Frazier High School

Program of Studies

2025-2026

Table of Contents

INTRODUCTION

Planning a high school schedule takes a great deal of thought and preparation. Students and parents must consider career choices, college requirements, graduation requirements, student interests and ability level when planning a schedule. Students, in consultation with their parents, school counselors and teachers, should plan a tentative four-year program. (A course distribution list and a course selection sheet appear on the page). This plan should meet individual needs. Choices about courses for the following years should focus on the student's interests, abilities, and plans for the future. As you select your courses, pay special attention to course requirements, prerequisites and course sequence.

Scheduling Process

The school counselor will meet with all 8th, 9th, 10th, and 11th grade students to schedule for the following school year. The students will receive distribution of current transcripts, a review of graduation requirements, and specific grade level requirements will be discussed followed by entering course requests into the system. All 11th grade students will meet individually with the counselor to discuss graduation requirements.

Mission Statement

The mission of the Frazier School District is to inspire and empower our students so that they can become lifelong learners who are respectful, responsible and productive citizens in a global society.

Vision Statement

The Frazier School District is committed to providing students with an academically rigorous curriculum while developing deeper learning competencies in all students. Frazier sets high expectations in support of students' efforts to strive to achieve academically and in the acquisition of the skills necessary for life success.

GENERAL INFORMATION

Graduation Requirements

Students must meet the following requirements in order to graduate from Frazier High School:

1. Complete a graduation project in one or more areas of concentrated study during their senior year.
2. Earn a minimum of thirty (30) units of study, twenty (20) of which must be earned from the Planned Instructional Chart listed below with one being a financial literacy course:

English	4 units
Mathematics	4 units
Science and Tech	4 units
Social Studies	3 units
Arts/Humanities	2 units
Freshman Rotation	2 units
Freshman Seminar	1 unit

- Students who are not eligible to receive a diploma at the time of commencement will not be permitted to participate in the commencement program.
- Students will not receive a diploma at the time of commencement if they did not clear all hold slips.

State Graduation Pathways

Students can meet the statewide graduation pathway by completing one of the following:

- Scoring proficient or advanced on each Keystone Exam - Algebra I, Literature, and Biology.
- Earning a satisfactory composite score of 4452 on the Algebra I, Literature, and Biology Keystone Exams. You must score proficient or advanced on at least one Keystone exam.
- Earning a passing grade on the courses associated with each Keystone Exam, and satisfactorily complete one of the following: an alternative assessment (SAT, PSAT, ACT, ASVAB, Gold Level ACT WorkKeys), advanced coursework (AP, IB, concurrent enrollment courses), pre-apprenticeship, or acceptance in a 4-year nonprofit institution of higher education for college-level coursework.
- Earning a passing grade on the courses associated with each Keystone Exam, and pass the National Occupational Competency Testing Institute (NOCTI) or the National Institute of Metalworking Skills (NIMS) assessment in an approved Career and Technical Education concentration.
- Earning a passing grade on the courses associated with each Keystone Exam, and demonstrate readiness for postsecondary engagement through three pieces of evidence from the student's career portfolio aligned to student goals and career plan. Examples of evidence will include ACT WorkKeys, SAT Subject tests, AP, IB and concurrent coursework, higher education acceptance, community learning project, completion of an internship, externship or co-op or full-time employment.

Class Rank

Class rank will be calculated based upon the unit value of each course and the weighted grade received in that course. Class rank will be posted at the end of each academic year. Only classes scheduled for students in grades 9-12, will appear on transcripts and calculated in GPA and Class Rank.

Class Standing

The minimum number of credits necessary for advancement is listed below, although the principal may use discretionary powers in unusual circumstances to waive the standards:

Advancement to: Grade 10 - 6 credits
Grade 11 - 14 credits
Grade 12 - 22 credits

Advanced Placement and Honors Courses

Courses with an Honors or Advanced Placement designation will be given extra "weight" for Honor Roll and RANK calculations ONLY.

All honors courses count as a level 2 weighted course and all Advanced Placement courses count as a level 3 weighted course for the purposes of honor roll and class rank only.

The Advanced Placement exam will be optional for all students taking an Advanced Placement course. The cost of the advanced placement examination(s) will be covered by the student and then if a score of "3" or higher is obtained the district will reimburse the students.

AP	**Honors**	**Honors**
AP American Government	Honors English 9, 10, 11	Honors Biology
AP Calculus	Honors Chemistry	Introduction to Engineering Design (PLTW)
AP Chemistry	Advanced Chemistry	Principles of Engineering (PLTW)
AP English 12	Pre-Calculus	Civil Engineering and Architecture (PLTW)
AP European History	Statistics	Aerospace Engineering (PLTW)
AP U.S. History	Human Biology	Principles of Biomedical Science
AP Physics I	Anatomy & Physiology	Engineering Design & Development (PLTW)
	BOTS	Spanish III & IV, French III & IV

College in the High School

Frazier High School has an agreement with both St. Francis University and Mt. Aloysius College to offer college credit for AP courses taken in high school. Credits earned through this program transfer to many colleges and universities. The courses that are approved as dual enrollment classes are AP American Government, AP English, AP European History and AP U.S. History. Information on this program can be obtained in the guidance office.

Schedule Change Policy

Important notice to Students and Parents: Be absolutely certain of your course selections. There will be no student or parent initiated schedule changes after the first 3 days of the semester. Dropping a course after the 3-day period may result in a Withdraw Pass (WP) or a Withdraw Fail (WF) on your transcript. If any changes need to be made after this 3-day period they MUST be approved in writing by the original teacher, new teacher, school counselor, principal, and parent.

In selecting your courses for next year, you should consider the following:

- (1) graduation requirements of Frazier High School
- (2) the courses that will meet future educational and/or vocational needs
- (3) your ability and aptitude to meet the class requirements.

In order to achieve this, you, the student, must plan and understand yourself, your capabilities, your interests and limitations. You should plan ahead and discuss your course selections with parents/guardians, counselors and teachers. If you wish to talk to the school counselor you may make an appointment. Parents/guardians wishing to discuss your selections can call 724-736-9507 to schedule an appointment with the school counselor. **Students are reminded that it is their responsibility to ensure that all graduation requirements are met.**

Requests for schedule changes will be difficult if not impossible to accommodate after the last week of school. Schedule changes requested after the last day of school will be limited to the following categories:

1. Failure of a required subject that must be repeated
2. Successful completion of a summer school course
3. Schedule conflicts occur or errors are made by the school during the scheduling process
4. Students register for a class with prerequisites during the scheduling process and then perform poorly during the remainder of the school year.

Early Release Program

Frazier School District recognizes that as students reach their senior year there sometimes exist a need to be released from school on a daily basis for reasons of employment, college and/ or family illness. This Early Release Program is designed to meet that need while ensuring that the student fulfills all of the requirements needed to graduate from Frazier High School

Requirements

1. The applicant must be a 2nd semester graduating senior.
2. The applicant must have a class schedule that will fulfill all requirements for graduation.
3. If under age, the applicant must possess a valid Employment Certificate.

To continue in the Early Release Program, the student must submit an Employer Verification Form that shows the hours worked and that employment is continued to the school guidance counselor at the end of each month. The form will reveal the days and hours that the student has worked and contain a description of his/her job duties and other accomplishments related to the position. A minimum of six (6) hours per week must be worked during the school day.

Participation in early release will be terminated when the student's job is terminated. Early release will also be terminated when the student accumulates more than three (3) unexcused absences or more than five (5) unexcused cases of tardiness to school. Early release will also be terminated if the student's grade point average falls below 1.75 or if the student receives an "F" in any of his/her classes during any grading period.

The Early Release Program may be applied to situations involving long-term family illness. If a student is to be released for a reason of long-term family illness, the student must present proof that he/she is needed at home. This proof will be in the form of a letter from the student's family doctor. The letter will describe the need for the student's early release and will list the days and hours that he/she will be needed at home. The student must also present a letter from his/her parents verifying the need for the student to be at home and granting permission to be released at a designated time. This requirement for parental verification will be waived if the applicant is eighteen years of age or older and no longer lives with his/her parents. This requirement will also be waived if the applicant has been declared an emancipated youth as provided by law.

STUDENT ATHLETES: NCAA ELIGIBILITY STANDARDS

Students planning to attend an NCAA Division I or II institution are required to complete 16 core courses. Beginning August 1, 2016, NCAA Division I will require 10 core courses to be completed prior to the seventh semester (7 of the 10 must be a combination of English, math, or natural or physical science that meet the distribution requirements as outlined by the NCAA below). Only NCAA approved core courses are used in the calculation of the GPA for NCAA purposes. Be sure to look at your high school's list of NCAA approved core courses at **www.eligibilitycenter.org** to make certain that the courses being taken have been approved as core courses.*

*Courses considered elective in nature are generally NOT approved core courses for NCAA eligibility standards. For example, ALL courses in the Art Department, Family & Consumer Science Department, Music Department, and Technology Education Department are NOT approved. However, ALL World Languages ARE approved core courses in addition to some electives like Anatomy I and II and those in the Science and Social Studies areas. There are some exceptions though, and you must consult your counselor and utilize the approved core course list for Frazier High School from the eligibility center website indicated above. Sometimes General courses are not acceptable. Emphasis is on College Preparatory Coursework.

For more information regarding the rules, visit the eligibility center website identified above and consult your school counselor prior to scheduling your courses.

DIVISION I	**DIVISION II**
16 CORE COURSES	**16 CORE COURSES**
· 4 years of English · 3 years of Math (Algebra I or higher) · 2 years of Natural / Physical Science (1 year of lab if offered by high school) · 1 year of additional English, Math, or Natural / Physical Science · 2 years of Social Science · 4 years of additional courses (from any area above, including Foreign Language)	· 3 years of English · 2 years of Math (Algebra I or higher) · 2 years of Natural / Physical Science (1 year of lab if offered by high school) · 3 years of additional English, Math, or Natural / Physical Science · 2 years of Social Science · 4 years of additional courses (from any area above, including Foreign Language)

CAREER PATHWAY OPTIONS

There are five pathways that students can follow throughout their four years at Frazier High School to prepare them for life after high school. These specific pathways and their purpose and goals are presented below.

Students will be assisted in the development of a program of study based on their interests and abilities, but they will be expected to assume responsibility for meeting the minimum requirements.

