CLEARFIELD AREA JUNIOR-SENIOR HIGH SCHOOL COURSE SELECTION GUIDE 2022-2023

CASD MISSION

Together we prepare our children for success in today's world and their future.

MRS. HEATHER PRESTASH, PRINCIPAL

MR. ANDREW BRICKLEY, ASSISTANT PRINCIPAL

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Board Approved February 28, 2022

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Clearfield Area Junior-Senior High School
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Clearfield, PA 16830
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Dear Students and Families,

Clearfield Area Junior-Senior High School's administration and faculty have prepared this course guide to assist you in planning for the upcoming school year and careers beyond high school. It is of upmost importance for students to consider their future and select courses that are challenging and that equip them with the skills necessary to be successful in their chosen career pathway.

Pennsylvania Department of Education has tasked every public high school with preparing our youth to meet the current and projected demands of a global, knowledge-based 21st century economy. It is our goal that every student who graduates from Clearfield Area Junior-Senior High School will be prepared for meaningful engagement in postsecondary education, and the workforce in their chosen career pathways. In order to obtain this goal, we have shifted our focus to a student-centered career pathway approach. The career pathways that students will be asked to choose are CCCTC, Liberal Arts, and STEM (Science, Technology, Engineering, and Math). Knowing that students change their minds, and to create flexibility for students the beginning of each student's high school courses will offer the same types of learning experiences for all. As a student progresses, courses and electives are encouraged to be selected with a future mindset in their chosen career pathway.

Inside you will find information about required academic courses at each grade level, course descriptions, graduation requirements, and opportunities for students to gain college credit while attending the Clearfield Area Junior-Senior High School. We currently offer three ways for students to earn college credit. The first is through dual enrollment credits through Penn Highlands Community College, Mount Aloysius College, and the University of Pittsburgh-Bradford. Another way students can potentially earn college credit is through Advanced Placement (AP) courses. Lastly, is the Associate's in high school program through Mount Aloysius College that offer high school students the opportunity to earn a college level Associate's degree over a 4-year period; information about all dual enrollment opportunities are contained in this course guide or by discussing with their school counselor.

The administration and faculty of the Clearfield Area Junior-Senior High School are eager to join you in striving for academic excellence for your student. We want every student to experience a fulfilling high school career. We hope this course guide serves as a valuable tool for purposeful academic planning. We encourage parents to be involved in the decision-making process by speaking with your student about their course selections. Counselors will help your student in developing a schedule that meets your student's future goals and interests and are available to discuss questions or concerns with parents and students.

Sincerely,

Mrs. Heather Prestash, Principal
Mr. Andy Brickley, Assistant Principal
Mr. Eric Scaife, Assistant Principal

Student Academic Recognition

Weighted Classes

- Weighted classes will be limited to the core classes of English, Social Studies, Math and Science. Within these only the most challenging core courses will be counted as weighted courses.
    - Math: Calculus and Stats AP
    - English: Public Speaking and English Composition, and English IV AP
    - Social Studies: US/PA History AP and US Gov't /Economics
    - Science: Physics, Advanced Physics, Advanced Chemistry, and Anatomy

- The weighted factor would be 10% for these courses. (This would be a course weight of 1.1).

- Only students in their Junior and Senior years would have the weight of weighted courses. If a younger student would take a weighted course, it would not be weighted for them.

- The graduation requirement of Economics can be met in the US Gov't/Economics course or Economics.

  Weighted courses are identified in the Course Selection Guide with a weight symbol.

Class Ranking

- Class Ranking will be calculated using the student's cumulative weighted GPA.
    - Class ranking will only be used to determine the Valedictorian, Salutatorian, and Senior Academic Honors. This ranking will be calculated based on the grades to date on May 1st, or the most immediate school day after May 1st, if May 1st is a weekend day.
    - Class ranking will only be available for student needs for college applications or scholarship needs.

- In case of a tie**,** to the one ten thousandths decimal place (4 spaces after the decimal) for the positions of Valedictorian and Salutatorian, a committee consisting of five teachers, one from each core area, and one from the related arts, along with the principal as non-voting member, will resolve the tie by reviewing the criteria of Unweighted GPA, Credits Completed, and SAT/ACT scores.

Recognitions

At time of Commencement, based on the cumulative weighted GPA of May 1st, graduating seniors can be recognized as follows:

- Valedictorian
- Salutatorian
- Summa Cum Laude (98.00% and Above)
- Magna Cum Laude (95.00-97.99%)
- Cum Laude (90.00-94.99%)

Senior students that are Summa Cum Laude will be invited to participate in the Annual Principal's Dinner.

