Post-Secondary Planning. Seniors will share their Advisory experience in May.

## Scheduling Procedure

Scheduling for the following school year is completed early in the second semester. Current students (including rising freshman) will complete course requests utilizing the digital handbook and Infinite Campus online course registration feature.

Students and parents have the opportunity to discuss scheduling with school counselors during the scheduled classroom sessions and parent events.

Students will be permitted to make adjustments by submitting schedule change request forms according to the timetable that accompanies the scheduling information. All schedules are final on April 6, 2018.

Counselors will work with students with scheduling conflicts prior to the start of the school year.

After the deadline, changes to schedules will only be made if

- a computer scheduling error has occurred.
- you failed a course, need to repeat it, and the change did not occur.
- you desire to add an elective (if seat is available) in the place of a study hall (same period).
- there is an error in the schedule that affects graduation requirements.

No changes will be made after the first five (5) days of the school year.

Changes requested after the fifth day will result in a withdraw/fail grade and be placed on the student's report card and transcript. This grade will be factored into a student's grade point average and class rank. Students will be required to meet with their school counselor at the time of the request to discuss and design an intervention plan to be followed for a period of time before a withdraw/fail grade is approved.

A course waiver can be requested for a student who does not qualify and is not recommended for a course. The deadline to request a waiver is April 6, 2018. A meeting with a building principal to review the student's academic history will be required prior to the waiver being approved and applied to the student's schedule.

**Requests for specific teachers, classes, lunch periods, or similar requests will not be approved.**

Please contact your school counselor if additional supports are needed.

## Student and Parent School Information

Students and parents are encouraged to become familiar with course descriptions found in this Academic Handbook. The student's scholastic performance, interests, aptitude and ability should also be considered.

1. Students must select and carry a minimum of seven subjects plus physical education.
2. Courses will be scheduled once during the school year; students are advised to select courses carefully.
3. Students must choose courses that meet the graduation requirements listed on page 2.
4. In selecting subjects that are continuous in nature, a typical minimum grade of 75% in the previous course is required.
5. English and physical education must be scheduled each year. English requirements cannot be met in advance by taking more than one English course during a year. However, students may choose to carry an additional English course as an elective. Only students who have failed physical education will be scheduled for more than the required number of physical education classes per week.
6. Students who fail courses that are required for graduation are strongly encouraged to attend summer school or they may risk delaying graduation.



## **Student Services Center**

School counselors work cooperatively with students, parents, community members, the faculty, administrators, the school nurse, school psychologists, the collegiate coordinator, and the student services specialist. The primary responsibility of the counselors is to assist each student in identifying his/her individual needs and aptitudes and in planning an educational program that meets academic, personal/social, and career goals. The Student Services Center is actively involved with the Advisory Program.

As a basis for all student services, counselors maintain the student's permanent record and cumulative file folder. The student and counselor can cooperatively explore plans and resources that are available to meet individual goals. The counselor provides information about the student's past and present achievement, interprets standardized test results, and encourages the student to research information about future schooling and employment. Students are invited to contact counselors at any time for a meeting.

Group workshop sessions are also held. These meetings may be used to disseminate information, to present resource speakers from work and higher education, or to meet the needs of students with similar interests.

The Student Services Center has the most up-to-date information on college and career planning. Resources include Naviance Family Connection, financial aid, military, standardized testing, and general college and trade/tech information.

Counselors are responsible for academic advisement, career exploration, conflict resolution, character education, and advisory program planning.

Counselors also help students with their academic, behavioral, attendance and family/community concerns. They will work with students and their families through a variety of supports through a formal intervention plan. They will utilize services such as one-on-one counseling, tutoring programs, mentor program, Student Assistance Program, pupil personnel, and other outside services.

### **Tutoring Services**

Teacher-Student – It is always best to have your son or daughter meet with his/her teacher regarding concerns for learning in the class. A student may speak to his/her teacher to set up an individual or series of sessions for tutoring.

- National Honor Society (N.H.S.) – This program is made up of students who excelled in a course. They are available to tutor your son or daughter in a wide variety of subjects. A schedule will be worked out between the student and the peer tutor. Please contact a school counselor.
- Academic Support Program – This program is designed to give additional support to students in a specific content.
- Outside Services – There are various outside clubs and agencies that provide tutoring services. Please contact your school counselor or have you son or daughter stop in the Student Services Center to get information.

### **Career Exploration**

Chartiers Valley High School students are encouraged to choose a competitive high school program in keeping with past experiences, current achievements, and future goals. Professional staff members work cooperatively with each student and parents to generate an individual, sequential program for each student.

The high school offers comprehensive vocational, technical, and academic programs. Some students will choose employment immediately following high school graduation. Others will choose additional vocational or technical training: still others will continue competitive academic programs in colleges and universities.

### **Parkway West Career and Technology Center**

Chartiers Valley School District is one of twelve school districts participating in the Parkway West Career and Technology Center. Parkway West offers specialized trade and technical courses that are not available at the high school. During their sophomore, junior and senior year, selected students will attend Chartiers Valley High School (afternoon) for a half-day and the other half will be spent at Parkway West (morning). The personnel of Parkway West will select students based on their abilities, grades, maturity, aptitudes, and interests. Upon completing the course of studies at the technical school and the high school, the student will receive a certificate from Parkway West Career and Technology Center and a diploma from Chartiers Valley High School. Parkway West aids graduates with job placement in their fields of study.

Students attending Parkway West Career and Technology Center will not be scheduled for electives at CVHS.

### **Parkway Programs**

- Auto Body Repair
- Automotive Technology
- Construction Cluster
  - Building Construction Technology
  - Electrical Systems Technology
  - HVAC/R
  - Welding Technology
  - Masonry
- Cosmetology
- Culinary Arts
- Digital Multimedia Technology
- Health Assistant
- Information Technology Essentials
- Public Safety Technology
- Sports Medicine and Rehabilitation Therapy Technology
- Veterinary Technology

<b>Student Services Center</b> <b>Contact Information/Resources</b>
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[www.cvsd.net](http://www.cvsd.net) – Select “High School” then “School Counseling”

<b>School Counselors</b>	<b>Last Names</b>	<b>email</b>	<b>Phone</b>
Lesley Kunkel	A-H	lkunkel@cvsd.net	412-429-2268
Leah O'Malley	I – N, Parkway, Intervention Center	lomalley@cvsd.net	412-429-2629
Danyelle Boyd	O – Z	dboyd@cvsd.net	412-429-2271

**Collegiate Coordinator**

Sarah Dalo	<a href="mailto:sdalo@cvsd.net">sdalo@cvsd.net</a>	412-429-2251
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**Gifted Coordinator**

Lisa Trainor	<a href="mailto:ltrainor@cvsd.net">ltrainor@cvsd.net</a>	412-429-6135
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**Naviance/Family Connection**

Post-Secondary Planning Tool

<http://connection.naviance.com/chartiersvhs>

**Log in** Student ID# (cafeteria #)

**Password** Date of Birth  
(8 digits, ex:01051998)

# Career & Community Learning Opportunities

## **Peer Learning Assistant 6092 .5 credit**

This junior/senior level course will afford students the opportunity to develop and apply their leadership and academic skills that can be transferred to life beyond high school. Specifically, students can apply to become a technology support assistant, library peer manager, and/or academic tutor during available class periods. Designated students will help other students and assist instructors in these areas. This opportunity includes a competitive application and interview process with limited spots available based on set criteria and schedule availability. For more information, please go to: [www.cvsd.net/1/Content/peerlearningassistant](http://www.cvsd.net/1/Content/peerlearningassistant)

### Prerequisites

- Must be in 11<sup>th</sup> or 12<sup>th</sup> grade
- Recommendation from application committee

## **Internship/Career Experience 6091 1, 2 or 3 credits**

This senior level, experiential learning course will afford students the opportunity to develop and apply skills that they can transfer to life following high school. The goals of the program are: to provide students with first-hand experience in an identified work place; to develop in students a sense of responsibility and confidence; and to allow students to explore careers of interest. Students are assigned a split schedule. Part of the day is spent in the classroom on academics and

part of the day is spent at an on-site learning environment; the amount of time in each setting is determined by the teacher and workforce mentor. Application and principal approval is required.

For the 2018-2019 school year, student applications for the Internship/Career Experience will be accepted from seniors who have successfully completed the PLTW Environmental Sustainability class.

### Prerequisites

- 12<sup>th</sup> grade
- Enrolled in 5 classes (including PE)
- PLTW Environmental Sustainability

## **Work Experience 6090 1, 2 or 3 credits**

Work experience will provide seniors with a valuable learning experience by integrating the opportunity of employment during the senior year. Work experience offers seniors scheduling flexibility similar to what they will encounter with most postsecondary experiences. Evaluations will include visits to the workplace, monitoring of work hours and schedules, completion of student journals and reflections, independent assignments, and frequent communication between the workplace and school.

### Prerequisites

- 12<sup>th</sup> grade
- Enrolled in 5 classes (including PE)
- Counselor recommendation
- Student training agreement

# Art

The Art program is designed to accommodate the needs, interests and abilities of each student by providing a wide range of visual experiences in the areas of ceramics, sculpture, graphics, drawing, painting, commercial art and crafts. *All art courses are electives.*

<b>Art 1 – 9/10</b>	<b>7101</b>	<b>1 credit</b>
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This hands-on course will introduce and analyze the principles and elements of art, which will be used to effectively complete projects throughout the year. Emphasis will be placed on the foundations of drawing, painting, print making, graphic design and sculpture. Art 1 9<sup>th</sup>/10<sup>th</sup> grade will meet the developmental and cognitive needs of the students at their respective grade level.

<b>Art 1 -11/12</b>	<b>7102</b>	<b>1 credit</b>
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This hands-on course will introduce and analyze the principles and elements of art which will be used to effectively complete projects throughout the year. This course will focus primarily on real world application of artistic practices. The student will develop skills that would be used in a professional or entrepreneurial manner. Art 1 11<sup>th</sup>/12<sup>th</sup> grade will meet the developmental and cognitive needs of the students at their respective grade level.

<b>Art 2</b>	<b>7200</b>	<b>1 credit</b>
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Students who have experienced an orientation to visual arts in Art 1 may elect to continue their study. Further exploration in materials and tools will be supplemented with opportunities to extend learning in basic studio experience. Slip cast ceramics, acrylic painting, silk screen, illustration, additive sculpture, and personal adornment in the area of crafts extend the student's aesthetic experience.

Prerequisite

- 80% in Art 1
- Teacher recommendation

<b>Art 3</b>	<b>7300</b>	<b>1 credit</b>
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Style, technique, and effect of personal experience on an artist's interpretations are emphasized in this third year experience in the visual arts. Wheel-thrown ceramics, watercolors, intaglio, advertising,

subtractive sculpture and the functional and decorative aspects of crafts are considered. To enhance their personal expressions, students may wish to furnish some materials.

Prerequisite

- 80% in Art 2
- Teacher recommendation

<b>Art 4</b>	<b>7400</b>	<b>1 credit</b>
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Students enrolled in this visual arts course will develop a deeper understanding of artistic representation. Portfolio development may be an ultimate goal as the committed student explores ceramic forms created in both hand-built and wheel-thrown techniques, integration of paint and collage, lithographic processes, cartooning, subtractive sculpture techniques and an extension of the understanding of art in craft. Students may wish to furnish some materials as they continue to explore areas of personal expression.

Prerequisites

- 80% in Art 3
- Teacher recommendation

<b>Pre AP Studio Art</b>	<b>7445</b>	<b>1 credit</b>
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Pre AP: Studio Art will be a preparatory course designed for 11th grade students who are interested in taking AP Studio Art (Drawing) in their senior year. Students will build upon and utilize prior drawing and painting concepts and techniques in order to begin creating a personalized drawing portfolio. All course work will foster individualized creative problem solving, wherein students will be responsible for all stylistic and design considerations. This course will lay the groundwork for the AP Studio Art (Drawing) course by giving students a head start in creating a portfolio that is reflective of a unique and personal artistic voice.

<b>AP Studio Art</b>	<b>7460</b>	<b>1 credit</b>
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This course is designed for the student seriously interested in the practical experience of art. Students will create a portfolio of works including drawing, painting, printmaking and mixed media which will be submitted for evaluation at the end of the year. For a full course description please visit <http://apcentral.collegeboard.com>

Prerequisites

- 80% in Art 3
- Teacher recommendation

<b>Digital Art &amp; Design</b>	<b>7475</b>	<b>1 credit</b>
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Deep exploration into digital fine art techniques, styles and processes are the focus of this course. Traditional design principles and art making processes will be utilized, reexamined, and reevaluated along with non-traditional and cutting edge technologies in order to create uniquely contemporary artwork. Twenty-first century artists, processes and mediums will be explored in order to address a diversity of current themes and issues. Themes include digital painting, image manipulation, ASCII art, compositing, typography, vector drawing, video, animation, stop-motion, image transfer, and traditional/digital art hybrids.

<b>Advanced Digital Art &amp; Design</b>	<b>7480</b>	<b>1 credit</b>
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Along with deeper exploration into digital fine art techniques, styles and processes, this course will focus on design principles and elements to advance students' digital vocabulary. Individual style and artistic voice will be examined and developed as students delve into the digital art realm. Students will utilize digital painting, image manipulation, compositing, vector drawing, animation, image transfer, and traditional/digital art hybrids will be explored and students will develop their own work methods and processes.

Prerequisites

- 90% in Digital Art & Design
- Teacher recommendation

<b>Pre AP Digital Art</b>	<b>7455</b>	<b>1 credit</b>
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This is a preparatory course designed for 11th grade students who are interested in taking AP Digital Art in their senior year. Students will build upon and utilize prior digital multimedia concepts and techniques in order to begin creating a personalized design portfolio. All course work will foster individualized creative problem solving, wherein students will be responsible for all stylistic and design considerations. This course will lay the groundwork for the AP Digital Art course by giving students a head start in creating a portfolio that is reflective of a unique and personal artistic voice.

Prerequisites

- 90% in Digital Art & Design
- Teacher recommendation

<b>AP Digital Art</b>	<b>7450</b>	<b>1 credit</b>
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Seniors who are seriously interested in the practical experience of a fit for this course. Students will create a portfolio of works that focus on utilizing techniques in digital art and multimedia. Please visit <http://apcentral.collegeboard.com> for a full course description.

Prerequisites

- 12<sup>th</sup> grade
- 80% in Digital Art
- Teacher recommendation

# Business

The Business Education program is committed to preparing students to meet the growing demands of the global business community. Our goal is to provide a comprehensive selection of academic electives that will enable them to establish skills for a successful professional future. All courses are focused on a rigorous curriculum that is project-based including simulations, real-life applications, and hands-on exercises. **Membership in DECA is recommended. All courses are electives.**

<b>Foundations of Freshman Year</b>	<b>6030</b>	<b>.5 credit</b>
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This course is designed to provide ninth grade students with the tools needed to become independent learners and to facilitate their transition from the middle to high school environment. Students will have the opportunity to strengthen their study, time management, test taking, questioning, public speaking and organizational skills. Additionally, students will consider and understand their personal learning style. Students will be guided through goal setting and personal achievement activities that will help identify areas of need on which to work to enhance student performance. The objective of Foundations of Freshman Year is to, through personal and academic growth, assist students in achieving success in high school.

Prerequisites


- 9<sup>th</sup> grade

<b>Foundations of Personal Finance</b>	<b>6051</b>	<b>.5 credit</b>
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Students will learn fundamental personal finance skills which will prepare them for financial independence. Understanding money management, investments, wealth building, credit and debit, real estate, earning potential, and consumer awareness are topics explored throughout this course. Critical thinking skills including analyzing real-world situations, decision making, problem solving and goal setting are also developed in Foundations of Personal Finance.

<b>Design, Multimedia, &amp; Web Technologies</b>	<b>6060</b>	<b>.5 credit</b>
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Students will gain a basic understanding of effective digital communication skills and the importance of

the design process as it pertains to communicating via the web. Exploration of the design process from the development of the original idea to the implementation of the final working website will be a focus. Additionally, students will create websites using HTML (Hyper Text Markup Language) as well as utilize state of the art software that will allow further customization of their websites. This course is open to all grade levels. 

<b>Introduction to Accounting</b>	<b>6010</b>	<b>1 credit</b>
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Since it is known as the *Language of Business*, a working knowledge of accounting is desirable for many career paths including general management, marketing, finance, and real estate. This is the first-year course in the accounting program and is an excellent course for both professional and personal use. The emphasis is on understanding the complete accounting cycle for a business operated as a sole proprietorship. Business transactions will be analyze, classified, and recorded using both manual and computerized accounting systems. The fundamental principles of double-entry bookkeeping, financial statements, trial balances, worksheets, special journals, adjusting entries and closing entries will be introduced. Enrollment in this course provides a solid foundation of the basics needed for organizing both personal and professional financial information and assists with the transition to college-level accounting principles.