- **Engineering Pathway**
  This pathway will provide students with a strong academic base focusing on advanced levels of Science, Technology, Engineering, and Math. This pathway is challenging and is appropriate for students who plan to attend a college or university, especially those intending on majoring in math, science, or engineering related fields. It also prepares for direct entry to college and should be followed by students with high academic ability and interest.

- **Science Pathway**
  This pathway will provide students with a strong academic base focusing on advanced levels of English, Math and Science. This pathway is challenging and is appropriate for students who plan to attend a college or university, especially those intending on majoring in a medical or science related field. It also prepares for direct entry to college and should be followed by students with high academic ability and interest.

- **College Preparatory Pathway**

  The College Preparatory Pathway is intended to prepare students for entrance into 4-year and 2-year colleges, trade schools, and certificate programs. This is a pathway that prepares for direct entry to college and should be followed by students with high academic ability and interest. Students are free to explore a wide range of elective courses to meet their varied and specialized interests. Students in this pathway will be prepared for admission to institutions of higher learning by proper selection of academic and elective subjects and also by maintaining a high scholastic rating.

- **Career Preparatory Pathway**
  The Career Preparatory Pathway is intended to prepare students for entrance into career exploration after graduation. This is a pathway that prepares for entry into career exploration and should be followed by students with academic ability and interest in career exploration. Students are free to explore a wide range of elective courses to meet their varied and specialized interests. Students in this pathway will be prepared for admission into career options by proper selection of academic and elective subjects and also by maintaining a scholastic rating.

- **Career and Technology Center Pathway**
  The Career and Technology Center Pathway is intended to prepare students for careers and/or post secondary education in a trade or technical school. It is intended for those students who want to approach the job market with not just interest but also skills. Frazier High School is a participating member of the Central Westmoreland Career and Technology Center. Students must complete an application (available in the Counseling Office) to attend the CTC.

Course Selection Template

Students must choose 8 total credits per year. (regardless of possible Early Release)

R = Required * Designates Honors (Level 2) ** Designates AP (Level 3)

Course Area	Grade 9	Grade 10	Grade 11	Grade 12
English 4 credits	4000 English I(1) or 4001 H English I*(1)	4100 English II(1) or 4101 H English II*(1)	4200 English III(1) or 4201 H English III*(1)	4300 English IV(1) or 4301 AP English**(1)
Mathematics 4 credits	4003 Algebra I(1)	4102 Geometry(1) 4202 Algebra II(1)	4202 Algebra II(1) 4203 Trigonometry*(1) 4202 Pre-Calculus*(1) 4302 Statistics*(1) 4216 Financial Algebra(1)	4203 Trigonometry*(1) 4202 Pre-Calculus*(1) 4302 Statistics*(1) 4216 Financial Algebra(1) 4303 AP Calculus**(2)
Science & Technology 4 credits	4103 Biology(1) 4104 H Biology*(1)	4011 Intro to Engineer Design*(1) 4110 Principles of Engineering*(1) 4115 Principles of Biomed. Sci*.(2) 4227 Human Biology* (1) 4205 Applied Chem (1) 4206 Chemistry(10 or 11)(1) 4207 H Chemistry*(10 or 11)(1) 4225 Environmental Sci. (1)	4206 Chemistry(10 or 11)(1) 4207 H Chemistry*(10 or 11)(1) 4205 Applied Chemical Science(1) 4110 Principles of Engineering*(1) 4305 BOTS*(1) 4311 BOTS II*(1) 4417 Anatomy*(1) 4317 Life Science (1) 4412 Intro to GIS(1) 4304 Physics*(1) 4445 Civil Engineering & Architecture*(1) 4405 AP Physics I**(2) 4115 Principles of Biomed. Sci*.(1)	4110 Principles of Engineering*(1) 4305 BOTS*(1) 4311 BOTS II*(1) 4417 Anatomy*(1) 4412 Intro to GIS(1) 4304 Physics(1) 4445 Civil Engineering & Architecture*(1) 4405 AP Physics I**(2) 4307 Advanced Chemistry*(1) 4403 AP Chemistry**(1)
Social Studies 3 credits	4005 American Government(1)	4105 Contemporary American Studies(1) 4412 Global Issues(1)	4208 Modern World(1) 4209 Personal Finance(1) 4410 Sociology(1) 4411 Psychology(1) 4412 Global Issues(1) 4400 AP American Government**(1) 4401 AP US History**(1) 4402 AP European History**(1) 4426 Economics (1) 4413 Humanities(1) 4515 Criminal Justice(1)	4208 Modern World(1) 4209 Personal Finance(1) 4410 Sociology(1) 4411 Psychology(1) 4412 Global Issues(1) 4400 AP American Government**(1) 4401 AP US History**(1) 4402 AP European History**(1) 4426 Economics (1) 4413 Humanities(1 4515 Criminal Justice(1))
Wellness		4211 Physical Education (1)	4211 Physical Education (1) 4210 Personal Fitness (1)	4211 Physical Education (1) 4210 Personal Fitness (1)
Arts & Humanities 2 credits	4007 Spanish I (1) or 4008 French I (1)	4108 Spanish II or 4109 French II (None required if attending 3 years at CTC)	4212 Spanish III or 4213 French III 4415 Creative Writing I 4416 Creative Writing II 4428 World Mythology 4503 Journalism 4517 Phil. of Literature(1) 4449 Culture of Hispanic World(1)	4308 Spanish IV or 4309 French IV 4415 Creative Writing I 4416 Creative Writing II 4428 World Mythology 4517 Phil. of Literature(1) 4449 Culture of Hispanic World(1)
Electives 9+ credits	Freshman Seminar Drivers Theory, Tech Ed 9, Music App, Wellness	4112 Career Exploration (1)	4112 Career Exploration (1)	4112 Career Exploration (1)
CTC	9th graders do not attend CTC.	AM CTC (4)	AM CTC (4) PM CTC (4)	AM CTC (4) PM CTC (4)

Engineering Pathway

Grade 9	**Credit**
Freshman Seminar	1
Honors English I*	1
Algebra I[KE]	1
American Government	1
Honors Biology[KE]*	1
9th Grade Rotation (Drivers Theory, Tech Ed, Wellness, Music Appreciation)	2
World Language (Spanish I or French I)	1
	8 Total

Grade 10	**Credit**
Honors English II[KE]*	1
Geometry	1
Introduction to Engineer Design*	1
Contemporary American Studies	1
Principles of Engineering*	1
Algebra II	1
Honors Chemistry*	1
World Language (Spanish II or French II)	1
	8 Total

Grade 11	**Credit**
Honors English III*	1
Trigonometry	1
AP Physics I**	2
Aerospace Engineering*	1
Civil Engineering and Architecture*	1
Pre-Calculus*	1
Elective	1
	8 Total

Grade 12	**Credit**
AP English**	1
AP Calculus**	2
Advanced Chemistry*	1
AP Chemistry**	1
Engineering Design & Development	1
Electives	2
	8 Total

* - Honors Course (Level 2 weighting) * * - AP Course (Level 3 weighting)
[KE] - Keystone Exam

Science Pathway

Grade 9	**Credit**
Freshman Seminar	1
Honors English I*	1
Algebra I[KE]	1
American Government	1
Honors Biology[KE]*	1
9th Grade Rotation (Drivers Theory, Tech Ed, Wellness, Music Appreciation)	2
World Language (Spanish I or French I)	1
	8 Total

Grade 10	**Credit**
Honors English II[KE]*	1
Geometry	1
Anatomy I*	1
Contemporary American Studies	1
Principles of Biomedical Science*	1
Algebra II	1
Honors Chemistry*	1
World Language (Spanish II or French II)	1
	8 Total

Grade 11	**Credit**
Honors English III*	1
Trigonometry	1
AP Physics I**	2
Anatomy II*	1
Pre-Calculus*	1
Science Elective	1
Elective	1
	8 Total

Grade 12	**Credit**
AP English**	1
AP Calculus**	2
Advanced Chemistry*	1
AP Chemistry**	1
Electives	3
	8 Total

* - Honors Course (Level 2 weighting)
* * - AP Course (Level 3 weighting)
[KE] - Keystone Exam

College Prep Pathway

Grade 9	**Credit**
Freshman Seminar	1
English I or Honors English II*	1
Algebra I[KE]	1
American Government	1
Biology[KE] or Honors Biology[KE]*	1
9th Grade Rotation (Drivers Theory, Tech Ed, Wellness, Music Appreciation)	2
World Language (Spanish I or French I)	1
	8 Total

Grade 10	**Credits**
English II[KE] or Honors English II[KE]*	1
Geometry	1
Chemistry or Honors Chemistry*	1
Contemporary American Studies	1
Career Explorations	1
Introduction to Engineering Design*	1
Current Events	1
World Language (Spanish II or French II)	1
	8 Total

Grade 11	**Credit**
English III or Honors English III*	1
Algebra II	1
Physics	1
Modern World	1
World Language (Spanish III* or French III*)	1
Elective	3
	8 Total

Grade 12	**Credit**
English IV or AP English**	1
Trigonometry or Statistics or Pre-Calculus*	1
World Language (Spanish IV* or French IV*)	1
Electives	5
	8 Total

* - Honors Course (Level 2 weighting)
* * - AP Course (Level 3 weighting)
[KE] - Keystone Exam

Career Prep Pathway

Grade 9	**Credit**
Freshman Seminar	1
English I	1
Algebra I[KE]	1
American Government	1
Biology[KE]	1
9th Grade Rotation (Drivers Theory, Tech Ed, Wellness, Music Appreciation)	2
World Language (Spanish I or French I)	1
	8 Total

Grade 10	**Credits**
English II[KE]	1
Geometry	1
Chemistry or Applied Chemistry	1
Contemporary American Studies	1
Elective	1
Introduction to Engineering Design	1
Global Issues	1
World Language (Spanish II or French II)	1
	8 Total

Grade 11	**Credit**
English III	1
Algebra II	1
Personal Finance	1
Modern World	1
Elective	4
	8 Total

Grade 12	**Credit**
English IV	1
Financial Algebra	1
Physics	1
Physical Education	1
Electives	4
	8 Total

* - Honors Course (Level 2 weighting)
* * - AP Course (Level 3 weighting)
[KE] - Keystone Exam

CWCTC Pathway

Grade 9	**Credits**
Freshman Seminar	1
English I	1
Algebra I[KE]	1
American Government	1
Biology[KE]	1
9th Grade Rotation (Drivers Theory, Tech Ed, Wellness, Music Appreciation)	2
World Language (Spanish I or French I)	1
	8 Total

Grade 10	**Credits**
English II[KE]	1
Geometry	1
Environmental Science	1
Contemporary American Studies	1
Program of Choice @ CWCTC	4
	8 Total

Grade 11	**Credits**
English III	1
Algebra II	1
The Modern World	1
Applied Chemistry	1
Program of Choice @ CWCTC	4
	8 Total

Grade 12	**Credits**
English IV	1
Math Elective	1
Science Elective	1
Elective	1
Program of Choice @ CWCTC	4
	8 Total

MATHEMATICS

PRE-ALGEBRA **1 Credit**

Pre-Algebra prepares students for success in Algebra I by building essential mathematical skills and problem-solving strategies. Topics include operations with integers and rational numbers, fractions, decimals, percentages, ratios, proportions, equations, inequalities, exponents, square roots, graphing, and an introduction to functions. Students will apply concepts through real-world problems, hands-on activities, and technology-enhanced learning. By the end of the course, they will have a strong foundation for future math coursework.