Students in grades 9, 10, and 11 will receive a letter at the completion of the year, indicating their standing as Summa Cum Laude, Magna Cum Laude, and Cum Laude.

Honor Roll (Nine Weeks Recognition)

- Students earning an unweighted current GPA of 90.00% and above will be recognized as High Honors.
- Student earning an unweighted current GPA of 85.00-89.99% will be recognized as Honors.

Academic Letter (End of Year Recognition)

Students who have an unweighted average of at least 80.00% for three of the four quarters with no grade below a 70% will be recognized as earning an Academic Letter.

National Honor Society (Students in their Junior and Senior Years)

Students who have a cumulative weighted GPA of 90.00% and above are eligible for membership if all other criteria established by the NHS has been met.

Definitions and Examples

GPA: Grade Point Average

Current GPA: The GPA of the most recent marking period, or school year.

Cumulative GPA: The GPA as a result of the entire academic record. For example: At the end of the 9th grade school year, the current GPA and the cumulative GPA would be the same. At the end of the 10th grade year, the current GPA would be the result of the work done that school year, while the cumulative would be the combined results of the 9th and 10th grade years.

Unweighted GPA: The calculation of GPA without any consideration of the additional weighted percentage. In this calculation, every grade is multiplied by the credit amount of each course. The sum of the grades x credits is divided by the sum of the total credits.

Class	Credit	Grade	Credit x Grade
English	1.0	87	1.0 x 87 = 87
Science	1.0	92	1.0 x 92 = 92
Phys Ed	0.5	94	0.5 x 94 = 47
Life 101	0.25	88	0.25 x 88 = 22
Sums	2.75		248

GPA = Sum of Credit x Grade / Sum of Credits = 248/2.75 = 90.18%

Weighted GPA: Weighted GPA is calculated by including a weighted factor in the multiplication of the grade and credit. If a course is weighted, the calculation for that course would be the grade multiplied by the credit x 1.1. This amount would then be summed with the other courses and divided by the sum of the total credits to determine the weighted GPA.

Class	Credit	Grade	Weight	Credit x Grade x Weight
Weighted English	1.0	87	1.1	1.0 x 87 x 1.1= 95.7
Weighted Science	1.0	92	1.1	1.0 x 92 x 1.1 = 101.2
Phys Ed	0.5	94		0.5 x 94 = 47
Life 101	0.25	88		0.25 x 88 = 22
Sums	2.75			265.9

GPA = Sum of Credit x Grade x Weight / Sum of Credits = 265.9/2.75 = 96.69%

Independent Study Courses: Courses that are completed outside of the normal classroom setting, with a focus on the student independently completing the work. These courses are for the purpose of self-enrichment and will not be counted towards any GPA calculation, or for purposes of graduation. At no time may a student complete a course through independent study if their schedule can accommodate the course.

Graduation Requirements

Subject Area Minimum Required Credits

English and Literature - 6 credits
Requires an English course each year of High School and the required Literature Courses in Grades 9 and 10

Social Studies - 4 credits
Required courses are Civics I & II, a US History Course & Pa History, World Cultures I & II or Western Civilizations, and Economics

Mathematics - 4 credits
Must have completed Algebra 1, Geometry, and Algebra 2

Science - 4 credits
Must have completed courses in Biology and the areas of Chemistry and Physics

Driver Education Theory - 0.25 credit

Life 101 - 0.25 credit

Physical Education and Health - 2 credits
Requires a Physical Education and Health Course each year of High School.
The 9th grade course is swimming based.

Computer Technology - 1.0 credit
Must complete the 9th grade course Intro to STEM and one of the following technology related courses: ***Must complete 1.0 credit of technology related courses:*** *Journalism I/II, Digital Music, Engineering and Design, CAD, Architect Studio, Dream Home Design, Inventor I/II, Fabrication Lab, Intro to Photoshop, Intro to Photography, Multimedia Design for Gaming & Video, Microcomputer Applications, Coding for Apps & Games, and AP Computer Science A, AP Computer Science Principles. (CCCTC students completing a career path, may be able to use a portion of their program to meet the 1.0 credit requirement, dependent on the program and the use of technology.)*

Electives - 6.5 credits

TOTAL 28 credits

In addition to the credit requirements as outlined above:

All students must have completed at least one course that is able to be dual enrolled.

• All students must demonstrate proficiency in Algebra 1, Biology, and Literature through passing the Keystone Exams or Alternate State Approved Method.

Keystone Exam courses are identified in the Course Selection Guide with a keystone symbol.