<b>Financial Accounting</b>	<b>6005</b>	<b>1 credit</b>
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Highly motivated accounting students will most benefit from Financial Accounting. This course will provide the theoretical background necessary for students who are planning on a career in any business-related field. Students will be introduced to the basic concepts of financial accounting that includes the preparation, interpretation, and utilization of financial statement data. A working knowledge of accounting and financial reports is an

asset to any enterprise with which one is associated.

Prerequisites

- Teacher recommendation

<b>CIHS Principles Of Accounting</b>	<b>6015</b>	<b>1 credit</b>
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This **College in the High School** course is an introduction to the basic concepts of accounting, emphasizing the accounting cycle; principles and concepts governing the recording and reporting of accounting data; journal entries including adjusting and closing entries; trial balances; and financial statements. Accounting for assets is covered in detail. The focus of this course is on sole proprietorships. College credit may be earned if all requirements are met, a fee is attached to earning college credit. (from Carlow University Undergraduate Course Catalog 2014-2015)

<b>Introduction to Business Concepts</b>	<b>6050</b>	<b>1 credit</b>
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This year-long course provides students with the opportunity to gain awareness of running a small business through examining the many areas of business including Management, Marketing, Finance, Advertising, Operations, Human Resources, Finance and Ethics. Students will research and write a cumulative business plan that explores in depth the aspects of business. Business writing, oral, and collaborative skills are also incorporated into the course units. Students will learn how to plan, organize, construct, revise and deliver business documents and presentations in a professional and effective way. We will conduct business research, analyze and solve business problems through critical and reflective thinking, and communicate results and ideas through appropriate mediums.

<b>Accounting 1B</b>	<b>6055</b>	<b>1 credit</b>
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Accounting 1B is a continuation and expansion of the concepts introduced in Accounting 1A. However, the emphasis is on understanding the complete accounting cycle for a business operated as a corporation. Corporate business transactions will be analyzed, classified, and recorded using both manual and computerized accounting systems. The fundamental principles of double-entry bookkeeping

along with subsidiary ledgers and special journals, payroll accounting, planning and recording account allowances and adjustments, and preparing and analyzing corporate financial information will be discussed. Enrollment in this course will add to your solid foundation of accounting basics and further assist with the transition to college-level accounting principles.

Prerequisites

- Accounting 1A (previously Accounting 1)

<b>Advanced Business Marketing</b>	<b>6085</b>	<b>1 credit</b>
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This course provides students with solid experience in creating market-driven strategies for the future success of a business. Approached from a Chief Marketing Officer (CMO) or marketing leadership perspective, strategic marketing theories will be studied and applied to marketing plans to maximize a firm's performance. Students must apply problem-solving and critical-thinking skills to scenarios to understand the broad view of customer relationships and how those relationships can affect success. Emphasis will be placed on the impact that customer behavior has on the implementation of marketing functions including marketing information gathering, processing, and reporting. DECA's competitive written events and presentations will be incorporated into the course to help students develop skills including business writing, research and presentation skills that will help students in their core academic classes as well as prepare them for postsecondary business classes.

Prerequisites

- Introduction to Business Concepts OR
- Marketing Dynamics
- Teacher recommendation

<b>Marketing Dynamics</b>	<b>6065</b>	<b>1 credit</b>
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Designed for students who are interested in the field of marketing, this course provide an in-depth look into marketing theories, approaches and functions. Students will also have the opportunity to investigate the marketing approaches used in various media. Also incorporated are the development of the thought process and skills needed to successfully market a new product, develop new products, and gather product and customer research. The second half of the year will focus on implementing and analyzing the concepts



learned through projects, simulations, and hands-on applications. Students will be given the opportunity to expand their acquired basic knowledge by exploring more specific concepts, career opportunities, and current issues facing many different areas of marketing (including sports and entertainment, hospitality, travel and tourism, internet, and retail). This course is open to all grade levels.

<b>Business Law</b>	<b>6070</b>	<b>1 credit</b>
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Business Law is a year-long course designed to introduce students to the principles of law and the ethics involved, the processes of our legal system, and the impact of legal decisions and their relevance to employers in the daily operation of a business. This project based course focuses on 4 major operations research based projects.

Prerequisites

- Intro to Business (recommended)

# Computer Science

The computer programming courses have strong connection to engineering, mathematics, and the sciences. Often, students choosing an engineering career in college will encounter a programming course during their freshman year.

Students with an interest in graphics, animation and game development may consider Introduction to Computer Graphics and Animation, Introduction to Computer Game Development and Introduction to Computer Programming.  \*\* AP Computer Science A (JAVA) and AP Computer Science Principles may count as a math credit all other courses are electives.

## Introduction to Computer Graphics and Animation 2031 .5 credit

Students with an interest in computers and who want to learn computer graphics and computer animation are ideal for this course. An introduction to Photoshop, video effects, 3D modeling and animation are components of the course. As an example, students will use Photoshop to modify characters that are used in animations and create landscapes using a terrain building application. Additionally, students will be introduced to various animation techniques such as tweening and lip syncing. They will use audio, vector, bone, and switch layers to organize their projects. The animation application will enable students to create an animation from a comic strip and to create a skeletal structure for characters that allow the character to move its arms and legs. Student evaluation is based on project completion and classwork. *This course is open to all grade levels.*




## Introduction to Computer Game Development 2032 .5 credit

This course is designed as an introduction to computer gaming software. Students will use an application called Gamemaker to create two-dimensional games including scrolling, platform (similar to Mario Brothers' style), breakout, and maze games to name a few. A three dimensional gaming application, Kodu from Microsoft, that requires students to create a game using 'code blocks'. Code blocks provide instruction that enable characters to move, jump and capture objects. Work is completed in class and evaluation is based on project completion and daily performance. *This course is open to all grade levels.*

## AP Computer Science Principles 6062 1 credit

AP Computer Science Principles is designed to introduce students to the central ideas of computer science, instilling the ideas and practices of computational thinking and inviting students to understand how computing changes the world. This rigorous course promotes deep learning of computational thinking skills, and engages students in the creative aspects of the field.

This course is unique in its focus in fostering on students to be creative. Students are encouraged to apply creative processes when developing computational artifacts and to think creatively while using simulations to explore questions that interest them. Rather than teaching a particular programming language or tool, the course focuses on using technology and programming as a means to solve computational problems and creating exciting and personally relevant artifacts. Students design and implement innovative solutions using an iterative process similar to what artists, writers, computer scientists, and engineers use to bring ideas to life. This course may count as a math credit. 

Prerequisites

- Successful completion of Geometry
- Or Teacher Recommendation

## Introduction to Computer Programming 2612 1 credit

This course will use curriculum written in partnership with professors and students at Carnegie Mellon University. In this course, Chartiers Valley students will have the opportunity to work with faculty and/or students from Carnegie Mellon University. Students will get a general introduction to programming techniques by

studying errors, graphics, functions, events, loops, and strings. Students will begin learning python, and then the second semester will focus on broader topics and languages. 📖

Prerequisites

- Enrolled in or completed Algebra 1

<b>Introduction to C#</b>	<b>2650</b>	<b>.5 credit</b>
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This course is an introduction to fundamental computer concepts and includes programming techniques which use arrays and objects. The language syntax will be similar to C++ but will have a visual environment similar to Visual Basic. Students will have the necessary knowledge to conduct research into Microsoft's gaming component in C#. Upon successful completion of this course, students will be prepared for CIHS C++.

Prerequisites

- Introduction to Computer Programming
- Teacher recommendation

<b>CIHS C++</b>	<b>2653</b>	<b>1 credit</b>
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College in the High School C++ is affiliated with Duquesne University and college credit may be earned (purchased) for successful completion of this course. C++ is an advanced programming language that introduces the concepts of objects. This highly structured language enables the student to write code that is organized, precise, and clear. A prior programming language will be very useful in understanding the routines presented in the course. Often, C++ is the first course a freshman engineering/science major will encounter.

Prerequisites

- Introduction to Computer Programming
- Teacher recommendation

<b>AP Computer Science A</b>	<b>2635</b>	<b>1 credit</b>
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A highly challenging course that is designed for the motivated student who is planning a career in computer science, business or any science-related

fields. The Advanced Placement (AP) curriculum will be followed and includes an in-depth case study. Students are expected to participate in the AP exam which occurs in May. This exams requires a thorough knowledge of Java and its programming techniques. This course may be used as a math credit.

Prerequisites

- Introduction to Computer Programming
- Teacher recommendation

<b>CIHS Cybersecurity &amp; the Law</b>	<b>6020</b>	<b>1 credit</b>
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This University of Pittsburgh (CIHS) elective course will explore how computers, the Internet, and mobile information technologies have become routine elements of our daily lives. The percentage of social, professional, and political discourse mediated by information systems increases each year. This course explores questions surrounding how cyberspace is "governed" in the context of cybersecurity and privacy issues. We will examine a series of examples, both real-world and hypothetical, to investigate what policy "tools" are in-place, available, and should be available to address Internet security and privacy issues. (Adapted from the University of Pittsburgh Undergraduate Course Catalog 16-17) This s a College in High School course and there is an option to receive three credits from the University of Pittsburgh. There is a fee involved for students who wish to earn the college credits. The link shares information regarding jobs in cybersecurity. [One Million Cybersecurity Job Openings In 2016](#) - Forbes

# Engineering, Applied Engineering, & Technology


The AET department was recognized nationally as a top 3 STEM program in the United States in 2015. All students are encouraged to take advantage of this outstanding opportunity, in preparation for the 21st century career fields. The department offers courses in the visual communications, manufacturing, construction, and engineering disciplines. Each area has introductory and advanced level courses. Introductory courses are open to all grade levels. Advanced level courses may have grade level or academic prerequisites.

All PLTW courses are College in the High School courses and are noted with a PLTW banner at the course title. College credits may be earned provided the student meets the requirements. A fee is associated with college credits. Additional credit opportunities are available for all PLTW courses; speak to a PLTW teacher for more information. This is an opportunity to earn up to 17 college credits prior to High School Graduation. **All courses are electives.**

## Introduction to Visual Communications 6501 .5 credit

This semester course is intended to give each student experience and exposure to different areas of visual communications. Topics include digital Photography, image manipulation, screen printing t-shirts, vinyl decal production, custom calendars and offset press printing. All projects will be designed using Adobe ® CC products, including Photoshop, Illustrator, InDesign and Microsoft Publisher. If you enjoy taking pictures, designing, creating, making and doing things, this course is for you. This semester course is open to any student in grades 9-12 and is a fundamental course for all other Visual Communications courses.


## Photography & Graphic Arts Technology 2 6502 1 credit

This year-long course is an extension of the popular Introduction to Visual Communications. This exciting course encourages creativity with projects that are challenging, rewarding and fun. Each student will learn advanced techniques in Adobe Illustrator, InDesign and Photoshop. Projects include multi-colored vinyl decals and t-shirts, glass etching, digital photography, image manipulation and 3D Printing. Digital photography is covered for one semester and you will do many projects using a digital camera. If you enjoyed Visual Communications, this course is for you, or if you are considering a career in graphics/photography then this course will be beneficial. 

### Prerequisites

- 75% in Introduction to
- Visual Communications 1

## Photography & Graphic Arts Technology 3 6503 1 credit

This year-long course is an extension of Advanced Graphics and Photography Level 2 course. This course expects a high level of creativity and a willingness to “think outside the box”. Projects are challenging and require more time and thought to complete. Projects include multi-colored vinyl decals and t-shirts, glass etching, digital photography, image manipulation and 3D Printing. Each student will continue to learn advanced techniques in Adobe Illustrator, InDesign and Photoshop. This course perfect for the designer, artist, creator and any student who enjoys working on great projects of your choice. This course is a must if you are considering a career in graphic design, photography, marketing or advertising. 

### Prerequisites

- 75% or better in Advanced Photography and Graphic Arts
- Technology 2
- Teacher recommendation

## Adobe Photoshop/ Visual Design Aca Prep 6510 1 credit

This course is a yearlong, project-based experience that aims to develop career and communication skills in print production and graphic design, using

the following Adobe CC software; Illustrator, InDesign, Photoshop, Acrobat X. Four skill areas will be addressed: project management and collaboration, design, research and communication and print production using graphic design tools. Students will experience subject areas and skills as related to graphic design, photography, print and layout design, and production. Students will create collages and photographic compositions, logos, business cards, print ads, portfolios, brochures, newsletters, mini-yearbooks and a final portfolio. The ultimate goal is to prepare prospective students to take the Adobe Certified Associate Exam in Visual Communications using Adobe Photoshop CC. This course is intended for students who are considering a future career in graphic design, marketing, advertising or related fields. 🖥️

Prerequisites

- 80% in Advanced Graphics/Photography 2
- Teacher recommendation

<b>Television &amp; Media Production</b>	<b>6504</b>	<b>.5 credit</b>
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This video based class will give students a look into live television. Classes will perform a weekly morning show that will be broadcast online. Students will also produce live daily announcements. Students will have the opportunity to compete in the annual TVT Awards. 🖥️

Prerequisite

- Audition (written, performance and interview component)

<b>Advanced Video Broadcasting</b>	<b>6506</b>	<b>1 credit</b>
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Students should be able to write and produce projects of exceptional quality. Students will be able to watch and engage in critical thinking, based on advanced video techniques. Each student who enrolls in this course should have a great deal of self-motivation, time management skills and creativity.

Students are encouraged to take on leadership roles and work together as a team to produce projects of broadcast quality. Student work will be aired on our new community access channel on Comcast and Verizon. Students will be asked to

understand copyright laws and how target audience relates to the community. 🖥️

Prerequisite

- 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade

<b>Advanced Video Broadcasting 2</b>	<b>6508</b>	<b>1 credit</b>
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Students will act as a producer for a television show. Students will understand their role as being in charge of the show format, content and operations. Students will operate a program play out server, and a graphic generator for the message board. Students will need leadership skills to effectively produce high level television shows to air on Comcast and Verizon. 🖥️

Prerequisites


- 75% in Advanced Video Broadcasting

<b>CAD- Computer Assisted Drawing 1</b>	<b>6821</b>	<b>1 credit</b>
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This course teaches students how to use the computer as a drafting tool to meet today's demand for computer literate draftsmen and engineers. Students will implement various types of current Autodesk software packages and apply industry standards to solve various types of drafting design problem. Students will also create, scaled 3D models of some of their designs. 🖥️

<b>CAD- Computer Assisted Drawing 2</b>	<b>6822</b>	<b>1 credit</b>
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This course is designed to provide students with an opportunity to pursue skills and applications in Computer Aided Drafting and Architectural Design Technologies. Areas of study will include, but are not limited to: geometric construction, orthographic projection, advanced practices in dimensioning, sectioning, auxiliary view systems, pictorial systems, architectural drawings, and computer aided drafting. This will result in the development of skills for a career in architectural planning, design, and drawing. Students will also be given the opportunity to receive a certificate, through Autodesk, accelerate your professional development, and enhance your credibility and career success, all while validating your skills and

helping to ensure a solid start toward a career in drafting design. 

#### Prerequisite

Successful completion of the following:

- Drawing and Design or CADD 1
- Material
- Mass Production and
- Applied Engineering
- 11th and 12th grade

<b>Modern Infrastructure</b>	<b>6301</b>	<b>.5 credit</b>
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This course will look at the aging infrastructure systems we rely on every day in the United States. From our Water and Sewer systems, Power Grids, Communications Systems, Bridges, Tunnels and Roadways, our world is crumbling around us. This class is intended to open student's eyes to the ailing physical world around them, and to help them understand the basic operation of these systems. Course will be equal parts research, student presentation and hands on activity. Guest presenters that are experts in their fields will also visit the classroom.

<b>Materials</b>	<b>6610</b>	<b>.5 credit</b>
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This semester long course will explore the properties and processing of various woods, metals, and plastics as related to engineering and manufacturing. Students will learn the safe operation of tools and machines to process different materials. Students will spend time in the fabrication lab to create various products that the students will be proud to take home. The use of automated CNC technology, such as routers, plasma cutting and laser engraving and its associated software for both wood and metal will be employed by the students. Students may be asked to work on projects in a mass production setting and both individual and group projects. *It is highly recommended that this course be taken prior to any advanced engineering related course.*

<b>Drawing &amp; Design</b>	<b>6800</b>	<b>.5 credit</b>
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The major focus of the course is to expose students to the design process, communication methods, engineering standards, technical documentation,

and mechanical drafting through the use of 3-Dimensional software. Drawing & Design gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB-learning challenges students to continually hone their interpersonal skills, creative abilities and understanding of the design process. It also allows students to develop strategies to enable and direct their own learning.