ALGEBRA I A **1 Credit**

The first course of beginning algebra skills include expressions, equations, integers, powers and exponents, polynomials, factoring, ratios, proportions, percents, inequalities, and an introduction to the coordinate plane. Also, PA State Standards in Algebra and Keystone applications are stressed.

ALGEBRA I B **1 Credit**

The course is a continuation of algebra skills that emphasizes more advanced concepts such as linear functions and polynomials. This course consists of topics, such as relations and functions, graphing functions, scatter plots and trend lines, arithmetic sequence, finding intercepts, rate of change and slope, slope-intercept form, point-slope form, slopes of parallel and perpendicular lines, exponents, polynomials, and factoring.

ALGEBRA I (Keystone Exam Course) **1 Credit**

This course is a study of the language, concepts, and techniques of Algebra that will prepare students to approach and solve problems following a logical succession of steps. Skills taught in this course lay groundwork for upper level math and science courses and have practical uses. The key units studied in alignment with state assessment anchors include: Equations, Inequalities, Relations and Functions, Linear Functions, Systems of Equations and Inequalities, Exponents and Polynomials, Factoring Polynomials, Rational Expressions, and Probability and Statistics. Students are expected to be highly motivated in striving towards proficiency by way of a strong work ethic.

GEOMETRY **1 Credit**

This Geometry course includes an in-depth analysis of plane, solid, and coordinate geometry as they relate to both abstract mathematical concepts as well as real-world problem situations. Topics include foundations for geometric reasoning, parallel and perpendicular lines, perimeter and area analysis, volume and surface area analysis, properties and attributes of polygons, similarity and congruence, and properties and attributes of circles. Emphasis will be placed on critical thinking skills as they relate to logical reasoning and argument. Students will be required to use a graphic calculator and other technological tools to discover and explain much of the course content. ***Prerequisite:*** Algebra 1

ALGEBRA II **1 Credit**

Students extend their repertoire of mathematics learned in Algebra I. They will study Foundations for Functions, Linear Functions, Linear Systems, Quadratic Functions, Polynomial Functions, Exponential and Logarithmic Functions, Rational and Radical Functions. This course will prepare students for high-stakes tests such as SATs and for more advanced mathematics and science courses in high school. ***Prerequisite:*** Algebra 1

FINANCIAL ALGEBRA (meets state's financial literacy requirement) **1 Credit**

Students will practice algebra and geometric mathematics using financial business applications. Specific areas that will be covered include the decision making process, financial aspects of career planning, financial management, income analysis, budgeting techniques, savings and investment strategies in order to meet short and long term goals, evaluation of services offered by financial institutions, managing credit cards and debt. ***Prerequisite:*** Geometry

PERSONAL FINANCE (meets state's financial literacy requirement) **1 Credit**

This course covers the management of household and personal finances. It provides an overview of financial concepts with special emphasis on their application to issues faced by individuals and households: budget management, savings, housing and other major acquisitions, borrowing, insurance, investments, meeting retirement goals, and estate planning. The course provides an overview of principles and techniques for the management of a household's assets and liabilities. In addition, it studies financial institutions and their relationship to households, along with discussion of financial instruments commonly held by individuals and families.

TRIGONOMETRY **1 Credit**

Trigonometry is a course that provides students with insight into mathematical ideas involving trigonometry by making connections to both algebra and geometry. This course begins by reviewing basic concepts needed for trigonometry. As students continue with the course, they will learn: The Six Trigonometric Functions, Right Triangle Trigonometry, Radian Measure, Graphing and Inverse Functions, Identities and Formulas, Equations & Triangles. Throughout the course, students will discover examples of the role of mathematics in daily life. This course will prepare students for more advanced mathematics courses in high school, such as Pre-Calculus and AP Calculus. ***Prerequisite:*** 70% or higher in Algebra II.

PRE-CALCULUS* **1 Credit**

This course is intended to provide the mathematical background needed for Calculus. The concepts that play a central role in calculus are explored algebraically, graphically, and numerically. Students are expected to participate actively in the development of these concepts without the use of a calculator. A calculator will only be used in this course when appropriate. This course will include: Fundamentals, Functions, Polynomial and Rational Functions, Exponential and Logarithmic Functions, Systems of Equations and Inequalities, Limits, and a Review of Trigonometry. **Prerequisite:** 80% in Trigonometry.

STATISTICS* **1 Credit**

Statistics is a course that offers an effective approach to learning the essentials of statistical analysis. It is designed to help students' link statistics and real-world applications. Students use statistical methods to interpret data while focusing on the interpretation and communication of information. This course presents the fundamental concepts of data analysis required to prepare students for advanced topics like acceptance sampling, statistical process control, reliability, and design of experiments. Key concepts include: organizing data; averages and variation; correlation and regression; elementary probability theory; normal curves and sampling distributions; estimation; hypothesis testing; inferences about differences. ***Prerequisite:*** Algebra II

AP CALCULUS** **2 Credits**

The primary objectives of this course are to enable students to prove geometric proofs analytically, to develop, through rigorous problem-solving, the ability to find limits of functions and determine continuity of function and find derivatives of functions, to develop graphing techniques using asymptotes, max and min values of functions, including the first and second derivative tests, and to be introduced to integral calculus. The graphing calculator will be used to complete many of these tasks. The major units to be covered are real numbers, functions and graphs, analytical geometry, limits and continuity, differentiation, and integration. This course is designed to prepare students for the A.P. Calculus examination. ***Prerequisite:*** 85% in Pre-Calculus.

SCIENCE and TECHNOLOGY

BIOLOGY (Keystone Exam Course) **1 Credit**

The course will cover basic chemistry, cellular biology, genetics, evolution, ecology. The curriculum integrates writing skills, critical-thinking skills, and laboratory skills as they apply to the standards. In addition, the coursework will emphasize microscopy, calculating data, graphing and essay exam questions.

The course is designed to offer the student a detailed background in biological topics such as cell structure and physiology, genetics, molecular biology, classification of organisms and the continuity of life.

HONORS BIOLOGY* (Keystone Exam Course) **1 Credit**

This course is designed for those students who wish to enter an academic curriculum so that they will be prepared to continue their education in college following their high school graduation. It will cover basic chemistry, cellular biology, genetics, evolution, ecology, classification, and human physiology in greater depth than Biology. The curriculum integrates writing skills, critical-thinking skills, laboratory skills and dissection skills as they apply to the standards. In addition, the coursework will emphasize microscopy, calculating data, graphing and essay exam questions. ***Prerequisite:*** 90% in 8th Grade Science and ranked PSSA Science scores

ANATOMY AND PHYSIOLOGY I CHS **1 Credit**

Students will complete a college-level course including an Introduction to the language of Anatomy, Chemical basis of life, Cells, Cellular metabolism, Tissues and basic histology, Skeletal system, Joints of the skeletal system, Muscular system, Nervous system, Special senses, and Endocrine system. The course includes several labs including a cow eye dissection. Students will have the opportunity to earn 4 credits from Carlow University. ***Prerequisite:*** B in Biology or preferably Honors Biology.

ANATOMY AND PHYSIOLOGY II CHS

Students will complete a college-level course including the Cardiovascular system, Respiratory system, Digestive system, Urinary system, Lymphatic system, and Reproductive systems.The course includes several labs including a sheep heart dissection. Students will have the opportunity to earn 4 credits from Carlow University. ***Prerequisite:*** C or better in Anatomy and Physiology I.

LIFE SCIENCE **1 Credit**

This course will continue the principles learned in Biology. Topics include cell biology, microbiology (lab), biodiversity (observation of the various kingdoms including systems of classification), and an introduction to human and plant anatomy including comparative anatomy labs/dissections.

INTRODUCTION TO ENGINEERING DESIGN* (PLTW) (1st Year) **1 Credit**

Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3D modeling software, and use an engineering notebook to document their work.

APPLIED CHEMICAL SCIENCE **1 Credit**

This course is designed to provide students with the basic concepts involved in chemistry. Students are given the opportunity to apply the principles of the scientific method as a major part of this course. Hands-on activities are used to illustrate concepts and train students in science skills. Major concepts involved include matter and energy, chemistry in everyday life, wave properties, and electromagnetic relationships with matter.

CHEMISTRY **1 Credit**

Chemistry is designed to meet the needs of the academic student planning to attend college in the future. Students will concentrate on the concepts of matter and energy, its properties and changes. Through both in class activities and laboratory experiments the students will gain a background knowledge in stoichiometric relationships, composition of matter, formula writing. ***Prerequisite:*** 70% in Algebra I.

HONORS CHEMISTRY* **1 Credit**

This is an accelerated course designed to meet the needs of the advanced student planning to attend college and major in the science field in the future. Chemistry involves the study of matter, its properties, and changes. Through both in-class activities, and laboratory experiments, the student gains a background in stoichiometric relationships, gas laws, the composition and hierarchy of matter and formula writing. Students will concentrate on both qualitative and quantitative analysis in the laboratory. Those students completing the course with at least an 83% overall average can choose to elect the Advanced Placement course in chemistry offered during the senior year. Students who successfully

complete chemistry may also elect other science courses, and can enter college chemistry during their freshman year at the introductory level. ***Prerequisite:* 90%** in Algebra I[KE] and currently enrolled in Algebra II.