Entry Level Academic Eligibility for Participation in Pennsylvania High School Sports (PIAA) and National Collegiate Sports (NCAA and NAIA)

Pennsylvania Interscholastic Athletic Association (PIAA) Eligibility Requirements - www.piaa.org

To be eligible for interscholastic athletic competition a student must pass at least 4 full credit subjects, or the equivalent, during the previous grading period.

National Collegiate Athletic Association (NCAA) Eligibility Requirements - www.ncaa.org - For current information please visit their website at http://www.ncaa.org/student-athletes/future/eligibility-center

National Association of Intercollegiate Athletics (NAIA) Academic Eligibility Requirements - For current information please visit their website at www.naia.org

NCAA courses are identified in the Course Selection Guide with a NCAA symbol.

SCHEDULING PROCEDURES

Clearfield Area Junior-Senior High School highly recommends and encourages all students to take a wide range of courses and carry a credit load each year that exceeds the minimum standards of scholastic performance. Students must schedule a minimum of 7.0 credit hours per year.

Counselors will go into classes during the second semester to go over the course guide for the respective grade levels and to distribute course selection materials. Students should then take the course guide home and speak with their families about their future career pathways and complete the scheduling worksheet. Counselors will then meet individually with each student. During this meeting counselors will utilize the scheduling worksheet and discuss future career plans with the student to develop their schedule for the upcoming year. Completed student schedules will be printed and given to the student. After all students have completed the scheduling process students then will be allowed to request schedule changes.

Please note: These change requests must be made within the drop deadlines. Any changes beyond the deadlines must be made by administration. See the Student Handbook for the Add-Drop Policy.

Junior High 7th Grade Course Requirements

7th Grade Schedule

Periods	Term	Course
1.5	Year	Science
1.5	Year	Pre-Algebra/Algebra
1	Year	English Literature
1	Year	English Composition
1	Year	Geography
1	Quarter	Physical Education
1	Quarter	Swimming
1	Semester	Computer Application 7
1	Quarter	Technology Education 7
1	Quarter	Art 7
1	Quarter	Music 7
1	Quarter	Health 7

PSSA- All 7th grade students will take the PSSA (Pennsylvania System of School Assessment) exam in the spring of the academic school year. 7th grade students will be assessed in the areas of math and English language arts.

Science Block- 7th grade students will take a 60 minute block of science that incorporates the use of FOSS science modules.

Math Block- 7th grade students will take a 60 minute block of either Algebra or Pre-Algebra. Students will be placed in the recommended course based on a rubric of academic performance, PSSA scores, teacher recommendation and placement test given at the end of the 6th grade year.

Keystone Exam- Students will take the Keystone Exam at the conclusion of the Algebra course. Pre-Algebra students will not be tested until they complete Algebra in 8th grade.

Junior High 8th Grade Course Requirements

8th Grade Schedule

Periods	Term	8th Grade
1.5	Year	Science
1.5	Year	Algebra/ Algebra 1A/Algebra 2
1	Year	English Literature
1	Year	English Composition
1	Year	American History
1	Quarter	Physical Education
1	Quarter	Swimming
1	Semester	Computer Application 8
1	Quarter	Technology Education 8
1	Quarter	Family Consumer Science
1	Quarter	Into to Agriculture
1	Quarter	Health 8

PSSA- All 8th grade students will take the PSSA (Pennsylvania System of School Assessment) exam in the spring of the academic school year. 8th grade students will be assessed in the areas of math, English Language Arts and science.

Science Block- 8th grade students will take a 60 minute block of science that incorporates the use of FOSS science modules.

Math Block- 8th grade students will take a 60 minute block of either Algebra, Algebra 1A, or Algebra 2. Students will be placed in the appropriate course based on academic performance, PSSA scores and teacher recommendation.

Keystone Exam- Students will take the Keystone Exam at the conclusion of the Algebra course. Students in Algebra 2 that did not pass the exam at the conclusion of Algebra will be retested.

DUAL ENROLLMENT PROGRAM

Clearfield Area Junior-Senior High School currently offers dual enrollment credits through Penn Highlands Community College, Mount Aloysius College, and the University of Pittsburgh-Bradford. The school is always actively working to find more opportunities for our students.

Dual-enrollment enables students to earn college credits for classes offered while attending high school. This partnership between the colleges and the high school results in significant savings on the cost of college courses. Information about dual enrollment is explained in this guide and more information may be available in the Guidance Office and the school website at www.clearfield.org.

All students are eligible for Dual Enrollment if they meet the requirements of the course and the college granting credit. **Students are not required to dual enroll the course to take the course**. Dual enrollment is an additional option for those who choose it, meet the requirements and pay the costs associated with the program. **Completing a course that can be dual enrolled is a requirement of graduation.** *(Tuition rates are set by the respective college or university.)*

Courses that are available to be dual enrolled through one of our partnering schools will have this symbol.