This course assumes no previous knowledge, but students should be considering the advancement of their knowledge through the Engineering Academy or Certificate Program. Students will employ engineering and scientific concepts in the solution of engineering design problems. Students will also learn how to document their work, and communicate their solutions to their peers and members of the professional community.

<b>Product Development</b>	<b>6605</b>	<b>1 credit</b>
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The Product Development course is intended to be the culmination of all other preparatory courses in the AET department. This course will educate a new generation of innovators by integrating creativity, research, design, prototyping, and manufacturing. Students will use the design process to determine shortcomings in existing products, improve upon them, and present their designs in the first portion of the year then develop their own stand alone product in the latter portion. This course demands that students apply skills, techniques, and technological abilities learned in previous courses to design and develop a project both in a group and individually. Students will have access to current technologies including 3d modeling, laser engraving/cutting, CNC plasma cutting, and CNC routing.

#### Prerequisites

- Completion of Drawing & Design, **OR**
- CAD 1 and Materials and Mass Production & Applied Engineering

<b>Applied Engineering</b>	<b>6302</b>	<b>1 credit</b>
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Applied Engineering is a course on the techniques of metal design and fabrication. Coursework will be based upon current trends in the industrial world with a focus on MIG Welding and CNC Plasma cutting. Successful students will be able to work

through a problem, design a solution and build the answer. Students will be exposed to many different industrial technologies such as cutting, welding, bending, threading, shearing and soldering, all with a strong emphasis on industrial safety. Students will also learn about and integrate current technologies into their projects, such as CNC, 3D Printing, CAD and more. Students may be asked to work alone or in teams to create quality products to be displayed with pride knowing it was created with their own hands.

Prerequisite

- 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade
- Drawing and Design and Materials

<b>Construction Systems</b>	<b>6601</b>	<b>.5 credit</b>
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This semester long course provides students with a broad analysis of the organization and structure of the residential construction industry and the many career choices the industry offers. Students will study the current construction methods and materials used for various types of residential structures. This course also introduces site development and preparation as well as job layout, and materials and methods for frame and masonry construction. The curriculum also emphasizes job site safety, practical working knowledge of tools and equipment use, an introduction to blueprints, and an overview of industry math. This course is highly recommended for students interested in careers related to Residential Construction, Construction Management, Civil Engineering, and Architecture.

Prerequisites

- 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade
- Completion of Drawing and Design and Materials

<b>Robotics</b>	<b>6813</b>	<b>1 credit</b>
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This year long course will introduce students to the design, construction, and programming of robotic systems. Students will acquire a basic understanding of the many types, operation, programming, and applications of robots in manufacturing and entertainment. Teamwork and problem solving will be emphasized throughout the course. Students will also have the opportunity to compete in various robotic competitions. 🏠

<b>Mass Production</b>	<b>6602</b>	<b>1 credit</b>
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This course will be a natural progression of the Materials and Applied Engineering courses. Students will build on the knowledge developed in Materials and Applied Engineering to explore and experience modern production methods. Students will develop Jigs, Fixtures, and plan production methods to successfully mass produce a product. Students will work and collaborate in a controlled group setting, using CNC systems: laser engraving/cutting, CNC plasma cutting, CNC router, lab machinery, design skills, and various materials. This course is required in year two if the Engineering Academy. 🏠

Prerequisites


- 11<sup>th</sup>, 12<sup>th</sup> grade
- Successful completion of Materials or Applied Engineering

PLTW Courses: All PLTW courses are College in the High School courses, college credits may be earned provided the student meets the requirements. A fee is associated with the college credits. Additional credit opportunities are available for all PLTW courses; speak to the teacher for more information. This is an opportunity to earn up to 17 college credits prior to high school graduation.

<b>Civil Engineering &amp; Architecture</b>	<b>6802</b>	<b>1 credit PLTW</b>
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*Specialization Course*

Civil Engineering and Architecture (CEA) is a **College in the High School** yearlong course that focuses on the study of design and construction of residential and commercial building projects. It is one of the four specialized courses in Project Lead the Way, a pre-engineering program. This course requires students to work in design teams, to exhibit communication skills, to work within engineering standards, and to provide technical documentation. CEA is a course for those students interested in careers related to civil engineering and architecture. *The course applies and develops secondary level knowledge and skills in mathematics, science, and technology with hands-on practices and applications.*


CEA assumes no prior knowledge however; this course requires rigorous mathematical thinking along with practical application. As such, students should be enrolled in concurrent college preparatory mathematics and science courses. 

Prerequisites

- 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade
- Completion of Drawing & Design

<b>Introduction To Engineering Design</b>	<b>6811</b>	<b>1 credit</b>
		<b>PLTW</b>


Introduction to Engineering Design (IED) is a **College in the High School** level foundation course in the PLTW Engineering Program. In IED students are introduced to the engineering profession and a common approach to the solution of engineering problems, an engineering design process. Utilizing the activity-project-problem-based (APB) teaching and learning pedagogy, students will progress from completing structured activities to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.

Through both individual and collaborative team activities, projects, and problems, students will problem-solve as they practice common engineering design and development protocols such as project management and peer review. Students will develop skill in technical representation and documentation of design solutions according to accepted technical standards, and they will use current 3D design and modeling software to represent and communicate solutions. In addition the development of computational methods that are commonly used in engineering problem solving, including statistical analysis and mathematical modeling, are emphasized. Ethical issues related to professional practice and product development are also presented. 

Prerequisites-

- Completed an Algebra 1(not Cognitive Algebra 1)

<b>Principles of Engineering</b>	<b>6801</b>	<b>1 credit</b>
		<b>PLTW</b>

Principles of Engineering is a **College in the High School** broad-based survey course designed to help students understand the field of engineering and engineering technology and its career possibilities. Students will develop engineering problem solving skills that are involved in post-secondary education programs and engineering career. They will explore various engineering systems and manufacturing processes. They will also learn how engineers address concerns about the social and political consequences of technological change. The main purpose of this course is to experience through theory and hands-on-problem-solving activities what engineering is all about and to answer the question, "Is a career in engineering or engineering technology for me?" Students may elect to receive transcript college credits from Rochester Institute of Technology. 

Prerequisites

- 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade
- 70% in IED (Introduction to Engineering Design)
- 70% in Algebra 2

<b>Computer Integrated Manufacturing</b>	<b>6611</b>	<b>1 credit</b>
		<b>PLTW</b>

Manufactured items are part of everyday life, yet few people understand the excitement and innovation that is used to transform ideas into products. This **College in the High School** course provides an opportunity for students to recognize many of the exciting career opportunities in the manufacturing industry. Computer Integrated Manufacturing is one of the specialization courses in the PLTW Engineering program. The course deepens the skills and knowledge of an engineering student within the context of efficiently creating the products all around us. Students build upon their Computer Aided Design (CAD) experience through the use of Computer Aided Manufacturing (CAM) software. CAM transforms a digital design into a program that a Computer Numerical Controlled (CNC) mill uses to transform a block of raw material into a product designed by a student. Students learn and apply concepts related to integrating robotic systems such as Automated Guided Vehicles (AGV) and robotic arms into manufacturing



systems. Throughout the course, students learn about manufacturing processes and systems. This course culminates with a capstone project where students design, build, program, and present a manufacturing system model capable of creating a product. 🖨️

Prerequisites

- Introduction to Engineering
- Design & Principles of Engineering

<b>Digital Electronics</b>	<b>6612</b>	<b>1 credit</b> <b>PLTW</b>
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From smart phones to appliances, digital circuits are all around us. This **College in the High School** course provides a foundation for students who are interested in electrical engineering, electronics, or circuit design. Students study topics such as combinational and sequential logic and are exposed to circuit design tools used in industry, including logic gates, integrated circuits, and programmable logic devices. 🖨️

Prerequisites

- Principles of Engineering
- 11<sup>th</sup>, 12<sup>th</sup> grade

<b>Engineering Design &amp; Development</b>	<b>6815</b>	<b>1 credit</b> <b>PLTW</b>
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The knowledge and skills students acquire throughout PLTW Engineering come together in EDD as they identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards, completing EDD ready to take on any post-secondary program or career. This is a **College in the High School course** and credit may be earned by any student concurrently enrolled in or who has successfully completed college level calculus

Prerequisites

- Completion of IED & POE
- Enrollment in college preparatory mathematics

<b>Environmental Sustainability</b>	<b>6825</b>	<b>1 credit</b> <b>PLTW</b>
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Environmental Sustainability (ES) is an interdisciplinary specialty engineering course in the PLTW Engineering pathway. In ES, students investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply issues, and renewable energy. Applying their knowledge through hands-on activities and simulations, students research and design potential solutions to these true-to-life challenges.

In ES students will specifically look at how environmental and biological engineering of organisms can be used to provide environmentally friendly and sustainable solutions to ensure food security for a growing world population; provide affordable, renewable energy; and provide clean, safe drinking water.

ES brings together engineering, biology, and ecology. The diversity of subject matter has the potential to bring together in a single classroom a group of students with interests in a wide range of STEM subjects. The demand is high and the need is great for both environmental and biological engineering professionals.

Prerequisites

- 70% in Biology
- 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade

# English

The English Language Arts Department strives to enhance the reading, writing, speaking and listening skills of all students. Courses provide the opportunity for students to explore various literary forms from a wide array of time periods and authors, as well as to express their thoughts through written and visual forms.

## **English 9/ Composition 1      1111    1 credit**

This course is an introduction to high school level composition and literature curriculum. Each student will further develop those skills needed for the rigors of high school level writing and critical thinking in response to fiction and non-fiction texts. Instruction will be geared to students' ability, such that they can develop the skills necessary to succeed at this level.

### Prerequisites

- 8<sup>th</sup> grade performance data
- Teacher recommendation

## **English 9 Advanced/ Composition 1                      1131    1 credit**

This course is an introduction to high school level advanced composition and literature curriculum. Each student will further develop the skills necessary in accordance with PDE requirements, as well as those skills needed for the rigors of high school level writing and critical thinking in response to fiction and non-fiction texts. Students will examine the content of literature as well as the writer's style and structure of each assigned piece. Emphasis will be placed on formal, analytical essays and the synthesis of various sources into one cohesive, written assignment.

### Prerequisites

- 8<sup>th</sup> grade performance data
- Teacher recommendation

## **Honors English 9/ Composition 1                      1132    1 credit**

This course is designed to prepare students for the rigorous learning pace and literature of Advanced Placement studies. Students will examine the content of literature as well as the writer's style and structure of each assigned piece. Emphasis will be placed on formal, analytical essays and the

synthesis of various sources into one cohesive, written assignment. Students will study fiction, non-fiction, drama and poetry from various time periods and countries of origin.

### Prerequisites

- 8<sup>th</sup> grade performance data
- Teacher recommendation

## **English 10/ Composition 2                      1211    1 credit**

The tenth grade English course is a continuation of the literature, composition and language curriculum of the high school. Students will read examples of all genres and begin to study them analytically. During this study, they will be encouraged to develop the following skills: listening, speaking, writing, and group participation decision making.

### Prerequisites

- 9th grade performance data
- Teacher recommendation

## **English 10 Advanced/ Composition 2                      1231    1 credit**

This course is a continuation of high school level advanced composition and literature curriculum. Students will explore the advanced elements of analytical writing as well as grammar and usage. Each student will further those skills needed for the rigors of high school level writing, critical thinking and rhetorical methods in response to fiction and non-fiction texts.

### Prerequisites

- 9th grade performance data
- Teacher recommendation

<b>Honors English 10/ Composition 2</b>	<b>1232</b>	<b>1 credit</b>
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This course will continue the sequential development of language arts skills from the Honors English 9 curriculum and is designed to prepare students for AP Language and Composition and AP Literature and Composition. An in-depth analysis of literary elements will be emphasized with focus on traditional as well more modern selections of fiction and non-fiction. Students will learn more advanced methods of poetry analysis and be introduced to rhetorical methods and elements.

Prerequisites

- 9th grade performance data
- Teacher recommendation

<b>American Literature Composition 3/11</b>	<b>1322</b>	<b>1 credit</b>
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The emphasis of this course is placed on the reading, writing, and research element of the Pennsylvania Core Standards. The course follows a thematic element of the "Coming of Age", which students often experience during this period of their life. Each unit will focus, reflect, and revolve around these unique themes associated with the coming of age in reference to direction in life, the responsibilities of a young adult, discovering oneself, etc. Literature will include short story and poetry selections from American literature, in addition to novels. Critical analysis essays, objective tests, and project based learning assignments will be utilized to evaluate student understanding as it correlates to the common core standards. Free-writing journal projects and vocabulary are additional components to the curriculum.

Prerequisites

- 10th grade performance data

<b>Advanced Language And Composition/11</b>	<b>1325</b>	<b>1 credit</b>
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The goal of this course is to have students read complex nonfiction texts and respond in writing that conveys depth of understanding and meaning. Students will develop close reading and critical thinking skills in order to identify and understand a writer's argument and methods of persuasion.

Students will learn to construct original argumentation through the analysis of the techniques of rhetorical analysis, argumentation and synthesis. In addition, students will learn to write persuasively with evidence and meaningful commentary. Based on the curriculum for AP Language and Composition, the skills mastered in this course provide students with an analytical base which can be applied to all subject areas. This course satisfies an ELA requirement.

Prerequisites

- 10<sup>th</sup> grade performance data
- Teacher recommendation

<b>AP Language and Composition</b>	<b>1350</b>	<b>1 credit</b>
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The **Advanced Placement** course is organized according to the requirements and guidelines of the current *AP English Course Description*, therefore students are expected to read critically, think analytically, and communicate clearly, both in writing and speech. This course is organized by literary time and/or authoritative time period depending on curricular objective. Each unit requires students to acquire and use rich vocabulary, to use Standard English grammar, and to understand the importance of diction and syntax in an author's style. The literature will include various nonfiction pieces, as well as a few fiction novels. Students are expected to take the Advanced Placement exam given in May.

Prerequisites

- 10th grade performance data
- Teacher recommendation

<b>World Literature 12/ Composition 4</b>	<b>1422</b>	<b>1 credit</b>
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Each unit of the course focuses on building literary skills that are needed in the post-secondary world. Analysis of fiction and non-fiction selections, in conjunction with grammar, vocabulary, and writing skills, will further develop student comprehension and the ability to communicate in both written and oral forms as required by the Pennsylvania core standards. In addition, students are prepared for post-secondary communication skills through project oriented assessments. These assessments reflect the student's ability to critically think, work independently as well as in a group, and to

comprehend and respond to prompts related to fiction and non-fiction sources.

Prerequisites

- 11<sup>th</sup> grade performance data
- Teacher recommendations

<b>Honors World Literature 12 1425 1 credit</b> <b><i>Foundations of World Literature &amp; Modern Voices in Literature</i></b>
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### **Foundations of World Literature**

From *Gilgamesh* to Lao Tzu's *Tao Te Ching*, pre-modern World Literature provides a foundation for the timeless storylines of literature through examinations of real and fictional characters whose stories reflect the truths of the human condition. This semester course provides an in depth examination of the formative fiction of the world. With a variety of genres from Western and Eastern civilizations, students are exposed to the foundations of literature and philosophy that influence the issues of modern times found in literature and media. Student who take this course will be prepared for post-secondary challenges through the exposure of complex texts and the development of analytical writing.

**(This semester course must be taken with *Modern Voices in Literature and Media*)**

Prerequisites

- 11<sup>th</sup> grade performance data
- Teacher Recommendation

### **Modern Voices in Literature and Media**

Current voices in World Literature continue to explore the social significance of human behavior as it occurs in our world today. This semester course provides exposure to 20<sup>th</sup> and 21<sup>st</sup> century voices from various genres (novels, short stories, poems, film and plays) and their connections to the human experience and the issues of identity, cultural history, memory, and technology. Students who take this course will be prepared for post-secondary challenges through the exposure to complex texts and media and the development of analytical writing.

**(This semester course must be taken with *Foundations of World Literature*)**

Prerequisites

- 11<sup>th</sup> grade performance data
- Teacher Recommendation

<b>AP Literature and Composition</b>	<b>1355</b>	<b>1 credit</b>
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**Advanced Placement** Literature and Composition is designed to develop reading, analysis and composition skills needed for college bound seniors. In this course, the students learn how to read works of literature perceptively and how to express their responses orally and in written compositions. Works are chosen from many literary genres (poetry, drama, novel, satire) and many literary periods, from the classical Greek to the very modern. Composition, primarily critical and expository, stresses frequent writing and careful revision, training the student to think and organize clearly and to be direct, lucid and supported by the text. Participation in whole class and small group discussions is essential. Students are expected to take the Advanced Placement exam given in May. This is a dual described course with Duquesne University. Students may receive three elective English credits (there is a fee associated with the credits).