ADVANCED CHEMISTRY* **1 Credit**

The Advanced Chemistry course is for college bound students with intended majors requiring one year or less of college chemistry. Advanced chemistry topics include solution chemistry, bonding, intermolecular attractions, collective properties, organic chemistry, nuclear chemistry, and thermodynamics. Emphasis will be placed on laboratory investigations and the application of topics to real world problems. ***Prerequisite:*** 90% in Honors Chemistry and 90% in Algebra II and should have completed or currently be enrolled in Trigonometry.

AP CHEMISTRY** **1 Credit**

AP Chemistry is designed for the student in pre-professional modes such as engineering, medicine, or any other college major requiring an advanced background in chemistry. The course is involved in detailed study of chemical systems such as acid/base equilibrium, thermochemistry, organic chemistry, reaction kinetics, and redox reactions. Students will prepare to successfully complete the AP exam in the spring of their senior year, enabling them to possibly place out of introductory levels of college chemistry as freshmen. The laboratory investigations emphasize the topics likely to be of importance on the AP exam, as well as other topics which may be related. ***Prerequisite:*** 85% in Advanced Chemistry and a 90% in Algebra II and currently enrolled in Calculus.

PHYSICS **1 Credit**

The primary objective of the Physics course is for students to solve problems, perform activities, labs, and projects to experience the concepts and equations of physics. The course is designed for a student who needs a high school level physics course in preparation for college level physics course. The course covers content in the following units of physics: mechanics, thermodynamics, fluids, waves and optics, and electricity and magnetism. A textbook is used as a guide for the course content. Supplement materials are used for instruction throughout the course as well. All student work is organized in a 3-ring binder including a notebook. Labs in the course include video analysis of moving objects, friction lab, collisions lab, a solar panel lab, windmill lab, and others. Projects in the course include using physics concepts to design and build a Bridge, Drag Boat, Egg Drop, and Rube Goldberg device. ***Prerequisite:*** Be currently enrolled in or have completed Algebra II.

PRINCIPLES OF ENGINEERING* (PLTW) (2nd Year) **1 Credit**

Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, strength of structures and materials, and automation. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation. Students should have completed Algebra I. Introduction to Engineering is recommended before beginning this course. Students should be concurrently enrolled in Geometry and ready to learn basic trigonometric concepts. ***Prerequisite:*** Algebra I

GRAPHIC COMMUNICATION **1 Credit**

Graphic Communication introduces students to the world of graphics. You may not realize but everything you see daily was produced by someone in the graphics industry. These examples could be Billboards, animated commercials/TV shows, T-shirts and even the unique variety of Snapchat filters. In this class, you will explore the programs used in the Graphics industry. These programs include Adobe Illustrator, Photoshop and Premiere. Students will learn the principles for producing visually appealing designs. Then, move towards creating a graphic that will be transferred onto your very own shirt using the screen printing process. Finally, students will write, direct, film and edit their own video.

BOTS I* **1 Credit**

BOTS is a project based class where students design, build, and document a robot to compete in one of the VEX Robotics Competition games. The VEX Robotics Competition is a strategic, game-based, engineering challenge using VEX hardware and programming. Throughout the project, students will gain experience in mechanical engineering, electrical engineering, and software engineering. Students will first learn the fundamentals of robot design and

programming in introductory lessons and activities. Students will then use the fundamentals for the design, build, and documentation of a competition robot. Students will keep an engineering notebook journal that will contain brainstorm sketches, refined sketches, research notes, meeting notes, and other class/project information. Students will use Autodesk Inventor 3D CAD software, Autodesk Fusion 360, OnShape, and/or equivalent software for mechanical design. Students will program the robots using VEXcode block based and/or text based. The BOTS lab has a complete VEX field for testing and competition within the classroom. ***Prerequisite:*** Algebra II, Geometry, Intro to Engineering Design, and Principles of Engineering

ENGINEERING DESIGN AND DEVELOPMENT*(PLTW) (3rd Year) 1 Credit

Engineering Design and Development (EDD) is the capstone course in the PLTW high school engineering program. EDD should be taken as the final capstone PLTW course since it requires application of the knowledge and skills from the PLTW foundation courses. It is an engineering course in which students work in teams to design and develop an original solution to a valid open-ended technical problem, a robot for the VEX Robotics Competition, or the BotsIQ15 pound combat robot project by applying the engineering design process. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology. The course is appropriate for 12th grade students who are interested in any technical career path. Since the projects can vary with student interest, the curriculum focuses on problem solving,

The BotsIQ option in EDD is an educational robotics competition for students. It is a spinoff of the popular BattleBots® television show. It provides students with a unique, hands-on experience allowing them to experience career options in the manufacturing, science, technology, engineering, and math fields. Students in EDD who choose the BotsIQproject will use the engineering process to design, develop, and build a 15 pound battle robot from concept to completion. Throughout the design process, students will be involved with one or more areas of the engineering process such as mechanical design, electrical design, manufacturing, documentation, marketing, and finance. Students will keep an engineering journal that will contain brainstorm sketches, refined sketches, research notes, and meeting notes. Students will use AutoDesk Inventor 3D CAD software. Students will learn about numerous manufacturing processes and decide the best option for each component. Students will compete with their bot in the Southwestern PA Bots competition and possibly the National Robotics League competition. ***Prerequisite:*** Algebra II, Geometry, Intro to Engineering Design (IED), Principles of Engineering (POE)

AP PHYSICS I: Algebra-Based 2 Credit**

AP Physics I: Algebra-Based is the equivalent of a first-semester college course in algebra-based physics. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; and mechanical waves and sound. It will also introduce electric circuits. Students should take AP Physics I if they expect to take physics beyond the high school level. Students can take AP Physics I in place of Physics as a first year physics course. AP Physics 1 is offered as a dual-enrollment class and students also have the option to take the AP Physics 1 exam at the end of the spring semester.

Activities used in this course include keeping a notebook, solving problems, laboratory experiments, cooperative-learning sessions, discussions, demonstrations, creating and interpreting graphs, video analysis, creating models, and scientific and graphing calculators. ***Prerequisite:*** Algebra II, Honors Chemistry, Trigonometry is highly recommended or can be taken concurrently.

INTRODUCTION TO GIS 1 Credit

Introduction to GIS introduces students to basic concepts of Geographic Information Sciences and Geospatial technologies. A growing field that dominates our world, students will learn how they see GIS in every part of their day, from how apps use GIS to apply filters and push certain products to how stores and businesses market to their consumers. This class explores the use of GIS in our world and uses real-world interactions where students will go outside to complete mapping both in and around our community. The course culminates with an off-campus trip to a local state park where they will be challenged to use their skills learned in class.

CIVIL ENGINEERING AND ARCHITECTURE (PLTW)* **1 Credit**

Students learn important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architecture design software. Civil Engineering and Architecture assumes Students should have knowledge and experience from IED and/or POE PLTW foundation courses. It also assumes the completion of Geometry.

AEROSPACE ENGINEERING (PLTW)* **1 Credit**

This course propels students' learning in the fundamentals of atmospheric and space flight. As they explore the physics of flight, students bring the concepts to life by designing an airfoil, propulsion system, and rockets. They learn basic orbital mechanics using industry-standard software. They also explore robot systems through projects such as remotely operated vehicles.

ENVIRONMENTAL SCIENCE **1 Credit**

The course asks the question "What makes Earth unique among planets?" The question is answered in the first four units, providing a background for understanding and discussing the natural functioning of the different Earth systems: geophysical systems, the atmosphere, the oceans, and, finally, natural ecosystems. The remaining units delve into human interaction and impact on the environment. In Environmental science students will explore the environment as a dynamic system in which humans exist. The first unit explores the connection between Earth's biodiversity and populations, Students then explore the impact of natural resources and their use on Earth. The course then moves into agriculture and society and humans and the environment. The course culminates with Earth Sciences, exploring the dynamics of Earth's lithosphere, hydrosphere, and atmosphere.

PRINCIPLES OF BIOMEDICAL SCIENCE (PLTW)* **1 Credit**

In the introductory course in the PLTW Biomedical Science program, students explore concepts of biology and medicine to determine the factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems.

LANGUAGE ARTS

ENGLISH I **1 Credit**

The primary objectives of this course are to enable students to examine and improve their understanding of literature, composition, and oral communication, complete the required literature reading for the academic core and extend upon this core by reading a minimum of four outside works, and closely examine the writing process and different styles of writing. The Pennsylvania Common Core Standards and Assessment Anchors and Eligible Content will be the focus.

The major units to be covered are: Short Story—used as an introduction to the various literary terms and devices incorporated in the text. Discussion of the themes will be promoted. Poetry—emphasis on style and technique, similes and metaphors will be examined. Epic poetry – used as an extension of poetry with emphasis on devices and techniques will be covered. Drama—an introduction to Shakespeare: universal themes and oral interpretations will be addressed. Novel— novels on the reading list and accelerated reader will be covered. A heavy emphasis will be placed on plot and theme. Writing—writing through the literature will be covered throughout the year. Grammar will be taught through composition.

The major activities and projects required for this course include novels that will be read independently and tested through Accelerated Reader. Several essays utilizing narrative, informative, and persuasive writing will be covered emphasizing PSSA and Keystone exam techniques and the PA Domain Scoring Guide. At least two major projects will be assigned.

HONORS ENGLISH I* **1 Credit**

Honors English I is an accelerated English survey course aimed at college bound students. This class offers students literary analysis, writing/composition, and reading comprehension with an emphasis on independent reading. Students will be writing in various modes including narrative, persuasive, and expository styles with writers' workshops focused on vocabulary, grammar, and style. Students will focus on literary classics in preparation for SAT tests, Keystone exams, AP Literature, and college expectations.

The major units to be covered are: Short Story—used as an introduction to the various literary terms and devices incorporated in the text. Discussion themes will be promoted. Poetry—emphasis on style and technique, similes and metaphors will be examined. Epic poetry – used as an extension of poetry with emphasis on devices and techniques will be covered. Drama—an introduction to Shakespeare: universal themes and oral interpretations will be addressed. Novel novels on the reading list and accelerated reader will be covered. A heavy emphasis will be placed on plot and theme. Writing—writing through the literature will be covered throughout the year. Grammar will be taught through composition.