ADVANCED PLACEMENT

According to CollegeBoard, many colleges recognize that your AP scores demonstrate that you already know the material in certain courses they offer. So they may let you skip those courses. These could be introductory courses required in your major, or core courses that the college requires all its students to take. Letting you skip these courses (so you can go right into advanced courses) is called granting you advanced placement. In some cases, you'll get both credit and advanced placement for a qualifying AP score. You'll earn the credits and be able to skip a course

If you do not take the AP exam you will not have the opportunity to earn college credit. To get college credit for your AP scores, you have to request that the College Board send your official score report to the college of your choice. After receiving your scores, your college should notify you about any credit, advanced placement, and/or course exemptions you have earned. For more information about advanced placement, please contact your advisor or refer to collegeboard website at https://www.collegeboard.org/

ASSOCIATES PROGRAM

The Clearfield Area Junior Senior High has teamed with Mount Aloysius College to offer high school students the opportunity to earn a college level Associate's Degree over a 4 year period. The 60 credit general studies program will include dual enrollment courses from Clearfield Area teachers and independent on-line courses through Mount Aloysius. ACE-dual enrollment courses are offered at a discounted rate while the required on-line courses through Mount Aloysius are enrolled at the standard tuition rate. The combination of courses taken through this program are at a substantial savings to students and families as many of the credits will transfer to other institutions of higher learning. Associates program students must enroll prior to starting their 9th grade year. For more information, please contact the Clearfield Area Junior-Senior High School Guidance Office.

ADVANCED PLACEMENT COURSES

Clearfield AP Courses
AP Computer Science
Calculus AP
English IV AP
Spanish 4 AP
Statistics AP
US/PA History AP

DUAL ENROLLMENT COURSES

PITT-BRADFORD

CHS Class	*Section*	*Pitt-Bradford class*	*Credits*	*Price (2022-2023)*
Environmental Science	**ES0110**	**Intro to Env Science**	**3**	**$125**
US Government & Economics	**PS0102**	**American Pol Proc**	**3**	**$125**

***Only Junior and Senior students may take Pitt-Bradford classes without prior approval by the school and Pitt Bradford.**Applying to Pitt-Bradford is done via paper form. These are given out by teachers.*

MOUNT ALOYSIUS

CHS class	*Mount #*	*Credits*	*Price (2022-2023)*
Drawing/Painting	**AR281- Special Topics Art**	**3**	**$195**
Psychology	**PSYC 101 – General Psychology**	**3**	**$195**
Sociology	**SOCI 101 – Intro to Sociology**	**3**	**$195**
Intro to Music	**MUSC 281 – Special Topics in Music**	**3**	**$195**
English Comp	**ENGL 110 – Rhetoric I**	**3**	**$195**
Public Speaking	**COMM 260- Public Speaking**	**3**	**$195**
College Algebra	**Math 112 – College Algebra**	**3**	**$195**

MOUNT ALOYSIUS			
English IV AP	**EN111- Rhetoric II**	**3**	**$195**
Statistics AP	**MATH 220 – Intro to Statistics**	**3**	**$195**
Western Civilization	**HIST 101-World Civilizations to 1500**	**3**	**$195**
Anatomy	**BIOL 201- Anatomy and Physiology I**	**4**	**$260**
Physics	**PHYS 103- Applied Physics**	**4**	**$260**

***Applying to Mount Aloysius is done through this site: https://www.mtaloy.edu/dual-enrollment/*

PENNSYLVANIA HIGHLANDS

CHS Class	PA Highlands #	Credits	Price (2022-23)
Exercise Physiology	**Lif 111-Health and Wellness**	**3**	**$198**
Microcomputer Applications	**CIT 100 Microcomputer Applications**	**3**	**$198**
Construction Math	**MAT 115 Construction Math**	**3**	**$198**
Pre-Calculus	**MAT 170 Precalculus**	**3**	**$198**
Calculus AP	**MAT 210 Calculus I**	**4**	**$264**
Spanish II	**SPAN 101- Spanish I**	**3**	**$198**
Spanish III	**SPAN 102 – Spanish II**	**3**	**$198**

***Applying to Pennsylvania Highlands is done through this site:*
https://my.pennhighlands.edu/ICS/ACE/Apply_Now.jnz?portlet=EX_FormFlow_-_Forms

You must register as a student first, and once you do that, you can log back on and register for your class(es). The ACE hotline phone number for help with registration is 814-262-6444.