Prerequisites

- 11<sup>th</sup> grade performance data
- Teacher recommendation

<b>Communications/ Public Speaking</b>	<b>1500</b>	<b>1 credit</b>
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Communications and Public Speaking is a comprehensive **elective** course in which students will learn the components of effective communication, the mechanics of speech, etiquette of speaking, and the many varieties of speeches. The objective of this course is to stress clear communication of an idea through voice and speech, body language, delivery technique, and written speech organization. This course is open to students in grades 9 through 12.

Prerequisite

- English teacher recommendation

<b>Communications/ Rhetoric</b>	<b>1502</b>	<b>1 credit</b>
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This course examines argument through the examination of various forms of communicative argumentation and debating techniques. Each unit will follow a series of themes or related issues in order to better understand and apply various forms of argumentation and debate. The development of argument techniques will be examined through


classroom debates and forms of argument, visual/audible/published expression of argument, and development of critical thinking skills. In depth discussions in and out of the classroom setting, analysis and argumentation of socially charged documentaries and other forms of expression, as well as real life situational project challenges are an integral part of the course.

The class is a College in High School course and there is an option to receive three credits from The University of Pittsburgh. Since this course is articulated through the University of Pittsburgh, there is a fee involved for students who want to earn college credits. Class attendance is imperative to receive college credits.

Prerequisites

- 75% in English
- English teacher recommendation

<b>Digital Newspaper 1</b>	<b>1531</b>	<b>1 credit</b>
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This *elective* course, designed for 10th and 11th graders, introduces newspaper staff members to all facets of producing a newspaper website. Students study and implement reporting techniques and editorial skills using timely stories in an active and group oriented atmosphere. Students will become proficient with Word Press web design, photography and Photoshop, design, advertising, editing of written and visual aspects of the website. Students are responsible for producing a website daily that is a showcase for the High School and the entire District. Check us out at [www.thecharvaliant.com](http://www.thecharvaliant.com). 

<b>Journalism/Yearbook</b>	<b>1532</b>	<b>1 credit</b>
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As an *elective* course designed for 10<sup>th</sup> and 11<sup>th</sup> graders, this course will teach the basic skills needed to produce the Chartiers Valley yearbook. Students will gain an understanding of how to use InDesign CS3 to create layouts. Students will also learn skills including writing copy, fitting headlines, cropping pictures, interviewing techniques, taking pictures and managing a business. As yearbook production is a business, fundraising is a required part of the curriculum. Additionally, students must be available to attend events outside of the school day to take photographs and report on school events. This course will also emphasize an understanding of the concepts of a yearbook as a story of one year, as a history or permanent record of one school year, as a reference book, and as a

public relations tool. Students are expected to take Yearbook Production.

Prerequisite

- 10<sup>th</sup> and 11<sup>th</sup> grade
- 80% in English
- Teacher recommendation

<b>Digital Newspaper II</b>	<b>1541</b>	<b>1 credit</b>
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Students who select this *elective* course assume responsibility for editing and production of the newspaper website. All facets of the Newspaper 1 course are expected, as well as overseeing all work produced by the underclassmen. Communication with advertisers, coordinating stories, and assigning duties in order to meet deadlines are included as rewarding responsibilities of being an editor. 

<b>Yearbook Production</b>	<b>1542</b>	<b>1 credit</b>
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Students who select this *elective* course will assume the responsibility as staff editors of the yearbook. They will design, manage, seek advertising, and produce the Chartiers Valley yearbook. Organizing, running and participating in fundraisers is a requirement of this course. Also, attendance at weekly afterschool meetings is required.

Prerequisites

- 80% in Journalism/Yearbook 1
- Teacher recommendation

<b>AP Seminar</b>	<b>1360</b>	<b>1 credit</b>
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**AP Seminar** is an elective course for 10<sup>th</sup>, 11<sup>th</sup> or 12<sup>th</sup> grade students taken on its own or as part of the AP Capstone™ Program. In AP Seminar, students investigate real-world issues from multiple perspectives, gathering and analyzing information from various sources in order to develop credible and valid evidence-based arguments. Students learn to synthesize information from multiple sources, develop their own perspectives in research-based written essays, as well as design and deliver oral and visual presentations both individually and as part of a team. (**AP Seminar**, *College Board*, May 2016)

In AP Seminar, students are assessed with two through-course performance tasks due at the end of April and a 2-hour end-of-course exam during the AP Exam administration window. All three

assessments are summative and will be used to calculate a final AP score (using the 1 to 5 scale) for AP Seminar. (**AP Seminar**, *College Board*, May 2016)

**AP Seminar is a pre-requisite for AP Research. Sophomores and Juniors may elect to take the AP Research the following year as part of the AP Capstone™ Program requirements.**

<b>AP Research</b>	<b>1365</b>	<b>1 credit</b>
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AP Research, the second course in the AP Capstone experience, allows students to deeply explore an academic topic, problem, issue, or idea of individual interest. Students design, plan, and implement a yearlong investigation to address a research question. Through this inquiry, they further the skills they acquired in the AP Seminar course by learning research methodology, employing ethical research practices, and accessing, analyzing, and synthesizing information. Students reflect on their skill development, document their processes, and curate the artifacts of their scholarly work through a process and reflection portfolio. The course culminates in an academic paper of 4,000-5,000 words (accompanied by a performance, exhibit, or product where applicable) and a presentation with an oral defense. (*AP Research, College Board, 2017*)

#### Prerequisites

- AP Seminar is a prerequisite for AP Research. Completing AP Seminar and all its required assessment components is necessary for students to develop the skills to be successful in AP Research. (*AP Research, College Board, 2017*)

# Family & Consumer Science

The Chartiers Valley High School Family and Consumer Sciences curriculum is designed provide opportunities for students to actively participate in the improvement of the quality of individual and family life in a changing society. Family and Consumer Sciences empowers individuals, strengthens families, and enables communities. All F& CS courses are **electives**.

## Introduction to the World Of Food and Nutrition 1 8511 1 credit

This is an introductory course that involves students in basic principles of nutrition and their applications to food choices, nutritional analysis and consumerism. The course defines the need for students to understand their role in healthy eating to ensure good health in the future. While working in teams, students will gain necessary work skills including communications, organization, and technical reading to ensure success in their future careers. Kitchen management, recipe skills and basic food preparations are incorporated in the weekly foods labs while students learn about nutrition and health responsibilities in their family, career, and community environments.

## Ethnic and Regional Cuisine and Nutrition 2 8512 1 credit

This course incorporates the learning from the Adventures of Foods and Nutrition 1 and allows the student to delve into more specialized and independent projects to explore selected ethnic foods in relation to customs and food preparation techniques, consumer challenges and career opportunities. Students will prepare various regional and ethnic foods in weekly labs, as well as identify individual and family dietary needs. Students will also practice proper food safety and sanitation principles while working in the foods lab and excelling in work skills requested by future employers.

### Prerequisites

- 75% in Intro to World of Foods

## Child Development and Family Relations 8501 1 credit

This course offers an in-depth look at the concepts and theories associated with child development. Emphasis is placed on the child's total development, physical, mental, moral, social and emotional, as the child proceeds through the sequential developmental stages from birth to early childhood. This course offers hands-on experiences including the use of Real Care Baby Simulators, as well as, practical experience with children through limited direct participation in the high school children's learning center program. Students are also involved in community activities such as Blood Drives, International Orphan Sponsorship, Appalachian Clothing Drive, and various preschool activities.

## Early Childhood Practicum 1 8505 2 credits

This double-period course is designed to explore advanced child development concepts and theories through an actual interactive experience. Students plan lessons in the areas of the arts, science, literacy and math to develop a child's physical, mental, social and emotional growth. This is a performance-based class that integrates all academic skills. Students who choose this course need to have an interest in children and strive to understand their needs. This course is a great introduction to the teaching profession. *Students will be required to walk across the bridge to the Primary School daily.*

This course requires a \$12 per semester snack fee to cover the high school student's snack during Learning Center sessions.

Prerequisites

- 75% or better in Child Development and Family Relations
- Teacher Recommendation

<b>Early Childhood Practicum 2</b>	<b>8506</b>	<b>2 Credits</b>
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This double-period course expands student childcare skills obtained in Early Childhood Practicum 1. Students will continue to plan, carry out and supervise lessons with young children as well as aid their physical, mental, social and emotional development. Expanded leadership responsibilities include: special projects, record keeping, peer tutoring, parent newsletters, administrative tasks, and completing observations of children. *Students will be required to walk across the bridge to the Primary School daily.*

This course requires a \$12 per semester snack fee to cover the high school student's snack during learning center sessions.

Prerequisites

- 75% in Early Childhood Education 1
- Teacher recommendation

<b>Primary School Service</b>	<b>8509</b>	<b>1 credit</b>
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This course in advanced childcare has an emphasis on planning activities that develop the school-age child physically, mentally, socially, and emotionally. Students investigate such areas as special needs, child abuse and neglect, adoption, and birth defects and relate these areas to their work with the school-age child. Students also gain practical experience through direct observation of children in the primary school and participation in the high school learning center program. Further exploration of careers in childcare, youth guidance, and job orientation will be studied. *Students will be required to walk across the bridge to the Primary School daily.*

Prerequisites

- 80% in Early Childhood Education 1

<b>Primary School Practicum</b>	<b>8508</b>	<b>2/3 credits</b>
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This two or three credit course is designed to provide students on-the-job experience in the field of education. Students are placed at the primary school under the supervision of a co-operating teacher. The student will assist the cooperating teacher in a variety of activities including lesson preparation, teaching, testing, grading, tutoring, etc. This is a great opportunity to experience the teaching profession. This course must be taken with the Primary School Service course as a pre-student teaching experience. *Students will be required to walk across the bridge to the Primary School.*

Prerequisites:

- 80% in Early Childhood Education 1
- 12th grade students only
- Teacher recommendation



# Mathematics

## **Cognitive Algebra 1**                      **2123**    **1 credit**

Cognitive Algebra 1 is designed to strengthen Algebra 1 skills in preparation for the PA State Algebra 1 Keystone Exam. The course will explore the two modules: (1) Operations and Linear Equations & Inequalities and (2) Linear Functions & Data Organizations focusing on the following six anchors: Operations with Real Numbers and Expressions, Linear Equations, Linear Inequalities, Functions, Coordinate Geometry and Data Analysis. All students that have scored basic or below basic on the Algebra Keystone Exam will be required to take this course.

Prerequisites

- Algebra 1

## **Algebra 1**                                      **2122**    **1 credit**

Students will formalize and expand on algebraic concepts established in previous coursework. Students will deepen and extend their understanding of linear and exponential relationships by contrasting them with each other and by applying linear models to data that exhibit a linear trend. They will engage in methods for analyzing, and using functions. Students will fluently move between multiple representations of functions including but not limited to linear, exponential and quadratics.

Prerequisites

- Successful completion of Algebra Essentials
- Teacher recommendation

## **Cognitive Algebra 2**                      **2131**    **1 credit**

The course will begin with an extensive review of linear functions and systems of equations. Students will study quadratic functions and use these to model real-world scenarios. Students will be introduced to polynomial, rational, and trigonometric functions, and do some work in the

The Chartiers Valley High School Math curriculum is aligned with the Pennsylvania Core Standards. The curriculum not only stresses conceptual understanding and key ideas, but also emphasizes the knowledge and skills students need to be prepared for mathematics in college, career and life.

field of descriptive statistics. The course will move at a slower pace than Algebra 2 and topics covered will have a broader approach.

Prerequisites

- Below 70% in Algebra 1
- Below 85% in Cognitive Algebra 1
- Teacher recommendation

## **Algebra 2**                                      **2132**    **1 credit**

Students extend their repertoire of functions to include polynomial, rational, trigonometric, and radical functions. Working closely with families of functions, students will apply their understanding of transformations. Students will model situations and solve equations including quadratics over the set of complex numbers and exponential equations using the properties of logarithms. Students will use descriptive statistics and probability as a tool for making inferences about data.

Prerequisites

- 80% in Algebra 1
- 85% in Cognitive Algebra 1
- Teacher recommendation

## **Honors Algebra 2**                      **2143**    **1 credit**

Students extend their repertoire of functions to include polynomial, rational, trigonometric, and radical functions. Working closely with families of functions, students will apply their understanding of transformations. They will model situations and solve equations including quadratics over the set of complex numbers and exponential equations using the properties of logarithms. Students will use descriptive statistics and probability as a tool for making inferences about data. Some topics will have accelerated coverage, while some will be covered in greater depths than the regular Algebra II course.

Prerequisites

- 93% in Algebra 1
- Teacher recommendation

**Cognitive Geometry 2211 1 credit**

The purpose of the course is to formalize, deepen and extend students' geometric and algebraic experiences. Students will continue their work with similarity and congruence. Students explore more complex geometric concepts, and relationships, including: formal mathematical arguments, transformations, the coordinate system, right triangle trigonometry, circles and probability. This course will move at a slower pace than Geometry and topics covered will have a broader approach.

Prerequisites

- Below 75% in Algebra 1
- Teacher recommendation

**Combined Geometry 2212 1 credit**

The purpose of the course is to formalize, deepen and extend students' geometric and algebraic experiences. Students will continue their work with similarity and congruence. Students explore more complex geometric concepts, and relationships, including formal mathematical arguments, transformations, the coordinate system, right triangle trigonometry, circles and probability.

Prerequisites

- 75% in Algebra 1
- Teacher recommendation

**Honors Combined Geometry 2244 1 credit**

The purpose of the course is to formalize, deepen and extend students' geometric and algebraic experiences. Students will continue their work with similarity and congruence. Students explore more complex geometric concepts, and relationships, including: formal mathematical arguments, transformations, the coordinate system, right triangle trigonometry circles and probability. Some topics will have accelerated coverage, while some will be covered in greater depths than the Combined Geometry course.

Prerequisites

- 93% in Algebra 1
- Teacher recommendation

**Algebra 3 2145 1 credit**

Students will gain an in-depth understanding of algebraic principles and learn how to use them to solve problems that we encounter in everyday life. Students will learn about linear and quadratic functions, systems of equations, polynomials, graphing, and complex numbers. Students will also be introduced to basic trigonometry. The course emphasizes applications by exploring real-world scenarios.

Prerequisites

- Successful completion of Cognitive Algebra 2
- Teacher recommendation

**Trigonometry/Analysis 2313 1 credit**

A course dealing with the concepts of algebra, composition of functions, exponential and logarithmic functions, finite and infinite sequences and series, circular functions, radian measure, solution of right triangles and application of the Laws of Sines and Cosines.

Prerequisites

- 75% or better in Algebra 2
- Teacher recommendation

**Honors Pre-Calculus 2403 1 credit**

Honors Trigonometry/Pre-Calculus is a course designed for students planning to further their studies in mathematics to include calculus, notably, AP Calculus. Topics covered include a review of basic algebraic concepts; polynomial, rational, exponential and logarithmic functions; trigonometric functions and identities; polar coordinates; analytical Geometry; sequences and an introduction to calculus. Students will develop logical thinking and imagination through the experience of mathematical patterns and will become familiar with the fundamentals of pre-calculus.

Prerequisites

- 90% in Honors Algebra 2
- 95% in Algebra 2
- Teacher recommendation

<b>CIHS Calculus</b>	<b>2413</b>	<b>1 credit</b>
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This is a course for college-bound students expecting to major in business, the arts, or related fields. It contains a thorough review of algebra 2 and differential calculus with emphasis on problem solving rather than theory. This course may be scheduled concurrently with Trigonometry/Analysis with teacher and counselor approval.

Prerequisites

- Successful completion of Algebra 2
- Teacher recommendation

<b>Advanced Placement Calculus AB</b>	<b>2423</b>	<b>1 credit</b>
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This course is primarily concerned with developing the students' understanding of the concept of calculus and providing experience with its methods and applications. The course represents a multi-presentational approach to calculus with concepts, results, and problems being expressed geometrically, numerically, analytically, and verbally. The connections between these representations are also very important. Broad concepts and widely applicable methods are emphasized in this course. The focus is neither manipulation nor memorization of an extensive taxonomy of functions, curves, theorems, or problem types. Technology is used regularly by students and teachers to reinforce the relationships among the multiple representations of functions to confirm written work, to implement experimentation, and to assist in interpreting results. An assignment involving Algebra 2 problems and some basic Trigonometry concepts will be required for students to complete over the summer prior to taking this course. It is also expected that as a component of this course you will take the Advanced Placement Exam in May of the school year.