The major activities and projects required for this course include classic literary works that will be read independently and tested through Accelerated Reader. Several essays utilizing narrative, informative, and persuasive writing will be covered emphasizing PSSA and Keystone exam techniques and the PA Domain Scoring Guide. At least two major projects will be assigned. Algebra II, Honors Chemistry, Trigonometry is highly recommended or can be taken concurrently. ***Prerequisite:*** 90% in 8th grade English, score in the 9-12 grade equivalency range on STAR Reader, and ranked PSSA scores.

ENGLISH II (Keystone Exam Course) **1 Credit**

The primary objectives of this course are to provide instruction and practice in essential language skills in reading, writing, speaking, and listening, and to provide opportunities to use these skills in developing effective forms of communication through various activities and projects. It will provide students the opportunity to learn about themselves and their world through the experiences of others as presented in selected forms of literary genres. The students will write narratives, descriptions, expositions, character sketches, and persuasive papers. Grammar skills will be reviewed/retaught when necessary as evidenced in students' writing projects. The major units to be covered include the short story, poetry, nonfiction, drama, The King Arthur Legend, and the novel. The literary focus will include the techniques and literary devices authors use to produce the total effect of the work.

HONORS ENGLISH II* (Keystone Exam Course) **1 Credit**

Honors English II is an advanced, comprehensive study of English: literary analysis, composition, and reading comprehension, including lessons on grammar and vocabulary. Literary selections represent an array of genre and time periods, and lessons will emphasize the authors' styles. Writing assignments will cover persuasive, informational, narrative, reflective, and descriptive modes, with rubrics stressing clarity and conciseness. Students will be challenged to understand the text and subtext of thematically and stylistically relevant articles and essays drawn primarily from current periodicals. Students will conduct research and use current technology to both gather and present information. ***Prerequisite:*** 85% in Honors English I or a 90% in English I and score above grade level on STAR Reader.

ENGLISH III **1 Credit**

The primary objectives of this course are to enable students to respond orally and in writing to information and insight gained from various texts, respond critically to various types of literature: essays, journals, poetry, biographies, plays, and the short story. They will analyze period ideas in various selections; write for a variety of purposes: comparison/ contrast, informative and persuasive. Students will compose and give short oral presentations and use the library for research.

The major units to be covered are Prehistory to 1780, 1750-1850, 1845-1880, 1865-1910, 1910-1930, 1930-1960, and 1960 to the Present.

The major activities and projects required for this course include, but are not limited to: explication of long poetic works, completion of the course project which is a job shadow for a career of choice, completion of Career Cruising.

HONORS ENGLISH III * **1 Credit**

English III Honors course is an enriched program designed for more advanced students. This rigorous course examines the works of significant American authors. Exploration of major pieces of American literature enhances students' understanding of literary style, and will develop students' skills in analysis and interpretation. Students will employ a variety of written and alternative assessments to demonstrate their ability to analyze, compare, and interpret literary works. Heavy emphasis will be placed on reading, writing, and researching. Students will read several American novels independently. ***Prerequisite:*** 85% in Honors English II or 90% in English 10, and score above level on Star Reader.

ENGLISH IV **1 Credit**

The primary objectives of this course are to enable students to read, discuss, and write about English literature. The students will recall, interpret, listen and speak intelligently about the historical periods in which this literature was written and will analyze literature through both figurative and literal means. The major units covered are the Anglo-Saxon Period, Medieval Period, Elizabethan Age, Eighteenth Century, Romantic Age, Victorian Age, and the Twentieth Century. The major activities and projects required for this course include multi-paragraph compositions, research paper, research presentation, career focused graduation project, tests, quizzes, and recitations.

AP ENGLISH ** **1 Credit

The AP English course at Frazier High School will engage its participants in the careful reading and critical analysis of imaginative literature. Students will not only deepen their understanding and increase their pleasure in literature, but will develop critical standards for interpreting the effects writers create by means of artful manipulation of the language. Students in AP English will study individual works, their characters, action, structure, and the language.

Both large-scale literary elements such as form and theme, and smaller-scale elements such as figurative language, imagery, symbolism and tone will be emphasized within each selection. AP English students at Frazier will also be expected to consider literary selection from their historical standpoint so that they may learn to derive meanings in relation to their own experiences.

Students of AP English at Frazier will be expected to establish a familiarity with both English and American Writers and experience all genres within English and American literary domains.

Furthermore, since writing is an integral part of the AP English course, writing assignments will focus on critical analysis of literature and will include expository, analytical and argumentative essays. Also, well constructed creative writing assignments will be included to help students appreciate and deepen their knowledge of what literary artistry is about. The goal of both types of writing is to increase the students' ability to understand what they have read and to explain clearly, coherently, and even beautifully what they understand of literary works and why they interpret them as they do.

Throughout the course, emphasis will be placed on helping students develop stylistic maturity which will include: wide-range vocabulary used with denotative and connotative accuracy, subordination and coordination; logical organization, enhanced by specific techniques of coherence such as repetition, transitions and emphasis. Rhetorical effectiveness must also be a part of the Advanced Placement regimen. Techniques such as controlling tone, maintaining consistent voice, achieving parallelism and antithesis must be practiced. A student of Advanced Placement will be made aware of stylistic effects and levels of diction. These differences are indicated most easily through fiction, poetry, and all literature that is studied throughout the course.

Finally, Advanced Placement students must be practiced in the recognition of varied literary collections through early, yearly, and diligent instruction of such material to attain the successful outcome of a high score on the Advanced Placement examination.

In addition, students must also complete a career focused graduation project. ***Prerequisite:*** 85% in Honors English III or 90% English 11.

******College in the High School course offered through Mt. Aloysius. Separate application necessary.******

HUMANITIES **1 Credit**

This course is designed for juniors and seniors interested in learning about the art and culture of the Paleolithic Era through the Modern Era. A comparison of the different historical eras will be studied in terms of art, literature, music, philosophy, architecture, politics, and religion.

PUBLIC SPEAKING **1 Credit**

Students are invited to improve their speaking skills by learning basic delivery skills of volume, rate, expression, and eye contact in short, fun personal speeches. Throughout the course, students will learn how to prepare a short Prezi presentation and speaker notes, give announcement, personal interest, introduction, award, demonstration, informative, and persuasive speeches, and create their own public service announcement. All speeches are prepared in class as students learn to choose speech topics, prepare outlines, revise speeches, practice, present speeches, and reflect upon speech presentations.

JOURNALISM **1 Credit**

Students will develop interviewing, reporting, broadcasting, editing, and publishing skills to cover national, local and especially high school news. Students will create a number of project-based activities. Writing, public speaking and presentation making are all vital components to the course as well. Students will publish work through various means of media.

CREATIVE WRITING I **1 Credit**

Creative writing involves creative thinking, which is the making of new connections among ideas. Taking the thoughts and putting them into words make for a new and deeper understanding of an idea.

The purpose of this course is to provide students instruction and opportunity to put their thoughts and feelings into words and those words onto paper in a clear, meaningful way through various kinds of writing.

Students will work individually and in small groups writing short stories, both fiction and nonfiction, writing various kinds of poetry, and composing other forms of imaginative writing, as per teacher discretion.

Writing assignments will involve using the writing process.
The final project is a collection of students' writings compiled into a book.
This course can help you improve as a writer, but only if you are willing to work at the job.

Only students who sincerely enjoy writing, and have maintained at least an 80% average in the previous year's English class, should take this course.

CREATIVE WRITING II **1 Credit**

Taught in conjunction with the Creative Writing I course, second year students will have the opportunity to refine the writing skills and forms taught in Creative Writing I. Students will work with poetry, fiction, nonfiction and drama.

The purpose of this course is to expand writing skills by producing longer, more involved writings. All writing projects will be individualized according to the student's writing talents and interests. Projects must be formally presented and published. Students will refine editing skills and will be required to submit works in competitions and for formal publication. ***Prerequisite:*** Students must have passed Creative Writing I to take the class.

PHILOSOPHY OF LITERATURE **1 Credit**

This introductory course explores fundamental questions about existence, knowledge, ethics, and society through the lens of philosophical literature. Students will engage with key philosophical problems and ideas that have shaped human thought for centuries. Topics covered may include the nature of reality, the limits of human knowledge, moral responsibility, the mind-body problem, free will, and the meaning of life. The course will introduce students to major philosophical traditions and figures, from ancient Greek philosophers like Socrates, Plato, and Aristotle to modern thinkers such as Descartes, Kant, and Nietzsche. Through readings, discussions, and critical analysis, students will develop skills in logical reasoning, argumentation, and reflective thinking, preparing them to engage with complex ideas in both academic and everyday contexts.

SOCIAL STUDIES

AMERICAN GOVERNMENT **1 Credit**

The American Government course is designed to provide an understanding of the development of our form of government, its workings today, and its increasing complexities. The course will begin with an examination of the creation of our democracy and Constitution, and then concentrate on the legislative, executive, and judicial branches of the federal government. Additionally, the election process and the Bill of Rights will be extensively studied.

AP AMERICAN GOVERNMENT** **1 Credit**

AP American Government studies the operations and structure of the U.S. government and the behavior of the electorate and politicians. Students will gain the analytic perspective necessary to critically evaluate political data, hypotheses, concepts, opinions, and processes. Along the way, they'll learn how to gather data about political behavior and develop their own theoretical analysis of American politics. They'll also build the skills they need to examine general propositions about government and politics, and to analyze the specific relationships between political, social, and economic institutions. The equivalent of an introductory college-level course, AP American Government prepares students for further study in political science, law, education, business, and history. ***Prerequisite:*** 85 % in American Government and English II or English III.

******College in the High School course offered through Mt. Aloysius. Separate application necessary.******

CONTEMPORARY AMERICAN STUDIES **1 Credit**

The primary objectives of this course are to provide a sequential development of historical information for students to use in a variety of situations, providing practical experiences for students to use for better understanding their relationship to and functions in their nation, and encouragement and development of comprehension, thinking, writing, and researching skills. A special emphasis on the interrelationships of cultures which have created the present American society will be provided.

The major topics/units include: The Progressive Era (1890-1920), World War I (1914-1919), The Roaring Twenties (1920-1929), The Great Depression (1929-1940), World War II (1940-1945), The Cold War (1945-1960), The Civil Right Movement (1955-1975), The Vietnam War (1960-1975), Nixon & Watergate (1968-1976), The Reagan Revolution (1980-1992), The 1990's & the New Millennium (1990-2001)

AP UNITED STATES HISTORY** **1 Credit**

The primary objectives of this course are to provide students with factual knowledge to deal with problems in American History, assessment of materials for the purpose of determining validity and merit in a variety of sources, and promote and develop comprehension and writing skills appropriate for college level work. Skills and preparation for the advanced placement exams will be stressed. Document based, primary source questions will be used.