Prerequisites

- 90% in Honors Algebra 2
- 88% in Honors Trig
- Teacher recommendation

<b>Advanced Placement Calculus BC</b>	<b>2430</b>	<b>1 credit</b>
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Calculus BC is presented as a cohesive whole through the use of the unifying themes of limits, derivatives, integrals, polynomial approximations, series, parametric and polar functions, and vectors. The course features a multi-representative approach to calculus and concepts, results, and problems expressed graphically, numerically, analytically, and verbally.

Prerequisites

- 93% in Honors Algebra 2
- 93% in Honors Trig
- Teacher recommendation

<b>Advanced Placement Statistics</b>	<b>2515</b>	<b>1 credit</b>
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Students will explore methods of collecting, organizing, and interpreting (inferring) data produced by others and themselves. Solving everyday problems and utilizing technology will be emphasized throughout the course. The student is expected to take the Advanced Placement Exam in May of the school year. Students enrolled in this course also have the option to purchase college credits through Duquesne University.

An assignment involving basic statistical concepts will be required for students to complete over the summer. Course units will include: Measures of Central Tendency, Displaying Distributions, Normal Distributions, Correlation and Regression, Probability, Tests of Significance, and Analysis of Variance.

Prerequisites

- Successful completion of Algebra 2

# Performing Arts

The Department of Performing Arts offers areas of study in the performing arts – dance, music, and theatre arts for all high school students. Dance can count as a physical education credit in grades 9 through 12. Music and theatre students will receive **elective** credits for their selected courses.

## Cadenza Chorus 7501 1 credit

Cadenza chorus is an intermediate level high school group that enjoys the study and performance of choral music. Students in this ensemble have satisfying experiences performing music in the community, supporting school culture, (when appropriate) and in school concerts in the winter and spring. Prescribed concert dress is mandatory.

Using the powerful medium of music students will be encouraged to express their feelings and emotions through mature interpretation of the written music. For this to occur, discipline and support of each member of the group and director must be in place.

Students will develop correct singing technique in a group atmosphere. Reading skills, including melodic and rhythmic notation, sight reading skills, and intelligent interpretation of the musical style will be emphasized. On-line theory study will enhance this knowledge. This knowledge will be quizzed and graded. Solo and small ensemble opportunities will be available to advanced students.

Students will rehearse and perform a variety of styles of music in school and community performances. Dress rehearsals and performances will be part of the grade. One of the highlights of the year is the SOUNDWAVES recital in the spring. The chorus groups often take spring performance trips. Although students are encouraged to go because they are educational and fun, they are not mandatory. In December, after the winter concert, auditions will be held to determine students moving into upper level chorus groups for the following year.

### Prerequisites

- Director's signature

## Select Chorus 7505 1 credit

The select chorus consists of mainly juniors and seniors who are deeply committed to choral study and performance. These students will be recognized as having good attitudes and work ethics. They will be expected to practice outside of class and will be encouraged to study privately. Using the powerful medium of music students will be encouraged to express their feelings and emotions through mature interpretation of the written music. For this to occur, discipline and support of each member of the group and director must be in place.

Select chorus will study advanced theory, music history, music appreciation, correct vocal technique and sight reading in their pursuit of excellence in choral performance. There will be on-line theory study and quizzes to check understanding of concepts and knowledge. Since chorus is a performance based class, students will be expected to be present at all dress rehearsals and performances unless excused by the director. Select chorus has prescribed concert attire that is mandatory.

Students that desire to be in Select chorus audition in late December/early January of their 9<sup>th</sup> grade year or at a further advanced grade level. The chorus groups often take spring performance trips. Although students are encouraged to go because they are educational and fun they are not mandatory. Performance in more than one chorus is possible depending on the student's schedule. Students interested in this class should approach Mrs. Kipp to discuss audition procedures and times.

### Prerequisites

- An audition that includes sight reading, theory quiz and a vocal solo.

<b>Band</b>	<b>7511</b>	<b>1 credit</b>
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Band is a performance based ensemble with both marching and concert bands. First year students are expected to develop basic playing skills while participating in rehearsals and performances with the ensembles. Notation reading, rhythm decoding, correct intonation as well as developing and applying fundamental vocabulary is taught. Students will analyze the effect of rehearsal/practice sessions and apply various pedagogies during this time. Students will understand a piece based on the historical, cultural and social context and interpret these selections by classifications. Second year band is designed to further develop marching and concert band skills. Intermediate playing skills are expected as the students continue to strive for excellence in ensemble and performance. Third and fourth year band further develops marching and playing skill while encouraging students to assume leadership roles in ensembles. All music techniques are further developed. Students are required to participate in all concerts.

Prerequisites: Audition and/or Director's recommendation for all Band classes.

<b>Orchestra</b>	<b>7521</b>	<b>1 credit</b>
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Orchestra is a performing ensemble for instrumentalists of all levels. This course offers musicians the opportunity to explore the formal qualities of music, to perform a variety of musical styles, and to understand the aesthetic value of music. Emphasis is placed on the alternative fiddling repertoire with continual study and reference to the classics. Students acquire musical knowledge and appreciation by building their orchestral repertoire. Students are expected to develop advanced skills that are necessary to interpret and perform music and model these techniques. **Students are required to participate in all concerts.**

Prerequisites

- Audition and/or Director's recommendation for all Orchestra classes.

<b>Jazz Ensemble</b>	<b>7531</b>	<b>1 credit</b>
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Jazz Ensemble is designed to develop in students an appreciation of and proficiency in the musical

medium of Jazz. Students rehearse and perform as an ensemble while developing skills in rhythmic accuracy, dynamics, articulation, intonation and improvisation. **Students are required to participate in all concerts.**

Prerequisites: - This is an audition only ensemble.

<b>World Drumming/ Percussion Ensemble</b>	<b>7541</b>	<b>1 credit</b>
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The emphasis in this course is to develop competency in playing music from African and Latin genres to steel pans, as well as other selected percussion repertoire. Students will develop important musical skills, as well as learn about African and Latin American cultures. Students will build important work and community skills through communication and listening, cooperative teamwork and respect. Students will develop Beginner-Advanced skills in African Music, Steel Pans and Concert Percussion as they progress through the levels of World Drumming/Percussion Ensembles. Students are required to participate in all concerts. **This course is open to all incoming Eighth Grade students and those in grades 9-12, interested in learning percussion. All fundamental skills needed will be taught in this class. No Previous Percussion Experience is Necessary.**

Prerequisites

- Departmental signature

<b>Music Technology 1</b>	<b>7551</b>	<b>.5 credit</b>
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Students choosing this semester course will be introduced to a variety of music theory concepts. The concepts will be applied to individualized in-class arranging and compositional projects based on musical ability levels. **Don't let a lack of musical theory scare you away; the small class size is a perfect setting to increase your musical knowledge.** Students will complete all assignments using notation software Finale 2007. Students will also take a comprehensive look at the relatively short history of Electric Instruments, MIDI, and their application in today's rapidly expanding world.

Prerequisites

- One year of formal music, instrument or voice instruction suggested.
- Departmental signature

<b>Introduction to Dance</b>	<b>8040 1 credit</b>
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This course is designed for students who are interested in body movement and self-expression through dancing. Various dance form will be explored with emphasis on ballet, jazz, and modern techniques. This course will provide students with opportunities to develop dance skills and techniques, to express emotions and ideas through movement, and to work with a varied sample of music styles. Class presentations and videotaping will enable the students to develop performance techniques and receive feedback concerning their overall performance. The class members will be required to perform in Showcase. The course is open to 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> grades. Students with advanced dance skills and training may audition to be exempted from this course and be placed in the appropriate level dance course. Students are responsible for a \$50 costume fee for Showcase. Should requests for this class exceed a manageable number as determined by the instructor and high school principal, a lottery to reduce numbers to an acceptable class load will be conducted.

Prerequisites

- All students must dress in appropriate dance wear (black leotards and black tights purchased by the student)

<b>Modern and Jazz Dance 1</b>	<b>8041 1 credit</b>
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The course is designed to develop beginner-intermediate technique in both modern and jazz dance forms. Emphasis is on refining and enhancing technical awareness after being introduced to these forms in the Introduction to Dance class. The student will have opportunities to learn about movement elements, styles and principles of choreography. Evaluation for the course is based on performance tasks and rubric assessments, daily class participation, selected response testing, open ended test, choreographic tasks. Videotaping and peer assessment will also be used to elevate progress. Students are responsible for a \$110 costume fee for Showcase.

Prerequisites

- Introduction to Dance and have pre-approval for the class from the Department.
- All students must dress in appropriate dance wear ( black leotards and black tights ...dance wear must be purchased by the student)
- Participate in the annual arts showcase and dress rehearsal (three evenings)
- Be physically able to perform in a highly intense, physical class on a daily basis.
- Those students with long term illnesses or injuries may be required to be placed into an adapted physical education class for the duration of the medical excuse.
- Teacher recommendation

<b>Modern &amp; Jazz Dance 2</b>	<b>8042 1 credit</b>
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The course is designed to develop **intermediate** technique in both modern and jazz dance forms. Emphasis is on refining and enhancing technical performance at an intermediate level. The student will have opportunities to analyze movement elements, styles and principles of choreography and to create a performance composition. Evaluation for the course is based on performance tasks and rubric assessments, daily class participation, selected response testing, open ended tests, choreographic tasks. Videotaping and peer assessment will also be used to evaluate progress. Students are responsible for a \$110 costume fee for Showcase.

Prerequisites

- Modern Jazz 1 and have pre-approval from department
- Appropriate dance wear (black leotards and black tights or Nike pros...dancewear purchased by the student).
- Participate in the annual arts showcase and dress rehearsal (three evenings).
- Able to physically perform in a highly intense, physical class on a daily basis.
- Students with long term illnesses or injuries may be required to be placed into an adapted physical education class for the duration of the medical excuse.
- Teacher Recommendation

<b>Modern &amp; Jazz Dance 3</b>	<b>8043 1 credit</b>
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The course is designed to develop intermediate-advanced technique in both modern and jazz dance forms. Emphasis is on refining and enhancing technical performance at a more advanced level. The student will have opportunities to analyze movement elements, styles and principles of choreography and to create a performance composition. A variety of dance techniques will be explored-ranging from Graham and Cunningham in modern to Luigi, Fosse and Tremaine in Jazz. Evaluation for the course is based on performance tasks and rubric assessments, daily class participation, selected response testing, open ended tests, choreographic tasks. Videotaping and peer assessment will also be used to evaluate progress. Students are responsible for \$110 costume fee for Showcase.

Prerequisites

- Modern Jazz II and have pre-approval from the Department.
- Appropriate dance wear (black leotards and black tights or Nike Pros...dancewear purchased by the student.)
- Participate in the annual arts showcase and dress rehearsal (three evenings). Be physically able to perform in a highly intense, physical class on a daily basis.
- Students with long term illnesses or injuries may be required to be placed into an adapted physical education class for the duration of the medical excuse.

<b>Modern &amp; Jazz Dance 4</b>	<b>8044 1 credit</b>
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This course offers the advanced dance student/performer the opportunity to further develop his/her skill, technique, choreographic expertise, analytical reasoning and peer mentoring opportunities. This course accommodates the needs of the few students who have higher-level dance skills when entering the dance department at C.V. (students who are exempt from Intro to Dance in their freshman year). The student will work to refine advanced dance techniques and genres. The student will act as a teaching assistant/student choreographer, role model, etc. There would also

be a component requiring the student to work independent of the class by choreographing a self-directed dance piece and/or working as an apprentice with professional dance teachers and choreographers. Students are responsible for a \$110 costume fee for Showcase.

Prerequisites

- Modern and Jazz Dance
- Appropriate dance wear (black leotards and black tights or Nike pros...dancewear purchased by the student.)
- Teacher recommendation

<b>Modern &amp; Jazz Dance 5</b>	<b>8055 1 credit</b>
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This course offers the advanced dance student/performer the opportunity to further develop his/her skill, technique, choreographic expertise, analytical reasoning and peer mentoring opportunities at a more advanced level. The course accommodates the needs of the few students who have higher-level dance skills when entering the dance department at C.V. (students who exempt Intro to Dance in their freshman year). The student will work to refine advanced dance techniques and genres. The student will act as a teaching assistant/student choreographer, role model, etc. There would also be a component requiring the student to work independently of the class by choreographing a self-directed dance piece and/or working as an apprentice with professional dance teachers and choreographers. All students must dress in a black leotard and black tights. These items must be purchased at the student's expense. Students are responsible for a \$110 costume fee for Showcase.

Prerequisites

- Modern and Jazz Dance 4
- Appropriate dance wear (black leotards and black tights or Nike Pros...dancewear purchased by the student.)
- Teacher recommendation

<b>Majorettes-Drill Team- Dance Troupe- Dance Ensemble Dance Production</b>	<b>8051</b>	<b>1 credit</b>
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This course is designed for Dance Troupe, Charvalettes, and Majorettes to work on their routines for each season. This course will provide the majorettes and drill team with the opportunity to practice with the marching band. The class meets five (5) days a week. During the first nine-week period, the unit rehearses for performances at football games, band festivals and parades. During the second nine-week period, the unit takes dance class or practices for Showcase. All students interested in taking this course must audition, and, if selected, will be scheduled by the advisor. Members of the Dance Troupe will work to develop performance skills and will participate in several dance shows. Dance Troupe is also a competition team. They will compete at 3 Regional Competition and 1 National Competition. All students must dress in a black leotard, black tights or Nike Pros. These items must be purchased at the student's expense. In addition to the regular school year, the students in this class will have summer practices that start in May and run through the summer. Dance troupe also attends a camp in July for 4 days. Costs for these groups are explained at a parent meeting prior to tryouts.

Prerequisites

- Audition & Recommendation only

<b>Introduction to Theatre Arts</b>	<b>8100</b>	<b>1 credit</b>
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An exploration that will cover both the technical and performance aspects of live theater. Tech theater studies will include production concepts and design for lighting sets, costumes, and make-up. Performance studies will include an introduction to the basics of acting, such as theater history, stage direction terminology, voice & speech, improvisation exercises, monologues & scene work.

<b>Design for the Theatre</b>	<b>8101</b>	<b>1 credit</b>
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Practical experience in theatre design in the areas of set design and theatre, public relations, costume and make-up design, stage properties ( making historic or modern props for a play), and puppetry. The course is taught as a double block (during homeroom and second period for a total of 62 minutes). Student will learn how to study the play for detail, research for authenticity, exercise their own artistic interpretation, in all of the areas of both model form and hands-on design experience in individual projects for the fall and spring productions.

Prerequisites

- Intro to Theatre Arts or Art 1

<b>ACTING 1</b>	<b>8201</b>	<b>1 credit</b>
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This course is for students who are interested in an acting career or who merely want to learn more about this art. Students will perform improvisations, work on monologues, scenes, and one act plays. Class presentations and videotaping will provide opportunities to develop creativity while supplying the student with immediate feedback about performance.

The course is open to all students in grades 9 through 12. All students will be required to perform in an acting production. Should request for this class exceed a manageable number as determined by the instructor and high school principal, students will be required to do a monologue audition for placement in the class.

Prerequisites

- Introduction to Theatre Arts

<b>ACTING 2 &amp; 3</b>	<b>8202</b>	<b>1 credit</b>
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Prerequisites

- Acting 1 and/or Intro to Theater Arts
- Audition and teacher recommendation



# Physical Education

The goal of the Chartiers Valley Health and Physical Education program is to encourage, motivate and prepare students to lead a healthy and active lifestyle. The Chartiers Valley Health and Physical Education programs emphasize the understanding of health related content and lifetime activities to real world situations. Students will participate in, understand, and appreciate the benefits of a healthy and active life style. Health and Physical Education plays an integral role in a comprehensive educational program. This program will engage and help inspire students to pursue a lifetime of fitness activities and healthy decisions.

## **Physical Education 8032 .25 credit (Required for 9<sup>th</sup> & 10<sup>th</sup> Grade)**

The curriculum focus for 9<sup>th</sup> and 10<sup>th</sup> grade Physical Education is lifetime fitness, sports, and physical activity. Activities will enable students to develop skills necessary to maintain a healthy active lifestyle. The course is designed to enhance activity level, develop positive attitudes, responsible habits, and exhibit good sportsmanship. Students will have the opportunity to participate in; swimming, fitness, weight training, recreational racquet sports, diamond sports, volleyball and ultimate Frisbee/razzle.

### **Physical Education 11-12**

## **Adventure Activities 8033 .25 credit**

Students will be offered a variety of activities to include: physical fitness, ultimate Frisbee, archery, kayaking/canoeing, volleyball, rollerblading/hockey, team building activities, orienteering, biking, recreational racquet sports (pickle ball, badminton, table tennis) and drug and alcohol unit.