The major units to be covered are discovery through colonial establishment/Revolutionary Era, the Constitution and New Republic/nationalism and economic expansion, Civil War, industrialization/urban life/economic changes in America, U.S. foreign policy in the 20th century, economic challenges, and recent foreign policies and social changes. ***Prerequisite:*** 85 % in Contemporary American Studies and English II or English III.

******College in the High School course offered through Mt. Aloysius. Separate application necessary.******

THE MODERN WORLD: 1789 TO PRESENT **1 Credit**

This course will examine some of the major historical events and periods of the modern era beginning with the Middle Ages, through the world wars, and up to history that is being made today. Students will be working on developing historical thinking skills such as interpreting primary sources and making historical arguments using relevant evidence.

AP EUROPEAN HISTORY** **1 Credit**

In AP European History, students investigate significant events, individuals, developments, and processes from approximately 1450 to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical connections; and utilizing reasoning about comparison, causation, and continuity and change over time. The course also provides seven themes that students explore throughout the course in order to make connections among historical developments in different times and places: interaction of Europe and the world, economic and commercial development, cultural and intellectual development, states and other institutions of power, social organization and development, national and European identity, and technological and scientific innovations. ***Prerequisite:*** 85% in The Modern World: 1789 to Present and English II or English III.

******College in the High School course offered through Mt. Aloysius. Separate application necessary.******

SOCIOLOGY **1 Credit**

This course provides students with a comprehensive examination of the basic concepts, principles, and methods central to the scientific study of the evolution, structure, and function of human society. The first goal of this course is to teach students to think like sociologists. The second goal is to help students develop a sociological imagination, which will enable them to view their own lives within a larger social and historical context. The third goal is to help students understand and thus appreciate the rich diversity that is possible in social life by exposing them to data from a wide variety of cross-cultural and historical sources.

PSYCHOLOGY **1 Credit**

This course is an introduction to the study of behavior in humans as it applies to mental processes. Students will explore topics such as development, social psychology, personality, states of consciousness, stress, and psychological disorders. Both normal and abnormal studies will be included. This course will challenge students to use their metacognitive abilities in order to develop a meaningful understanding of their sense of self.

GEOGRAPHY **1 Credit**

Geography will help students be more informed about the people, places, and cultures around them. The course begins locally with the study of nearby locations, like Fayette County, PA & eventually expands to the study of the United States & eventually covers all 7 continents & all the countries of the world. Students complete Map Quizzes, WebQuests, Study Guides, etc for each Unit/Chapter covered throughout the class. Units include Fayette County, PA, The State of Pennsylvania, the United States, U.S. Lakes & Rivers, Canada, Central & South America, The Caribbean, Europe, The Middle East, Oceania/Australia, Asia, Africa

GLOBAL ISSUES **1 Credit**

This course is designed to assist students in the achievement of world-class standards in geography. The course will provide students with the geographic knowledge, skills, and practice they will need to become informed and involved citizens in a world that is increasingly interdependent. Physical and human phenomena are spatially distributed over the earth's surface. The outcome is a geographically informed person who sees meaning in the arrangement of things in space; who sees relations between people, places, and environment; who uses geographic skills; and who applies spatial and ecological perspective to life situations.

CONSPIRACY THEORY **1 Credit**

This class covers a variety of American-based conspiracy theories such as the Moon Landing Hoax, the assassination of JFK, Paul is Dead, the 27 Club, Area 51, music, and pop culture. It also explores the psychology of why people believe in conspiracy theories and need to know the desire humans possess. The class culminates with a research project into the conspiracy theory of the student's choosing.

POP CULTURE & POLITICS **1 Credit**

The purpose of this course is to allow students to better understand the impact of historical and political events on American society. Students will learn about major historical and political events in U.S. history and, once they have a thorough understanding of an event, we will then undertake an examination of how that event is depicted, and its impact on popular culture. Topics will include political assassinations, war, protest music, elections and social media, and political scandals, among others.

ECONOMICS (meets state's financial literacy requirement) **1 Credit**

Economics is the study of how human beings attempt to satisfy needs and wants with scarce resources. The first part of the course will focus on the fundamental concepts of Economics including, but not limited to: supply, demand, and scarcity. Other topics of study will include the organization of individual businesses and corporations, the labor market, the role of government in regulating the economy and developing economic policy (i.e. taxation and the Federal Reserve System), banking, investing (stocks, bonds, mutual funds), and the modern global economy.

CRIMINAL JUSTICE **1 Credit**

This course provides high school students with an engaging introduction to the criminal justice system, examining its key components, processes, and roles. Students will explore the fundamental principles of law enforcement, the judiciary, and corrections, while also gaining insight into criminal law, investigation techniques, and ethical issues in justice. Through case studies, interactive discussions, and practical exercises, students will learn how laws are created, enforced, and adjudicated, as well as how the system aims to ensure fairness, justice, and public safety. Topics include criminal procedures, the rights of the accused, juvenile justice, the impact of crime on communities, and contemporary issues such as the use of technology in policing and reform efforts. This course encourages critical thinking about the balance between justice, equality, and public safety, and prepares students for further study in criminal justice, law, or related fields.

WORLD LANGUAGES

SPANISH I **1 Credit**

The primary objectives of this course are to enable students to speak the Spanish language with correct pronunciation and intonation at a beginning level. In addition, students will develop a working vocabulary of basic Spanish words. Students will be able to converse on familiar topics using elementary Spanish grammatical construction. Students will also be able to comprehend, speak, read, and write at a basic level while gaining an understanding of Spanish people and their culture and traditions.

Major units covered are: greetings and salutations, numbers, time, months, days of the week, weather conditions, seasons, expressions of like and dislike, food, body parts, classroom objects, clothing, places in the community, family, gender and number agreement, subject pronouns, adjectives, ser and estar, a vast number of nouns, and verbs in present tense.

FRENCH I **1 Credit**

The primary objectives of this course are to enable students to speak, write, read, and understand basic (survival) French. Students will be able to express both positive and negative thoughts, ask & answer simple questions, and discuss common, everyday activities.

Units in this course introduce basic vocabulary & grammar and offer an introduction to French culture. The following topics are covered: greetings; family & friends; colors; numbers; time; days & months; seasons & weather; describing people; professions; personal possessions; invitations; action verbs & their negatives; places; clothes; and school.

SPANISH II **1 Credit**

The primary objectives of this course are to enable students to develop oral and written self-expression with emphasis on pronunciation, intonation, and grammatical construction while expanding working vocabulary from Spanish I. Students will know methods and procedures of more advanced Spanish grammar structure. Students will increase their comprehension of the written and spoken language. Students will write more advanced sentences and dictation. Students will expand their knowledge of Spanish people and culture.

The major units to be covered are: extensive review of Spanish I, reflexive pronouns and verbs, authentic foods, personal hygiene, family, clothing, and leisure activities; as well as in depth discussions about stereotypes, concluding with a virtual tour of Mexico. ***Prerequisite:*** Spanish I

FRENCH II **1 Credit**

The primary objectives of this course are to enable students to speak, write, read, and understand French at an intermediate level. Students will be able to ask about and discuss events in the present, past, and future.

Units in this course introduce intermediate vocabulary & grammar and allow students to discover more about Francophone culture around the world. The following topics are covered: review of French I; food & drink; helping others; parts of the body; narrating past events (the passé composé & the imparfait); countries of the world; and the future. ***Prerequisite:*** French I

SPANISH III* **1 Credit**

The primary objectives of this course are to enable students to develop oral and written self-expression on an intermediate level. Students will develop speaking and composition skills on assigned topics using structures and vocabulary presented in class. Students will use present, past, and future tenses. Students will also delve into the world of art and Spanish speaking artists throughout history. The major units to be covered are: preterite tense, imperfect tense, present progressive, simple future. ***Prerequisite:*** 75% in Spanish II.

FRENCH III* **1 Credit**

The primary objectives of this course are to enable students to speak, read, understand, and write French at a more advanced level. Students will begin to read short literature selections and informational articles written in French.

Units in this course introduce advanced vocabulary & grammar and offer greater exposure to French culture and history. The following topics are covered: review; daily routines; physical appearance & emotional state; household chores; obligations; vacation activities; the natural world; shopping; traveling abroad; staying in France; and health & wellness. In addition, students will read authentic French literature from various time periods. Cultural readings will focus on fashion; music; nature; travel & tourism; & different eras in the history of France. ***Prerequisite:*** 75% or higher in French II.

SPANISH IV* **1 Credit**

The primary objectives of this course are to enable students to expand working vocabulary acquired in the first three levels of Spanish, and to further understand and use advanced grammatical structures. Students will read, translate, and understand more advanced Spanish literature, speak and write Spanish at a more advanced level, and demonstrate correct usage of composition and creative writing skills at a higher level.
The major units to be covered are: preterite and imperfect, future tense, poetry, various types of literature, and art.
Prerequisite: 75% in Spanish III

FRENCH IV* **1 Credit**

The primary objectives of this course are to enable students to expand working vocabulary acquired in the first three levels of French, and to further understand and use advanced grammatical structures. Students will read, translate, and understand more advanced French literature; speak and write French at a more advanced level; and demonstrate correct usage of composition and creative writing skills at a higher level. Students will understand the history and geography of French-speaking countries and Francophone influences in the world today.

Thematic units in this course focus on French cities; personal relationships; and education & careers. Students will also explore the regions of France; Francophone countries; and the Impressionist art movement through various projects. As time allows, literature selections will include: short stories; traditional folk tales; and novels (*Le fantôme de l'opéra* by Gaston Leroux & *Le petit prince* by Antoine de Saint-Exupéry). ***Prerequisite*: 75% in French III**

WORLD MYTHOLOGY **1 Credit**

This course offers an exploration of myths and legends from various cultures across the globe, examining their common themes, archetypal characters, and symbolic meanings. Students will analyze how these stories reflect the beliefs, values, and history of different civilizations, as well as how myth continues to influence contemporary culture. Creative projects inspired by mythological themes will allow learners to forge a deeper and more personal connection to this literary genre.