Prerequisites

- 11<sup>th</sup> & 12<sup>th</sup> grade

## **Lifetime Activities 8034 .25 credit**

Students will be offered a variety of activities to include: physical fitness, volleyball, tennis, recreational racquet sports (pickle ball, badminton, and table tennis), diamond sports, ultimate Frisbee/razzle football, and drug and alcohol unit.

Prerequisites

- 11<sup>th</sup> and 12<sup>th</sup> grade students

## **Dance**

Students may choose any dance course in the performing arts section of the Academic handbook. Please see the performing arts section or course numbers and prerequisites. Dance will meet PE requirements for all grade levels.

## **Adaptive Physical Education 8039 .25 credit**

Adaptive PE is similar to regular PE except that class size is smaller due to students' limitations. Activities will be concentrated on development of coordination, strength, flexibility and improved physical fitness. Skills for individual and team activities will be adjusted to individual needs. Students should see the school nurse for the proper forms in which doctors must sign and complete.

## **Health 8025 .5 credit (9<sup>TH</sup> AND 10<sup>TH</sup> Grade)**

Chartiers Valley Health curriculum is designed to provide students with an opportunity to learn about physical, mental and social aspects of health. Emphasis is placed on the importance of making healthy decisions that will lead to a higher quality of life. Students are encouraged to develop optimal health through recognizing health issues and applying preventative strategies. Students will connect academic content to real life scenarios and understand the impact of personal choices. Units of study include; stress, mental health, mental disorders, healthy relationships, abuse, bullying prevention, school violence, nutrition, physical

fitness, non-communicable diseases, SDI's, human sexuality, CPR, first Aid, environmental health, tobacco, alcohol and drugs.

Prerequisites

- 9<sup>th</sup> and 10<sup>th</sup> grade

<b>Drivers Theory</b>	<b>8027</b>	<b>.5 credit</b>
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This curriculum will develop the knowledge and attitudes necessary for safe driving techniques. The **elective** course introduces students to the theory and practical application of how to operate an automobile, rules and regulations. Curriculum is in accordance with PA driver guidelines and information from the PA driver's handbook; including strategies for identifying risks, of driving and their consequences.

Prerequisites

- 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> grade

# Science

## **Honors Biology 3133 1 credit**

Honors biology is a first year course in biology that provides an in-depth overview of the study of living things. The framework for the course is on the big ideas and unifying themes in biology. Topics include basic biological principles/cells, the chemical basis of life, bioenergetics, homeostasis and cell transport, cell growth and reproduction, genetics, ecology, and evolution. It is a rigorous course that requires daily reading and review. Students will work both independently and in groups to apply biological concepts. The course incorporates hand-on activities, role plays, and laboratory exercises when appropriate. This course is intended for students that are highly motivated, college bound, and typically will take one or more Advanced Placement science courses throughout their high school career.

### Prerequisites

- 93% in 8<sup>th</sup> grade science
- Teacher recommendation

## **Biology Lab 3221 1 credit**

This is a one year course in which students are given a solid foundation of the study of living things. The emphasis for the course is on the big ideas and unifying themes in biology, such as basic biological principles/cells, chemical basis of life, bioenergetics, homeostasis and transport, cell growth and reproduction, genetics, theory of evolution and ecology. Students will work independently, in small groups and large groups to understand and apply their skills. Application to real world concepts are emphasized through the use of case studies, role plays, hands on activities and laboratory exercises. This course is intended for students who may or may not be college bound and

successful completion of it can be a pre-requisite for higher level science electives and AP courses.

## **Conceptual Biology 3225 1 credit**

Conceptual Biology is a sophomore course designed to strengthen knowledge in Biology in preparation for the PA State Biology Keystone Exam. The 8 PA State Keystone units are explored during Semester 1 in the form of interactive journal activities and Semester 2 as rigorous hands-on projects, labs, case studies and online activities. Topics are: Basic Biological Principles, Chemistry of Life, Bioenergetics, Homeostasis and Transport, Cell Growth and Reproduction, Genetics, Evolution and Ecology. All students who have scored basic or below basic on the Biology Keystone Exam will be required to take this course.

### Prerequisites

- Biology Lab or Honors Biology

## **Applied Chemistry 3321 1 credit**

This is a 1<sup>st</sup> year chemistry course intended for students planning to pursue careers in a non-science related field. This course provides students with an understanding of basic principles of chemistry through classroom lectures and discussions, online assignments, classroom activities, small scale labs and research assignments. This course should contribute to the development of the student's ability to think clearly and to express their ideas orally and in writing with clarity and logic. This course differs from the other courses by the depth and number of topics addressed, slower pace, the minimal level of mathematical analysis required and the nature and variety of experiments done in the laboratory. Topics covered in this course are dimensional

analysis, matter, atomic structure, nomenclature, reactions, stoichiometry, and gas laws.

This course does not meet the prerequisite requirement for Advanced Placement Chemistry.

Prerequisites

- Biology

<b>Chemistry w/Lab</b>	<b>3331</b>	<b>1 credit</b>
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This is a 1<sup>st</sup> year chemistry course intended for students planning to attend college in a non-science related field. This course provides students with an understanding of basic principles of chemistry through classroom lectures and discussions, PHET simulations, classroom activities, and laboratory techniques. This course should contribute to the development of the student's ability to think clearly and to express their ideas orally and in writing with clarity and logic. This course differs from the other courses by the depth and number of topics addressed, pace, the level of mathematical analysis required, the time commitment spent on the course by the students, and the nature and variety of weekly experiments done in the laboratory. Topics covered in this course are dimensional analysis, matter, atomic structure including radioactive decay, quantum mechanics, periodic law, nomenclature, reactions, stoichiometry, bonding, and gas laws.

Prerequisites

- 70% in Biology OR pass Honors Biology
- 80% in Algebra 1 AND
  - 70% or better in Geometry
- Teacher Recommendation

<b>CIHS Chemistry</b>	<b>3340</b>	<b>1 credit</b>
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This is a 1<sup>st</sup> year **College in the High School** chemistry course that is equivalent to a first semester college level chemistry course and is intended for students planning to attend college in a science or non-science related field. This course provides students with an understanding of basic principles of chemistry through classroom lectures and discussions, classroom activities, and laboratory techniques. This course should contribute to the development of the student's ability to think clearly and to express their ideas orally and in writing with clarity and logic. This course differs from the other

courses by the depth and number of topics addressed, fast pace, high level of mathematical analysis required, and a greater time commitment than all other first year courses by the students. The nature and variety of experiments done in the laboratory are at college level. Topics covered in this course are matter, dimensional analysis, atomic structure, nomenclature, stoichiometry, reactions, solutions, thermochemistry, quantum mechanics, periodic table, periodic trends, bonding, molecular geometries, and gases.

Since this course is articulated through Duquesne University, there is a fee involved for students who want to earn 5 college credits. CIHS Chemistry is highly recommended for students taking AP Chemistry.

Prerequisites

- 80% in Honors Biology or 92% in Biology
- 93% or better in Algebra 1 AND
  - 88% or better in Geometry
- Teacher Recommendation

<b>AP Chemistry</b>	<b>3341</b>	<b>1 credit</b>
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This is a 2<sup>nd</sup> year **Advanced Placement** chemistry course that is equivalent to two semesters of college level chemistry and is intended for students planning to attend college for chemistry, engineering, medical fields or other science related areas in college. Laboratory work is an integral part of the course. This course provides the rigorous training needed for success on the AP chemistry test and SAT II Chemistry subject based test. This course should contribute to the development of the student's ability to think clearly and to express their ideas orally and in writing with clarity and logic.

This is a rigorous course that requires a large time commitment since the course itself is fast paced in order to have students prepared for the Advanced Placement Exam offered in May of the school year. Students are expected to take the AP Exam as a component of this course. Summer reading and assignments are required. Failure to complete summer assignments will result in a grade penalty. Topics covered in this course explores the areas of atomic structure, chemical bonding, chemical kinetics, equilibrium, kinetic molecular theory, acid-base theory, electrochemistry and a review of first year topics.

Prerequisites

- 70% in CIHS Chemistry or 90% in Chemistry w/Lab

<b>Anatomy &amp; Physiology</b>	<b>3350</b>	<b>1 credit</b>
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This **senior elective course** is designed to be a rigorous, in depth study of human anatomy and physiology. The structure, function and imbalances (diseases) of body systems will be studied including skin, musculoskeletal, nervous, endocrine, cardiovascular, blood, respiratory, digestive and the special senses. This course would be recommended for students that are interested in pursuing a career in the medical field such as physicians, physician assistants, nurses, medical technologists, paramedics, scientists, physical therapists, occupational therapists, geneticists, technicians, forensics and bioinformatics. This course is not a replacement for AP courses.

Prerequisites

- Successful completion of Chemistry
- Teacher recommendation

<b>Practical Physics</b>	<b>3421</b>	<b>1 credit</b>
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This is a first year Physics course intended for students planning to pursue a career in a non-science related field. This course provides students with a basic understanding of matter and energy through classroom lectures and discussions, online assignments, classroom activities, labs and projects throughout the year. Students will use mathematical analysis along with conceptual application of concepts to solve real world problems. A basic investigative approach dealing with the interrelationships of mass, motion and forces is studied. These topics lead to the investigations of various forms of energy such as light, sound, electricity, and magnets.

Prerequisites

- enrolled in Algebra 2 and/or enrolled in Geometry
- Completed chemistry
- Teacher Recommendation

<b>AP Physics 1</b>	<b>3441</b>	<b>1 credit</b>
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**Advanced Placement** Physics 1 is a first year physics course that is equivalent to a first semester college course in algebra-based physics. This course will focus on students' problem solving and lab skills. Students will cultivate their understanding of Physics through inquiry-based investigations while integrating technology into the laboratory environment. Topics covered will be Newtonian Mechanics (including rotational motion), work, energy, power, mechanical waves, sound and introduction to simple circuits.

Prerequisites

- CIHS Chemistry or 80% in Lab Chemistry
- Teacher recommendation

<b>AP Physics 2</b>	<b>3445</b>	<b>1 credit</b>
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**Advanced Placement** Physics 2 is a second year physics course that is equivalent to a second semester introductory college-level physics course. This course will focus on students' problem solving and lab skills. Students will cultivate their understanding of Physics through inquiry-based investigations as they explore topics such as fluid statics and dynamics; thermodynamics with kinetic theory; PV diagrams and probability; electrostatics; electrical circuits with capacitors; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics.

Prerequisites

- Successful completion of AP Physics 1
- Teacher Recommendation

<b>AP Physics C: Mechanics</b>	<b>3450</b>	<b>.5 credit</b>
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The Physics C: Mechanics course is equivalent to a one-semester, calculus-based, college-level physics course. It is especially appropriate for students planning to specialize or major in physical science or engineering. The course explores topics such as kinematics; Newton's laws of motion; work, energy and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation. Introductory differential and integral calculus is used throughout the course.

<b>A P Physics C: Electricity and Magnetism</b>	<b>3455 .5 credit</b>
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**Advanced Placement** Physics C: Electricity and Magnetism is a one-semester, calculus-based, college-level physics course, especially appropriate for students planning to specialize or major in physical science or engineering. The course explores topics such as electrostatics; conductors, capacitors, and dielectrics; electric circuits; magnetic fields; and electromagnetism. Introductory differential and integral calculus is used throughout the course.

<b>AP Biology</b>	<b>3442 1 credit</b>
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The **Advanced Placement** Biology course is designed to be the equivalent of a college biology course usually taken by biology majors during their first year of college. The course aims to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing world of biology. The curriculum is built around the four big ideas in AP Biology. They include 1.) The process of evolution drives the diversity and unity of life. 2.) Biological systems utilize free energy and molecular building blocks to grow, reproduce and maintain dynamic homeostasis. 3.) Living systems store, retrieve, transmit and respond to information essential to life processes. 4.) Biological systems interact. These systems and their interactions possess complex properties. Extension homework and laboratory work are required. Students are expected to perform extensive readings in biology and are expected to take the AP Biology exam.

Prerequisites

- Successful completion of Biology and concurrently enrolled or completion of Chemistry
- Teacher Recommendation

<b>Principles of the Biomedical Sciences (PBS)</b>	<b>3355 1 credit PLTW</b>
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This is the first course offering in the **Project Lead the Way Biomedical Sciences** curriculum. This rigorous course is offered to 9<sup>th</sup> and 10<sup>th</sup> grade students who may be interested in various professions in the medical field including, but not

limited to *physicians, physician assistant, nurses, medical technologists, paramedics, scientists, physical therapists, occupational therapists, geneticists, genetic counselors, technicians and bioinformatics.*

Student work involves the study of human medicine, research processes, an introduction to bioinformatics, and the use of computer science, mathematics, and information theory to model and analyze biological systems. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia and infectious disease. They determine the factors that led to the death of a fictional person, and investigate life-style choices and medical treatments that might have prolonged the person's life. Key biological concepts including homeostasis, metabolism, inheritance of traits, feedback systems and defense against disease are embedded in the curriculum. Engineering principles including the design process, feedback loops and the relationship of structure to function are incorporated in the curriculum. This course is designed to provide an overview of all the courses in the Biomedical Sciences program and lay the foundation for subsequent courses.

Prerequisite

- Science teacher or school counselor recommendation

<b>Human Body Systems (HBS)</b>	<b>3360 1 credit PLTW</b>
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This is the 2<sup>nd</sup> course offering in the **Project Lead the Way Biomedical Sciences** curriculum. This is a rigorous course offered to 10<sup>th</sup> and 11<sup>th</sup> graders that have completed Principles of Biomedical Science and are interested in professions in the medical field including physicians, physician assistants, nurses, medical technologists, paramedics, scientists, physical therapists, occupational therapists, geneticists, technicians, forensics and bioinformatics.

In the Human Body Systems (HBS) course, students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. Students design experiments, investigate the structures and functions of the human body, and use data

acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal Manikin, work through interesting real world cases, and often play the role of biomedical professionals to solve medical mysteries. Students practice problem solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.

Prerequisites

- Principles of Biomedical Science
- Teacher recommendation

<b>Medical Interventions</b>	<b>3365</b>	<b>1 credit</b>
		<b>PLTW</b>

This is the third course offering in the **Project Lead the Way Biomedical Sciences** curriculum. This rigorous course is offered to 11<sup>th</sup> and 12<sup>th</sup> grade students that have completed Principles of Biomedical Science and Human Body Systems. In Medical Interventions, 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 begins to fail. Through real-world cases, students are exposed to a range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics.

Prerequisite

- Principles of Biomedical Science
- Human Body Systems
- Teacher recommendation

<b>Biomedical Innovation</b>	<b>3370</b>	<b>1 credit</b>
		<b>PLTW</b>

In this capstone **Project Lead the Way** course, students apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences. Students design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. They have the opportunity to work on an independent project and may work with a mentor or advisor from a university, hospital, physician's office, or industry. Throughout the course, students are expected to present their work to an adult audience that may include representatives from the local business and healthcare community. (PLTW website 2016)

Prerequisites

- Successful completion of
  1. Principles of Biomedical Science
  2. Human Body Systems, **and**
  3. Medical Interventions
- Teacher recommendation

# Social Studies

Two years of American History are required for graduation from Chartiers Valley High School. This requirement in most cases, should be fulfilled in grades 9 and 11. One year of World Cultures is required for graduation and is usually completed in the 10<sup>th</sup> grade.

Numerous interesting electives are offered. There are course offerings dealing with law and government, economics, psychology, famous personalities and time periods. These courses are designed to create an understanding of the human story to guide our civic, professional, and personal lives. Students are strongly encouraged to select one or more of these electives.

Advanced Placement courses in United States History, Law and Government, Macroeconomics, Microeconomics, and Psychology are available to students who have demonstrated proficiency in the disciplines and are recommended by the Social Studies faculty.

<b>Development of the United States</b>	<b>4000</b>	<b>1 credit</b>
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This 9<sup>th</sup> grade required course in social studies is a survey of United States history from 1800-1945. The century and a half is a pivotal period in our history when we developed as a world power. Students will examine the consolidation of the United States after the American Revolution, the epic struggle over the issue of slavery leading to the Civil War, the growth of the country through immigration, industrialization, urbanization, and the conquering of the frontier. Then, students will study the conflicts of the late 19<sup>th</sup> (Spanish-American War) and early 20<sup>th</sup> (World War I) centuries that catapulted the nation onto the world spotlight. The study ends with examining the two major challenges to the American state in the 20<sup>th</sup> century, the Great Depression and World War II. Students will learn to take notes, write substantive essays, complete project-based assignments, become involved in seminars, and other activities that make the course active learning. This course will be conducted at a **moderate** pace.

<b>Advanced- Development of the United States</b>	<b>4001</b>	<b>1 credit</b>
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This required course provides students the opportunity to study the development of the United States at a **more accelerated** pace. The same years and content described above will be the material for the course. The learning strategies will

be enhanced and used in a developmentally appropriate manner. Students will be introduced to some of the deeper concepts in United States history and there will be more focus on writing and interpreting primary sources.

<b>Honors - Development of the United States</b>	<b>4002</b>	<b>1 credit</b>
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This required 9<sup>th</sup> grade course provides students the opportunity to study the development of the United States at a **highly accelerated** pace. The same years and content described above will be the material for the course. Students in this course are on track to take Advanced Placement courses so the study is rigorous and takes on more of the complex concepts in American history. Students will also be challenged by the high expectations of the College Board.

<b>World Cultures</b>	<b>4005</b>	<b>1 credit</b>
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This required course deals with the history and cultures of people in Europe, the Middle East, Latin America, East Asia, and Africa from the 1700s through the present day. The course explores various political ideologies; gender roles; social organizations; conflicts; religious beliefs; and economic systems. Students will be expected to understand global interdependence as it relates to culture, resource management, conflict and human rights. Students will be regularly exposed to primary source documents in order to better understand specific events or time periods from the



perspective of the people who experienced them firsthand. Students will refine their ability to read for comprehension and critical analysis; summarize, categorize, compare, and evaluate information; write in a concise manner; express facts and opinions orally; produce exhibitions in a cooperative setting; and use technology appropriately to present information.

The first semester of the course will cover the Enlightenment, French Revolution, the Industrial Revolution, Revolutions in Latin America, the Rise of Nationalism, New Imperialism, World War I, and the Russian Revolution. The second semester of the course will cover the Interwar Period, World War II, the Cold War, the Emergence of New Nations, Regional Conflicts, and the Developing World.

<b>Honors World Cultures</b>	<b>4006</b>	<b>1 credit</b>
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Various themes including political ideologies, gender roles, social organizations, conflicts, revolutions, religious beliefs and economic systems will be explored throughout the course. Students will investigate global interdependence as it relates to culture, resource management, conflict and human rights. Students will be expected to understand the historical content and to make historical connections between the past and present through analysis of current affairs. Students will be exposed to primary source documents in order to better understand specific events or time periods from the perspective of the people who experienced them firsthand. Students will continue to refine their ability to read for comprehension and critical analysis; summarize, categorize, compare, contrast and evaluate information; write in a concise style; express facts and opinions, both in written and oral forms; produce exhibitions in a cooperative setting; and utilize technology appropriately to present and comprehend information.

The first semester of the course will be a comprehensive study of the Enlightenment, French Revolution, the Industrial Revolution, Revolutions in Latin America, the Rise of Nationalism, New Imperialism, the Great War and the Russian Revolution. The second semester of the course will cover the Interwar Period, World War II, the Cold

War, the Emergence of New Nations, Regional Conflicts and the Developing World.

Prerequisites

- 85% in Honors American Cultures
- 90% Advanced American Cultures
- Teacher recommendation

<b>Contemporary US/ Global Studies</b>	<b>4010</b>	<b>1 credit</b>
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This course will guide students from 1945 through the early 21st century. Students will examine the political, economic, social and cultural development of the United States from the end of World War II to present times. The essential standards of American History will trace the change in the ethnic composition of American society; the movement toward equal rights for racial minorities and women; and the role of the United States as a major world power. An emphasis is placed on the expanding role of the federal government and federal courts as well as the continuing tension between the individual and the state. The desired outcome of this course is for students to develop an understanding of the cause-and-effect relationship between past and present events, recognize patterns of interactions, and understand the impact of events on in the United States in an interconnected world.

<b>Shaping of the Modern World</b>	<b>4345</b>	<b>1 credit</b>
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This **College in the High School elective** course is a study of the world of the 20<sup>th</sup> century and into the 21<sup>st</sup> century. It will examine the forces and shaping agents that have produced great changes since circa 1900 and integrate the United States experience with that of Europe, Asia, Latin America, and Africa. An intense study of the last 50 years will give the students a better perspective and understanding of their own world and have the knowledge and skills to be able to project the foreseeable future of the modern world.

Students will be exposed to rigorous primary sources, assignments and thinking that they will experience in college. "Blue book" essays are a common assessment that are used in colleges.

Since this course is articulated through Duquesne University, there is a fee involved for students who want to earn college credits. Students may obtain three college credits.

Prerequisites

- 85% in Advanced or Honors Social Studies
- Teacher recommendation

<b>AP U.S. Government and Politics</b>	<b>4346</b>	<b>1 credit</b>
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**Advanced Placement** U.S. Government and Politics is an analytical perspective on government and politics in the United States. This **elective** course includes the study of general concepts used to interpret our political system and the analysis of specific examples. The institutions, groups, beliefs, and ideas that constitute U.S. government and politics will be studied. In addition, theories of government, political behavior and consequences, and the structure and procedures of our government will be reviewed. College-level texts and other college-level materials are used in the class. Preparation for the annual A.P. exam, which is held in May, is an integral part of the class.

Prerequisite

- 11<sup>th</sup> and 12<sup>th</sup> grade

<b>AP Psychology</b>	<b>4347</b>	<b>1 credit</b>
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Psychology is the scientific study of the human mind and behavior. The purpose of this **Advanced Placement/College in the High School elective** course is to further acquaint students with the field of psychology, promote critical thinking skills, explore cross-cultural perspectives, analyze popular media claims, and examine published psychological research. The course is a combination of lecture, lab activities, cooperative activities, research essays, and presentations. Sample topics include personality, development, research, abnormal psychology, memory, and learning. Students who elect to purchase credits through the University of Pittsburgh will complete four quarterly exams and a cumulative final. Students who do not purchase the CiHS credits are expected to take the AP Psychology exam at the conclusion of the course.

Prerequisites

- 90% in Psychology or
- 85% in AP United States History
- 85% in CiHS Shaping of the Modern World
- Teacher Recommendation

<b>AP United States History</b>	<b>4348</b>	<b>1 credit</b>
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**Advanced Placement** U.S. History (APUSH) is a rigorous college-level introductory course which examines the nations' political, diplomatic, intellectual, cultural, social, and economic history from 1491– present. APUSH is arguably one of the most challenging of the courses offered by the College Board. As a result, a variety of instructional approaches are employed and a college level textbook is supplemented by primary and secondary sources. Significant outside reading and assignments are required for success in this course.

The curriculum of this course is designed to help students develop critical thinking skills and factual knowledge necessary to deal analytically with the complex history and documents presented in U.S. history. The complexity of topics, discussions and tempo of course will better prepare students for the rigors of college level courses. Students will conclude the year with a National Exam from College Board in May.

Prerequisites

- 11<sup>th</sup> and 12<sup>th</sup> grade
- 85% in an Honors course or
- 90% in an Advanced social studies
- Teacher recommendation

<b>Psychology</b>	<b>4405</b>	<b>1 credit</b>
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This **elective** course introduces the field of psychology and its basic concepts, theories, research methods, and contributions to the understanding of human behavior. Topics include scientific methods in psychology, biological psychology, sensation and perception, states of consciousness, learning, memory, cognition and language. This course will challenge students to use their metacognitive abilities in order to develop a meaningful and useful understanding of their sense of self.

Prerequisites

- 11<sup>th</sup> and 12<sup>th</sup> grade

<b>Economics</b>	<b>4406</b>	<b>1 credit</b>
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This **elective** course emphasizes analysis of the American economic system as it relates to the individual and other economic systems. Specific units will cover microeconomic issues such as the law of supply and demand, factors of production, and the business cycle. Macroeconomic issues will include money and banking, monetary and fiscal policy, international trade and comparative economic systems. We will be touching on the history of economic thought as well as current economic issues. The current uncertainty regarding the economy make this an exciting and challenging course.

Prerequisites

- 11<sup>th</sup> or 12<sup>th</sup> grade

<b>Law and Government</b>	<b>4407</b>	<b>1 credit</b>
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Law and Government, **an elective**, is the study of the fundamentals of our American government along with a review of our justice system.

Essentially, the class is divided into two components: Civics and Street Law. With the study of government, students will learn why we have government, types of government, and characteristics and principles of democracy. Studies will focus on our U.S. Constitution, specifically the Bill of Rights, and how these rights are exercised every day.

The class will then transition into a study of our criminal justice system with a focus on our due process rights. The criminal justice process will be reviewed from arrest through sentencing. Guest speakers will be utilized throughout the school year to compliment the curriculum and a field trip to the Allegheny County Courthouse will allow students to witness our justice system in action. Throughout the school year, students are encouraged to be aware of current events which will be discussed in class.

Prerequisite

- 11<sup>th</sup> and 12<sup>th</sup> grade

<b>AP Macroeconomics</b>	<b>4409</b>	<b>1 credit</b>
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The goal of this **elective** course is to give students a thorough understanding of the principles of economics that apply to the functions of individual

decision makers, both consumers and producers, within the economic system. It places primary emphasis on the nature and functions of product markets, and includes the study of factor markets and the role of government in promoting greater efficiency and equity in the economy. This full year course will also integrate the study of both fiscal and monetary policies as they apply to the various levels of government. The course is a combination of lecture, cooperative activities, research projects, graph analysis, and presentations. Students should expect to take the AP Macroeconomics exam at the conclusion of the course. Summer reading and assignments are required. Failure to complete summer assignments will result in a weighted penalty.

Prerequisites

- 11<sup>th</sup> or 12<sup>th</sup> grade
- 90% in Honors World
- 85% in AP U.S. or CIHS Shaping
- Teacher recommendation

<b>AP Microeconomics</b>	<b>4410</b>	<b>1 credit</b>
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**Advanced Placement** Microeconomics, **an elective**, is an introductory college-level course that focuses on the principles of economics that apply to the functions of individual economic decision-makers. The course also develops students' familiarity with the operation of product and factor markets, distributions of income, market failure, and the role of government in promoting greater efficiency and equity in the economy. Students learn to use graphs, charts, and data to analyze, describe, and explain economic concepts.

Prerequisites

- 11<sup>th</sup> or 12<sup>th</sup> grade
- 90% in Honors World
- 85% in AP U.S. or CIHS Shaping
- Teacher recommendation

# World Languages

All students have the opportunity to study a modern language at some stage of their educational experience and should be allowed to continue the study as long as their abilities and interests keep them involved. Knowing a language is a matter of mastering basic habits of reacting to sounds, structures and vocabulary. It is recommended that students study one language until they have achieved proficiency. Advanced students are encouraged to study a second and even a third language.

All students who want to communicate in a modern language and learn the culture, characteristics, and customs of that particular language and its people can find a program that meets their needs. **All World Language courses are electives**

## French I 5011 1 credit

In this course geared to the general as well as the academic learner, students learn to communicate on everyday topics in the present and near future, with particular emphasis placed on the skills of listening, speaking and pronunciation. The French culture, including study of the country as well as a unit on Paris, is a very important component. Music and film clips are used to reinforce concepts and skills too. In addition, students also take part in a variety of creative activities, including role-plays, games, and projects. Integrated Performance Assessments (IPA) are used with every unit to incorporate authentic materials, speaking opportunities and listening comprehension. Also, students participate in cultural experiences such as making crêpes and croque monsieur sandwiches, and learning about French holiday traditions. The course is proficiency-based, and students are expected to communicate as much as possible in French as well as understand and follow basic classroom directions in French.

### Prerequisites

- 75% in 8<sup>th</sup> Grade French or Teacher recommendation

## French 2 5012 1 credit

This **elective** course continues to develop the proficiency of previously mentioned skills. Dialogues, pattern practice, and question-answer exercises play an important role. Word placement and foundation grammar work into developing competency in both reading and writing.

### Prerequisites

- 75% in French 1 (2<sup>nd</sup> semester)

- Teacher recommendation

## French 3 5013 1 credit

Students learn to speak with more fluency, practicing and expanding upon previously learned grammar concepts such as past time, future time, and pronouns, as well as learn modal verbs such as the conditional and the subjunctive. Speaking proficiency is improved by activities such as role-plays, skits, expressing and supporting opinions, weekly conversation sessions and daily speaking responses. In addition, students take the SOPI assessment (Simulated Oral Proficiency Interview) in the spring and are rated on speaking proficiency in accordance with the ACTFL (American Council of the Teachers of Foreign Language) proficiency levels. Students further develop writing proficiency by writing longer and more complex sentences and short essays. More emphasis is placed on independent readings on French culture and other topics as well as reading short stories from the Petit Nicolas series and other authentic literature. Students continue to participate in cultural experiences and complete an in-depth study of 19<sup>th</sup> century and early 20<sup>th</sup> century French Art (the Impressionist and Post-Impressionist periods). Film is included at this level including detailed follow-up of the content of the film with interpretive activities during and after viewing. Study of French Africa is included as part of the text-based reading assignments and activities, specifically a study of the Maghreb (Tunisia, Algeria, and Morocco). The IPA is used at this level to integrate reading, writing, listening and speaking.

Prerequisite

- 75% in French 2 (second semester)
- Teacher Recommendation

<b>CIHS French 4</b>	<b>5014</b>	<b>1 credit</b>
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In this full year, **College in the High School** course, students learn to speak with more fluency, practicing and expanding upon previously learned grammar concepts such as past time (including imperfect tense and plus que parfait), future time, and pronouns (relative, direct, indirect) as well as reinforce structures such as the subjunctive and the conditional. Students read independently at a more advanced levels, keep a journal, and writings are longer and more sophisticated. There is a focus on advanced conversation, listening comprehension, and more extensive reading and writing. Film clips from the text and authentic French films with detailed follow-up are used as a resource to enhance proficiency.

This course is articulated through Duquesne University and students have the opportunity to earn 3 credits in French 201. There is a fee involved for students opting to earn the university credits.

Prerequisite

- 80% in French 3 (second semester)

<b>German 1</b>	<b>5021</b>	<b>1 credit</b>
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This **elective** course is proficiency based in order to develop competency in understanding, speaking, and writing in German within a restricted area of vocabulary. Basic speech patterns are introduced and practiced orally. Students will then practice these new speech patterns and adapt them to varying situations. Basic grammar concepts are introduced. The student must assume responsibility of self-discipline and self-direction in the classroom.

Prerequisites

- 9<sup>th</sup> graders - 75% in 8<sup>th</sup> grade Modern Language class.
- Teacher recommendation

<b>German 2</b>	<b>5022</b>	<b>1 credit</b>
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This proficiency based full-year **elective** course continues to develop the listening, speaking and writing skills. Vocabulary is introduced more rapidly,

and the amount of controlled reading increases as the year progresses. Basic grammar concepts are expanded and completed. Conversation and other oral activities are stressed. The student must assume the responsibility of self-discipline and self-direction in the classroom.

Prerequisites

- 75% in German 1 (2<sup>nd</sup> semester)
- Teacher recommendation

<b>German 3</b>	<b>5023</b>	<b>1 credit</b>
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This full-year **elective** course continues to build proficiency in listening and speaking while increasing emphasis on reading and writing. There is extensive building of both active and passive vocabulary. Grammar continues to be developed at an intermediate level. Supplementary audio excerpts, videos, and websites reinforce situational German vocabulary. The student must assume responsibility of self-discipline and self-direction in the classroom.

Prerequisites

- 75% in German 2 (2<sup>nd</sup> semester)
- Teacher Recommendation

<b>CIHS German 4</b>	<b>5024</b>	<b>1 credit</b>
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This **College in the High School elective** course is designed to continue the development of oral and written skills. Students will read and discuss selected cultural and literary texts, review grammar in the context of situations and readings, and explore cultural trends and issues.

Since this course is articulated through Duquesne University, there is a fee involved for students who want to earn college credits.

Prerequisites

- 80% in German 3
- Teacher Recommendation

<b>Spanish 1A</b>	<b>5108</b>	<b>1 credit</b>
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This is a full year **elective** course designed for students to acquire basic proficiency skills in Spanish – listening, speaking, reading, and writing.

A content based approach to language learning is introduced; knowledge of other subjects is reinforced through the use of Spanish.

Please note: Students who are new to Chartiers Valley School District have the option to test into Spanish 2A.

Prerequisites

- Students who did not take Spanish in Grade 8 at Chartiers Valley; or
- Students with less than 75% in Grade 8 at Chartiers Valley Spanish; or
- Students who are new to Chartiers Valley School District.
- Teacher Recommendation

<b>Spanish 2A</b>	<b>5110</b>	<b>1 credit</b>
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This is a full-year **elective** course that continues the content-based style of language learning that has been used in Grades K-8. Connections are made to the English 9 and Social Studies 9 courses as well as to other disciplines, such as math, art, and other selected electives. An increase in proficiency is accomplished through reading, writing, listening, and speaking activities.