CULTURE OF THE HISPANIC WORLD **1 Credit**

Explore the rich traditions, customs and social structures of Hispanic communities worldwide. This course will examine diverse cultural expressions that may include art, history, food, celebrations, traditions, dance, literature, music, film and social influences across the Spanish-speaking world. This course is delivered in the English language.

ADDITIONAL COURSES

FRESHMAN SEMINAR **1 Credit**

All 9th Grade students are required to enroll in Freshman Seminar. This is a transition course designed to provide students with the skills and knowledge necessary to meet expectations in high school and beyond.

The main focus of the curriculum includes:

1. **Research Skills** - This course addresses the academic standards in writing. Students will review the writing process. This course also introduces students to research skills and the senior project with a focus on the MLA style of research writing. Students will learn the validity of responsible research using materials from the library as well as responsible Internet use. One major project, a research paper, is required.

2. **Test Taking Skills** - Throughout this course, students will become familiarized with different types of test preparation: note-taking, time management, review methods for tests, and strategies and skills for taking tests. Students will have an understanding as well as critically analyze different types of test questions to become more successful test takers. Completing this portion of the Freshman Seminar coursework requirements this year will not only prepare students for upcoming assessments such as tests, but it will also help them achieve a successful academic high school career by facilitating their transition into the work and expectations that are awaiting them in high school.

3. **Study Skills** - This class is designed to help students improve their learning effectiveness, attitudes, and motivation towards learning. The following are part of the curriculum designed to help students reach their maximum potential: Active Listening, Note Taking Skills, Textbook Reading and Study Methods, Graphic Organizers, Study Space, and Memory Techniques.

4. **Presentation Skills/Public Speaking** - In this course, students will learn the skills needed to make an appropriate impression in their professional and personal lives. These skills are essential to making a lasting impact on other professionals as well as handling personal matters.

9TH GRADE ROTATION **2 Credits**

The 9th Grade Rotation course consists of 4-9 week courses. The courses and their descriptions are:

1. **Technology 9** is designed to provide students with a complete understanding of the Google Applications that will be used throughout the high school. The course is designed around three objectives: 1) develop an understanding of Google Chromebooks; 2) develop an understanding of managing Google Drive; and 3) develop an understanding of the Google Applications including Gmail, Google Docs, Google Slides, Google Sheets, and Google Sites.

2. **Wellness** is a nine weeks course where students will be assessed on their ability to understand and participate in physical activities that develop motor skills and physical fitness. This will be accomplished through instruction in the following activities: Team handball, volleyball, lacrosse, Ultimate Frisbee, soccer, basketball, football, eclipse ball, tennis, badminton, speedminton, golf, and cooperative games. Skills and lead up games specific to each sport will be progressively taught culminating into game play. Students will also explore the history and terminology of each sport, game strategies, fitness activities and development of teamwork/sportsmanship. The course will also follow up with the physical fitness testing. Units may be added or omitted due to weather and availability. Safety concepts, rules, and etiquette are emphasized in all activities.

3. **Music Appreciation** allows students to explore more advanced areas of music without requiring previous instrumental experience. Topics of the course include music technology, music theory, music history, and learning basic keyboard skills. Students will explore technological aspects of music including production websites such as Soundation and Noteflight. Students will also learn about the history of music from the past 100 years in the United States, including genres and styles, artists, and cultural relevance.

4. **Driver's Theory** will prepare students to become safe, knowledgeable, and responsible drivers on the road. In this class, students will learn the basic controls and operation skills needed to drive a motor vehicle. Other topics that students will learn will include how to obtain a driver's license, distracted driving, defensive driving strategies, how to drive in various environments and conditions, drugs/alcohol, impaired driving, driving laws, vehicle maintenance, etc.

CAREER EXPLORATION **1 Credit**

This course is designed to help students explore a variety of careers to consider and begin planning a career path. This Career Exploration Course is designed to help students become proficient in core areas to ensure success after high school. The course is designed around five objectives: (1) Solving Problems And Thinking Skillfully (2) Communicating Effectively, Applying Technology (3) Working Responsibly (4) Planning And Managing A Career (5) Managing Resources

PERSONAL FITNESS (11th and 12th grade only) **1 Credit**

This course is designed to give students the opportunity to learn fitness concepts and conditioning techniques used for obtaining optimal physical fitness. Students will benefit from comprehensive weight training and cardiorespiratory endurance activities. Students will learn the basic fundamentals of strength training, aerobic training, yoga, stretching, dynamic warm-ups and overall fitness training and conditioning. Course includes both lecture and activity sessions. The concept of wellness, or striving to reach optimal levels of health, is the cornerstone of this course and is exemplified by one of the course objectives: students designing their own personal fitness program as a way to develop

the skills necessary to become fit and achieve some degree of fitness within the course. **Course can only be taken once during your high school career.**

PHYSICAL EDUCATION 11/12 **1 Credit**

This course is designed for students to gain a basic knowledge of team and individual sports/activities. Team and individual sports/activities will include, but are not limited to: Team handball, volleyball, lacrosse, Ultimate Frisbee, soccer, basketball, football, eclipse ball, tennis, badminton, speedminton, golf, and cooperative games. Skills and lead up games specific to each sport will be progressively taught culminating into game play. Students will also explore the history and terminology of each sport, game strategies, fitness activities and development of teamwork/sportsmanship. The course will also follow up with the physical 20fitness testing.

Central Westmoreland CTC Programs of Study

It is the policy of Central Westmoreland Career and Technology Center not to discriminate on the basis of race, sex, religion, color, national origin, handicap or limited English proficiency in its Educational Programs, Activities or Employment Policy as required by Title IX of 1972 Educational Amendments, Title VI of the Civil Rights Act of 1964, Section 504 Regulations of the Rehabilitation Act of 1973, and the American Disabilities Act. For information regarding services, activities, programs, and facilities that are accessible to and usable by handicapped persons, or for inquiries regarding compliance with the above nondiscriminatory policies, *contact the Title IX /Section 504 Coordinator; Daniel Glover, dan.glover@cwctc.org, 240 Arona Rd, New Stanton, PA 724-925-3532 #1305*

Central Westmoreland Career & Technology Center offers vocational skill training and academic course work for secondary students from 10 sending districts. Upon completion of their program of study, secondary students enter the workforce or continue onto a post-secondary institution. CWCTC is committed to helping all students become lifelong learners to keep pace with the changes in technology which will permit them to remain competitive in a highly complex work environment and to contribute to our region's economic growth. The CWCTC offers 19 Programs with opportunities to earn industry certifications/credentials and articulated credits for higher education. See www.cwctc.org for more information. More information about qualifying for advanced credits is available at SOAR (Students Occupationally and Academically Ready

Agriculture & Landscape Design - *Do you enjoy working outdoors and in nature? Would you like to design and maintain outdoor spaces? Explore caring for animals with our own small farm family members.* This program is a specialized curriculum designed to prepare students to be desirable employees of architects, landscapers, nurseries, greenhouses, florists or various other landscape businesses. Both maintenance and establishment of lawns, as well as, landscaping homes and businesses are included in the curriculum. Caring for small farm animals. The principles of design are also included along with plant identification, budgeting, and cultivation procedures. Certification opportunities; PA Pesticides, Worker Protection Standard, Landscape Safety

Aspiring Educators Program - ***Have you ever considered a career in education?*** Available to rising Juniors, the Aspiring Educators Program combines theory work led by a master teacher with interactive field experiences. The Program will work with teacher preparation programs at nearby colleges and universities. Successful completion of the Program will afford students articulation and dual enrollment opportunities at no additional cost. The Aspiring Educators Program is a collaborative initiative between the CWCTC and our sending highschools. The program will operate out of designated locations for half of the academic day. Placement is dependent upon the sending school location. All core classes are still delivered at the sending LEA. Multiple higher education articulation and dual credit opportunities are available. - Student drivers are permitted. **See your school counselor for additional information with the application process. Limited seats available.*

Automotive Collision Technology - ***Have you always wanted to restore or repair a classic car or paint a hot rod?*** Automotive Collision students will learn the skills needed to repair, reconstruct, and finish damaged vehicle bodies, and external features. In a garage setting, students will learn maintenance and safety standards of the automobile industry. They will have the opportunity to work with frame straightening equipment, complete car panel replacement, and work in a spray booth, which includes state- of- the- art water-based technology. Students will also practice customer service skills and estimate the cost of vehicle repairs. Certification opportunities; SP2, OSHA 10, I-CAR

Automotive Mechanics Technology - ***Do you have an interest in cars and trucks? Are you mechanically curious and like to troubleshoot technical problems?*** Students who choose this program will be prepared to work with the latest technology that will provide them with the skills needed to repair, service, and maintain automobile systems and their components. Students will receive instruction in brake systems, electrical systems, fuel systems, engine performance and repair, suspension and steering, and air conditioning. Critical thinking skills will be employed and strengthened through the diagnosis and repair of current model vehicles. System training simulators are utilized and students will learn the procedures for State Inspection and Emissions. Certification opportunities; ASE, PA State Safety Inspection & Emissions, SP2 Safety/Pollution, A4, Lifting it Right, EPA 609 Refrigerant, Ford ACE

Computer Information Science - ***Do you consider yourself a novice coder? Are you curious about how videogames are designed? How are computers built and networked? Discover what happens in the background.*** Students in the Computer Information Science classroom will be instructed in various programming languages. Students will gain an understanding of computer fundamentals, Microsoft Office, HTML, Javascript, CSS, C++, Java, and Linux Operating Systems. Students will develop web pages and sites and will learn to troubleshoot backend and frontend applications in a variety of workplace environments. Certification opportunities; Microsoft, CompTIA, Test Out, OSHA and dual credit opportunities.

Construction Trades - ***Do you like to build things and work with power tools? Are you interested in what it takes to build something from the ground up?*** Students will be instructed in a variety of the skills in several construction trades areas including carpentry, electrical, masonry, plumbing, and equipment operating. Students will learn the following carpentry skills; cutting, shaping and installation of building materials during the construction of buildings, bridges, concrete formwork, etc. Students will learn aspects of the electrical trades by installing and repairing wiring, and maintaining electrical systems. Students will also learn relevant safety regulations and electrical codes to ensure that they perform a job properly. Students will study the art of masonry which includes bricks, concrete blocks, or natural stones to build structures that include walls, walkways, fences, and chimneys. Students will learn the systems of pipes, tanks, fittings, and other apparatus required for the water supply, heating, and sanitation in a building. This program also prepares students to safely maintain and operate different pieces of diesel equipment such as skid loaders and mini excavators. Student learning will include cost estimating and blueprint reading, use and maintenance of power and

hand tools, general safety and building code requirements. Certification opportunities; OSHA 10, OSHA 30, American Ladder Safety.

Cosmetology ***- Are you interested in Hair, Make-up and Nails? Do you find yourself scrolling through style ads for current fashion industry trends?*** A salon environment allows students to practice and prepare to become licensed cosmetologists. Students will gain skills in haircutting, hairstyling, chemical treatments, manicures and pedicures, as well as facial treatments. Information and training will be focused on salon safety and sanitation, customer service, and applicable labor laws and regulations. Students who successfully complete the 900 hours of coursework will be eligible to take the PA State Board of Cosmetology Examination. Upon passing the exam and completion of the remaining 350 hours of training the candidate will become a PA licensed Cosmetologist (1250 total training hours). Certification opportunities; Licensed Cosmetologist, Licensed Nail Technician, Licensed Esthetician, SP2 Cosmetology, and OSHA 10.

Culinary Arts ***- Do you enjoy cooking and baking? Do you like to watch culinary shows or dabble with creating your own recipes?*** The students will gain the skills to effectively work safely and under pressure in the hospitality industry. Instruction will focus on following standardized recipes/formulas, instructions, time management, selecting, storing, preparing and serving food safely, waitstaff training,
menu planning and basic nutrition. Food safety and sanitation and learning the proper techniques to use and care for commercial equipment will be taught as well. Throughout the course, students will receive an introduction to culinary arts, baking and pastry arts, to include proper cooking methods and temperatures, soups, stocks and sauces, weighing and measuring with accuracy, and cake decorating. Instruction and on the job training will occur in our industry equipped kitchen and restaurant type setting. Certification opportunities; Beef University, Lamb Curriculamb, OSHA-etool (Young worker safety), SP2, OSHA 10, Servsafe - Allergens, Food Handler, Manager, ProStart COA, Rouxbe-Professional Cooking, Heartsaver First Aid/CPR, ACF (CFC), ACF (CC)

Electrical Technology ***- Are you into exploring how things work? Can you follow a complex set of directions to build something? All things electricity…*** Students in this program will learn to install, operate, maintain, and repair electrical systems. Use of electrical codes, circuit diagrams, and blueprint reading will be key components. Students will gain valuable experience working with transformers, conduit bending, resulting in a solid background to working in the electrical field. Certification opportunities: OSHA 30, Ladder Safety, Heartsaver First Aid/CPR

Health Occupations Technology ***- Do you see yourself working in the healthcare industry? Do you have compassion and like to help others? Are you interested in the human body and its systems?*** Students choosing this program will gain knowledge to assist them in preparing for a future career in a related field. The class will focus on basic structures and functions of the human body, related diseases with associated terminology, legal and ethical aspects of health care, and communication. Nutrition, safety, infection control, emergency care, and disaster preparedness are also studied. Students will combine core book knowledge with skills practice in order to be ready to meet the needs of the healthcare industry. Certification opportunities; AMCA-PCT Testing

HVAC & Steamfitting ***- Do you like to solve mechanical problems? Can you follow complex directions and enjoy using hand tools?*** Students will learn to repair, install, service and maintain heating, air conditioning, and refrigeration systems as well as installing, assembling, fabricating, maintaining, and repairing mechanical piping systems. Students will learn diagnostic techniques, blueprint reading, the use of testing equipment, electronic and pneumatic control systems, and the principles of electricity, electronics and mechanics as each relates to the industry. Students will also learn how to overhaul, repair, and make adjustments to various units and parts. Certification opportunities; OSHA 10, OSHA 30, EPA 608 Refrigerant

Multimedia Design ***- Are you creative? Do you like to create art by hand and on the computer?***

Create advertisements, web pages and more… from sketching to photography and even creating your own ad campaigns that include video. Students in this program will be able to apply knowledge and skills in the field of multimedia design. The elements and principles of art are the basis of good design. Combined with graphic design, audio, visual, web introduction, and photography this course provides the instruction necessary to develop a creative concept into a final visual communication product. Oral and written communication, customer service, and display production are a focus. Students will design, edit, and create projects using hand illustration and computer design software such as Adobe Illustrator, InDesign, Photoshop, Premiere, and AfterEffects. Certification opportunities; Adobe Certified Associate in multiple areas (Additional Certifications -Available Certifications -SP/2- Land that Job! Building a Resume, SP/2- Time for a Team Huddle! Running Successful Team Meetings, SP/2- Be a Pro! Life Skills for Professional Success, SP/2- Creating a Customer-Centered Culture, SP/2- Telephone Skills for Today's Professional World, SP/2- Successful Meeting Management for Managers and Business Owners, Free Code Camp - Responsive Web Design Certification, Google - Digital Marketing, Google - Project Management, HubSpot - Social Media Marketing and Great Learning - Intro to Graphic Design with Photoshop)

Powerline ***- Do you enjoy the outdoors? Would you say you are an all weather type of person who is not intimidated by heights? Is helping others through providing the resources of energy and communication interesting to you?*** Students will gain technical knowledge and skills in installation, troubleshooting and repair of telecommunication equipment of all kinds. Throughout the course, students will gain a fundamental understanding of electricity and electronics and will learn about fiber optics and copper based systems. CWCTC students will have the opportunity to study pole and tower climbing techniques, trenching, high voltage installation, maintenance and inspection. safety and applicable codes and standards in regards to the powerline and telecommunications fields. Certification opportunities; National Ladder Safety, OSHA 10, Copper Networking, Fiber Optics

Protective Services ***- Are you interested in public service and saving lives? Do you have a drive to help others in an emergency event? Would you like to protect and serve your community?*** Our instructional program focuses on three areas of learning: firefighting services, emergency medical technician training, and law enforcement. Students will apply technical knowledge and skills required to work in the public safety sector and will be expected to learn a minimum level of proficiency in all areas of the training program. The program focuses on personal safety and the relationship between the public safety agencies. Skill sets within the program include vehicle and equipment operations, application of math skills, communication skills, and pre-hospital emergency medical assessment and treatment. Students will participate in live fire exercises in a simulated residential burn building. Certification opportunities; (EBM Program) ICS 100/700, HMA, PSFA Rope I, II, PA-DOH Basic Vehicle Rescue (Exterior & Interior), First Aid CPR

Restoration & Design ***- Do you like to rearrange, paint or decorate your room and other spaces? Are you creative and like to explore design trends? Repurpose something to make it useful again through design, refinishing and repair techniques.*** Students in this program will be prepared to apply technical knowledge and skills to finish exterior and interior structural surfaces by applying protective or decorative coating materials, such as paint, stain, and wallpaper. Includes instruction in surface preparation; selecting, preparing, and applying finishes. Students will learn equipment operation and maintenance; finish selection; safety and clean-up; environmental effects on finishes; adhesion properties; and applicable codes and standards. Design, color theory, and faux finishes are also explored. Certification opportunities; NCCER CORE, National Ladder Safety, OSHA 10

Robotics Engineering & Manufacturing(REM/Phoenix Manufacturing) ***- Do you have a technical and mechanical mindset? Are you interested in how things work and building something from the bottom up? How about manufacturing your own parts and designs? BotsIQ opportunities galore in this exciting and dynamic working lab. You will be working with our state of the art***

HAAS machines, 3 D Printers and more. Robotics, Engineering & Manufacturing is a program focused on the development, installation, and use of Advanced Manufacturing devices. This program prepares students for careers in the engineering and manufacturing fields. Students enrolled will learn a combination of electronics, manual machining, mechanical drives, CNC machining, fluid systems, programming, inspection, robotics, properties of materials, and engineering processes. Students who enjoy STEM activities will enjoy this classroom and will be engaged in designing, developing, and testing electromechanical devices, automation systems, manufacturing systems. Students will also learn how to work as a team and develop engineering solutions to problems. There is a focus on industrial systems and procedures. Certification opportunities; CNC Mill/Lathe Certifications, OSHA 10

Service Occupations ***- Do you like to do a variety of things both indoor and out? Do you enjoy helping others and creating a clean and welcoming environment? Would you like to work with customers?*** Service Occupations is an innovative program focusing on training students in a diverse array of skill sets in service-related employment areas. Students will learn in an environment that fosters
good work ethic, competitive time on task and appropriate work skills for each identified career area. The Service Occupations curriculum encompasses the areas of workplace safety, grounds maintenance, cleaning practices, housekeeping, custodial and retail stock, as well as, kitchen safety, cooking and baking, food preparation, dining room services, commercial dishwashing and commercial laundry
services. All areas are instructed with the intent of achieving a level of competency commensurate with competitive employment. Certification opportunities; American Ladder Institute, ServeSafe Food Handler, First Aid/CPR ****Students and families interested in applying to this program will need to contact their school counselor for more details****

Sports Medicine ***- Are you thinking about a career in healthcare and enjoy helping others? Interested in how the body responds to injury and how to improve athletic performance?*** *The goal of the Sports Medicine program is to prepare students for placement in a post-secondary institution for advanced studies in the health sciences. Course topics include medical terminology, anatomy and physiology, body systems, sports nutrition and hydration, and concussion management. Students will become proficient in the use of therapeutic modalities, vital signs assessment, injury diagnosis and management, and injury rehabilitation through therapeutic exercise and exercise prescription. Students who successfully complete the Sports Medicine program often enter the healthcare field as physical therapists, physical therapist assistants, occupational therapists, athletic trainers, physician assistants, exercise physiologists, sports psychologists, nurses, medical assistants, and rehabilitation aides.* Certification Opportunities: BLS for the Healthcare Professional (CPR/AED); Articulations with local Colleges: Duquesne University, Robert Morris University, Penn West University.

Welding & Metal Fabrication ***- Are you interested in working in the metal industry? Do you like to build and design things? Design, Fabricate and Weld using industry tools of the trade, which includes a 4 x 8 ft. plasma cutting machine.*** Students in this class will learn technical knowledge and skills to join or cut metal surfaces using stick welding, tig welding, mig welding, and flux core welding. Safety practices are a focus in this program. Instruction includes welding symbols, properties of metals, types and uses of electrodes and welding rods, and blueprint reading. Certification Opportunities; AWS Sense.