Prerequisites

- 75% Grade 8 Spanish at Chartiers Valley or Spanish 1A at Chartiers Valley-2<sup>nd</sup> semester
- Teacher Recommendation

<b>Spanish 3A</b>	<b>5112</b>	<b>1 credit</b>
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Spanish 3A is a full-year **elective** course that follows the content based approach to language learning implemented in Grades K-9. While continuing to expand vocabulary and grammar knowledge, connections are made with various subject areas including Social Studies, English, Science, Math, and Art. Students continue to increase proficiency through more extensive reading, writing, listening and oral communication activities.

Prerequisites

- 75% in Spanish 2A – 2<sup>nd</sup> semester
- Teacher Recommendation

<b>CIHS Spanish 4A</b>	<b>5114</b>	<b>1 credit</b>
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This **College in the High School elective** course offers an advanced curriculum with emphasis on extensive reading, writing, and communication skills. There is focus on listening for comprehension and promoting fluency in speech. An ability to demonstrate mastery of essential grammatical concepts is expected. Historical and cultural aspects of Hispanic countries are an integral part of the course.

Since this course is articulated through Duquesne University, there is a fee involved for students who want to earn college credits.

Prerequisites

- 80% in Spanish 3A
- Teacher Recommendation

<b>AP Spanish Language</b>	<b>5116</b>	<b>1 credit</b>
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The purpose of Advanced Placement (AP) Spanish Language is to guide students to greater proficiency and more accurate application of language skills by using authentic resources in meaningful situations. Listening, speaking, reading, and writing within thematic units will augment and enhance vocabulary and grammar acquisition. In AP Spanish Language, students will communicate in interpersonal, interpretive, and presentational scenarios within the five goal areas (Communication, Culture, Connections, Comparisons, and Communities) outlined in the Standards for Foreign Language Learning in the 21<sup>st</sup> Century. The course is similar to most third-year college and university courses that focus on speaking and writing in the target language at an advanced level. Failure to complete the summer assignments will result in a grade penalty.

Prerequisites

- 80% in CIHS Spanish 4A
- Teacher Recommendation

# Parkway West Career & Technical Center

Students entering 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> grades are eligible to enroll at Parkway. Students who successfully complete Parkway West CTC programs may be eligible to earn articulated college credit from the following post-secondary institutions:

Belmont Technical College  
Butler County Community College  
California University  
Community College of Allegheny County  
Empire Education Group  
ITT Technical Institute  
New Castle School of Trades  
Pennsylvania College of Technology  
Pittsburgh Culinary Arts Institute  
Pittsburgh Technical Institute  
Rosedale Technical Institute  
Triangle Tech. Inc  
University of Northwest Ohio  
*Scholarships from the above post-secondary institutes and from industry may also be available.*

<b>Auto Body Repair</b>	<b>9113</b>	<b>4 credits</b>
	<b>9313</b>	<b>3 credits</b>

The Auto Body Repair program is certified by the National Automotive Technology Education Foundation (NATEF) and provides instruction in the most current techniques for repair and replacement of damaged automobile parts. Students learn to repair collision damage and to replace quarter panels, door skins, and fenders. The curriculum also includes painting, MIG welding, collision repair, frame straightening, and damage analysis. Students gain experience in mixing and tinting paint, custom painting, computerized estimating, and auto detailing. Practical experience is also provided through a full-service auto body repair shop. Students have the opportunity to earn PPG Blue Level Paint and I-Car MIG Welding certifications. They are also eligible to earn I-Car Points.

<b>Automotive Technology</b>		<b>9119</b>	<b>4 credits</b>
		<b>9319</b>	<b>3 credits</b>

Automotive Technology is certified by the National Automotive Technology Education Foundation (NATEF) and affiliated with all of the major automotive manufacturers through Automotive Youth Educational Systems (AYES). Students prepare to take the Pennsylvania State Inspection License examination. Students learn basic vehicle maintenance, repair, and replacement of drive trains, brake systems, chassis components, and fuel

and electrical systems. Special emphasis is placed on troubleshooting and engine performance via the use of state-of-the-art electronic diagnostic equipment. Practical experience is also provided in the auto repair shop. Under the Automotive Youth Educational Systems (AYES) apprenticeship program, students may qualify to become an apprentice working under mentor technicians. Students can earn certifications from AYES, the National Institute for Automotive Service Excellence (ASE), and the Coordinating Committee for Automotive Repair (CCAR).

<b>Construction Technology Cluster</b>	<b>9137</b>	<b>4 credits</b>
	<b>9337</b>	<b>3 credits</b>

First-year students spend nine weeks in the following four courses offered in the Construction Technology Cluster. They are *Building Construction Technology, Electrical Systems Technology, Welding Technology, and Masonry*. Upon successful completion of the rotation, second-year students may choose to pursue certification in one of the following areas for the remainder of their time at PWCTC:

### **Building Construction Technology**

A student in Building Construction Trades program will apply technical knowledge and skills to layout, fabricate, erect, install and repair structures and fixtures using hand and power tools, scaffolding, and specialty tools used in the construction trade. This program includes instruction in common systems of framing, construction materials,

estimating, blueprint reading and finish carpentry techniques. Students will be given the opportunity to earn a 10-hour Occupational Safety and Health Administration (OSHA) Construction Card.

**Electrical Systems Technology**

The Electrical Systems Technology program teaches students the integral components of the electrical industry for entry level employment in residential, commercial, and/or light industrial locations. The basis of instruction is in the layout, assembly, installation, wiring, maintenance, and trouble-shooting of electrical systems. Understanding programmable logistical controls (PLC's) and how transformers operate are also covered. Adherence to the National Electric Code is emphasized throughout this course as well as trade safety procedures. This program may lead to additional career pathways such as an Electrical Drafter, Electrical Technicians, Electrical Engineers, Electrical Power-Line Installers and Repairers, Meter Readers/Utilities, Control and Valve Installers/Repairs, and Locomotive Engineers, to just name a few. Additionally, students will be given the opportunity to earn a 10-hour Occupational Safety and Health Administration (OSHA) Construction Card and may have a greater opportunity to join the International Brotherhood of Electrical Workers' Union (BAC) after graduation.

**HVAC/R**

Heating, Ventilation, Air-Conditioning, and Refrigeration, which has been newly renovated with state-of-the-industry equipment, provides instruction in basic and advanced electrical theory, troubleshooting and repair of residential and commercial heating, air-conditioning, and refrigeration systems. Students will be given the opportunity to earn a 10-hour Occupational Safety and Health Administration (OSHA) Construction Card.

**Welding Technology**

Welding Technology covers several types of welding by which metal may be bent, cut, or welded together, including oxy-fuel, shielded metal arc, gas metal arc, gas tungsten arc, flux core welding, carbon arc, plasma cutting, and oxy-fuel brazing. Students will learn the importance of industry safety, measuring instruments, hand tools, grinders, metallurgy, blueprint reading, electrical principles, layout/design, and fabrication, as well as how to prepare materials lists for cost estimates. Students have the opportunity to earn several American Welding Society (AWS) certifications.

**Masonry**

Masonry offers instruction in the construction of brick and block walls for residential or commercial structures. Learn techniques of ornamental masonry, ceramic tile, and natural or cultured stone installations. New to the program, students will also be introduced to Versa-lok, an interlocking dry wall system. Students will be given the opportunity to earn a 10-hour Occupational Safety and Health Administration (OSHA) Construction card and may have a greater opportunity to join the Bricklayers' Union (BAC) after graduation.

<b>Cosmetology</b>	<b>9143</b>	<b>4 credits</b>
	<b>9343</b>	<b>3 credits</b>

The Cosmetology program prepares students to perform technical services including all aspects of hair, skin/nail beautification, and personal maintenance. These skills are supported and reinforced with theoretical background including sanitation, chemistry, anatomy and physiology, as well as structure, function, and disorders of the hair, skin, nails, and scalp. This program helps students develop into well-rounded professionals, who practice real-world services in Parkway's salon, which is open to the public two days a week. Utilizing an integrated approach to teaching and learning, students learn about interpersonal relations, professional attitude, and career fundamentals along with technical knowledge and skills. Techniques and abilities are practiced and tested on mannequins, classmates, and the general public. Students who are able to attend this program for three years will have the opportunity to earn 1,250 hours of state-regulated course requirements to take the state licensing exam to be a licensed cosmetologist, which encompasses providing services to the public for hair, skin, and nails. Students who are able to take one or two years of instruction in this program may choose from the following specialized licensed fields:

Nail Technician License: This license requires 200 hours of instruction and can be completed within one year. An individual holding a nail technician license is qualified to perform nail technology services only.

Cosmetology Teacher License: Prerequisite for this course is having successfully passed at least one of the above licensures. This license requires 500 hours of required studies and can be completed within one year. An individual holding a teacher's



license is qualified to perform the functions of a teacher in whichever specialized area the individual has obtained licensure.

<b>Culinary Arts</b>	<b>9161</b>	<b>4 credits</b>
	<b>9361</b>	<b>3 credits</b>

The Culinary Arts program provides practical instruction in the preparation of banquet, buffet, and a la carte styles of food preparation. Practical experience is provided through the operation and management of an in-house, full-service restaurant and beyond the restaurant environment to provide goods and services for Parkway's food store, where pastries and select meats are sold. Students learn to design cakes, sculpt ice, and prepare many different types of cuisine. First-year students spend one school year in Culinary Arts Level I. Second and third-year students will advance into Culinary Arts Levels II and III. Senior students who have completed at least two years of Culinary Arts will have the opportunity to earn both the National Restaurant Association's ServSafe certification and the American Culinary Federation certification.

<b>Digital Multimedia</b> 	<b>9190</b>	<b>4 credits</b>
	<b>9389</b>	<b>3 credits</b>

The Digital Multimedia Technology program provides instruction in basic graphic design using computers and design software such as Adobe Illustrator, Acrobat, Photoshop, InDesign, and Dreamweaver. Students learn entry-level skills for desktop publishing, web design, digital photography, and graphic animation utilizing Flash. Several software applications are used to design, edit, and publish documents, images, and multimedia presentations in print and electronic form. From designing a poster to developing a website, students will have the opportunity to apply their creativity to projects that resemble those in the real world. Students can earn the Adobe Certified Associate certification in Visual Communication and the Adobe Certified Associate in Web Communication via Certiport.

<b>Health Assistant</b>	<b>9173</b>	<b>4 credits</b>
	<b>9373</b>	<b>3 credits</b>

The Health Assistant students have the opportunity to participate in a wide-range of real-world clinical and job shadowing experiences at many different local healthcare providers such as hospitals and other medically related facilities. Clinical

experiences may include: child care, long-term care, emergency nursing, recovery room nursing, radiology, medical records, operating room observation, pharmacy, physical/occupational therapy, and/or lab technician. Students will have the opportunity to earn and complete the American Heart Association "CPR for Health Care Providers" certification and the following certifications in relation to the Health Care Industry: Pennsylvania State Nurse Aid Registry (CNA): For first and second year students, instruction begins with anatomy, physiology, and medical terminology. Special attention is given to medical office examinations, treatment, and patient care. Personal Care Home Direct Care Staff: For first and second year students, this component offers a competency test from the PA Department of Public Welfare and it prepares students to work in a personal care home as a direct care giver.

**NEW! Pharmacy Technician Certification (CPhT):** After successful completion of this one-year, 12<sup>th</sup> grade course, students will assist the pharmacist in a variety of tasks. Module and lab work includes: controlled substances, laws and regulations, drug classifications, frequently prescribed medications, prescription information, preparing/dispensing prescriptions, calculations, sterile products, unit dose, and repackaging.

**Plebotomy Technician Certification (CPT):** This is a one semester certification course directed towards 12<sup>th</sup> grade students. Module and lab work includes: anatomy and physiology, infection control, safety and compliance, patient preparation, collection techniques, and processing of collected sample(s). Students must demonstrate a minimum of 30 successful venipunctures and 10 successful capillary punctures.

<b>Information Technology Essentials</b> 	<b>9155</b>	<b>4 credits</b>
	<b>9355</b>	<b>3 credits</b>

Information Technology Essentials prepares students who are interested in networking and computer diagnostics. It begins with Cisco IT Essentials, PC hardware and software, and network operating systems. Students initially prepare for CompTIA A+ and Comp TIA Server+ certifications and then, through the Cisco CCNA Discovery course, students learn networking concepts based on typical networks that one might encounter in a home or small office, or in larger, more complex

enterprise models. Finally, students can prepare for the Cisco CCENT and Cisco CCNA certifications.

<b>Public Safety Technology</b>	<b>9185</b>	<b>4 credits</b>
	<b>9385</b>	<b>3 credits</b>

The Public safety Technology program focuses on careers relating to emergency medical services, firefighting, law enforcement, and emergency management services. In order to successfully complete the program, students must meet minimum proficiency levels in all public safety areas. Instruction is provided in disaster situations/management, hazardous materials handling, pre-hospital medical care, map reading, firefighting, the judicial system, and emergency dispatching. Students have the opportunity to earn the following certifications: Emergency Medical Technician – Basic (EMT-B), Basic Vehicle Rescue (BVR), Emergency Vehicle Operators Course (EVOC), Hazardous Materials Recognition and Identification (Haz-Mat R&I), and multiple Federal Emergency Management Agency certifications.

<b>Veterinary Assistant Technology</b>	<b>9193</b>	<b>4 credits</b>
	<b>9402</b>	<b>3 credits</b>

In the Veterinary Assistant Technology program students will learn to keep medical records, schedule, offer client education, practice laboratory procedures, assist with nursing duties, prepare for surgeries, and assist during a routine exam. Students will also gain a solid educational base on which to build a post-secondary degree. This program may lead to additional career pathways such as Animal Trainer, Animal Breeders, Non-Farm Animal Caretakers, Laboratory Animal Caretakers, Groomers, Animal Control Worker, Veterinary Technician, Veterinary Technologist and Veterinarian. Upon accreditation, students may earn the Purina Certified Weight Coach, Pharmacy Technician, and Veterinary Assistant certifications.

<b>Sports Medicine and Rehabilitation Therapy Technology (SMARTT)</b>
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The Sports Medicine and Rehabilitation Therapy Technology (SMARTT) Program prepares students to work in the field of physical therapy, occupational therapy and sports medicine. Students will develop skills in prevention, diagnosis, differential diagnosis, assessment, prognosis and the rehabilitation of injuries and

other health conditions. Students will learn the principles of developing a plan of care including: evaluation, interventions (exercise, manual therapy, modalities and neuro re-education), assessment, goal setting and discharge. Students will also learn how to develop a proper diet for healthy individuals and tailor it for special populations through a comprehensive understanding of nutrition. Upon successful completion, students should be able to assist in the development and implementation of a plan of care for healthy and special populations.

Careers available directly out of the program could include: Personal Trainer, Coach, and Physical Therapy Aid. This program also provides a solid educational base on which to build a post-secondary degree or advanced certification. Careers available with additional post-secondary schooling include: Personal Trainer, Athletic Trainer, Physical Therapist, Physical Therapist Assistant, Occupational Therapist, Certified Occupational Therapist Assistant, Strength and Conditioning Coach, Medical and Exercise Physiology Researcher, Sports Psychologist, Dietitian and Exercise Physiologist.

<b>Academic Courses at Parkway West CTC</b>
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The following courses are offered at Parkway West and can count towards CVHS graduation credit requirements. When scheduling an academic course be sure to schedule the 3 credit Parkway Technical Program. Only students not taking an academic course should schedule for a 4 credit technical program.

**Chemical Properties in Practice 9238**  
This course is comparable to Applied Chemistry offered at CVHS.

**Principles of Technology 9234**  
This course is comparable to Practical Physics offered at CVHS.

**US History 9220**  
This course is comparable to Contemporary US History.

**World History 9223**  
This course is comparable to World Cultures.

# **Chartiers Valley School District**

## **Board of School Directors**

Jeff Choura  
Robert Kearney  
Brian Kopec  
Eric Kraemer  
Mark Kuczinski (Vice President)  
Darren Mariano  
Anthony Mazzarini (President)  
Julie Murphy  
Sandra Zeleznik

## **Central Office Administration**

Scott Seltzer, Interim Superintendent  
Jillian Bicschel, Ed.D., Director of Secondary Education  
Amy Wodnicki, Ed.D., Director of Student Services

## **High School Administration**

Patrick Myers, Principal for Student Supports  
Robert Butts, Assistant Principal