Senior High Career Pathways

As stated earlier in the opening letter, our goal is that every student who graduates from Clearfield Area Junior-Senior High School will be prepared for meaningful engagement in postsecondary education, and the workforce in their chosen career pathways. In order to obtain this goal, we shifted our focus to a student-

centered career pathway approach. The career pathways that students will be asked to choose are CCCTC, Liberal Arts, and STEM (Science, Technology, Engineering, and Math). Each pathway is further explained below:

CCCTC Pathway- The Clearfield County Career and Technology Center is committed to preparing young adolescent students with the skills necessary to be successful in the workforce and/or in future education at a technical school or college. All the high school programs are two-year courses that start in the student's junior year, except cosmetology, which is a three-year program and starts in the student's sophomore year. Students apply in their ninth and tenth grade years. Courses recommended for the CCCTC pathway are suggested to best prepare the student for success at the career and technology center.

CAREER AND TECH CENTER OPPORTUNTIES

TC800 Collision Repair Technology I	TC802 Automotive Mechanics Technology I	TC804 Carpentry and Building Construction I
TC808 Cosmetology I	TC809 Cosmetology II	TC811 Information Technology I
TC814 Diesel Equipment Maintenance I	TC816 Digital Media Arts I	TC818 Drafting and Design I
TC824 Electrical Occupations I	TC828 Culinary Arts & Food Management I	TC830 Health Occupations Technology I
TC832 Metal Engineering Technology I	TC834 Masonry I	
TC836 Welding and Metal Fabrication Technology I		

LIBERAL ARTS Pathway- The liberal arts pathway may be helpful to prepare you for a variety of career choices and provide you with diverse set of skills that employers look for. The liberal arts pathway is good if you don't have a specific career goal in mind, although you might. This pathway helps you assemble a broad foundation of knowledge that can be used in a wide spectrum of career interests. Courses recommended for the liberal arts pathway are suggested to best prepare the student for success in a wide range of post-secondary opportunities.

LIBERAL ARTS CAREER INTERESTS

Humanities	Social Sciences	Natural/Formal Sciences
Art/Theater	History	Biology/Chem/Physics
English/Literature	Psychology	Geology
Foreign Languages	Political Science	Earth Sciences
Music	Business	
Education	Law	
Marketing	Anthropology	

STEM (Science/Technology/Engineering/Math) Pathway- If you plan to pursue a STEM related career at the post-secondary level it's a good idea to get a strong STEM background while in high school. In the path to a STEM related interest, you should pursue the most challenging courses. The courses recommended for the STEM pathway are suggested to best prepare the student for success in a future STEM post-secondary opportunity.

STEM CAREER INTERESTS

Web/Software Developers	Computer Systems	Computer Specialists
Nurse Practitioner	Engineering (Civil, Mechanical)	Computer Programmers
Computer Network	Physician	Dentist/Orthodontist
Statistician/Actuary	Physician Assistants	Psychologist
Cartographer		

Senior High 9th Grade Course Requirements

All ninth grade students must register for a minimum of 7 credits. Lunch and studyhall are not considered as credit earning class periods. All ninth grade students will have the following:

English- 2 credits, Social Studies- 1 credit, Science- 1 credit, Math- 1 credit, Physical Education- 0.5 credits, Technology- 0.50 credits, Electives- 2 credits

English courses are 1 credit each. Ninth grade students are required to take the following 2 English courses:

EN300 ENGLISH I (1 CR) AND EN305 ENGLISH/LIT SEM I (1 CR)

Social Studies courses are 0.50 credits. Ninth grade students are required to take the following 2 Social Studies courses:

SS305 CIVICS I (0.50 CR) AND SS310 CIVICS II (0.50 CR)

Science courses are 1 credit each. Ninth grade students will have the option to take 1 of the following Science courses:

SS300 BIOLOGY (1 CR) OR SC310 PHYSCIAL SCIENCE (1 CR)

Math courses are 1 credit each. Ninth grade students will have the option to take 1 of the following Math courses:

MA220 ALGEBRA IB (1 CR), MA223 ALGEBRA II (1 CR), OR MA300 GEOMETRY (1 CR)

Physical Education courses are 0.50 credits. Ninth grade students are required to take the following PE course:

PE300 SWIMMING/HEALTH 9

Technology courses are 0.50 credits each. Ninth grade students are required to take the following technology course:

BC300 INTRO TO STEM

Each ninth grade student will be afforded the opportunity to take 2 full elective credits. Full year classes are 1 credit each and semester classes are ½ credit. Please be advised when scheduling that your elective requests must equal 2 full credits.

See the Senior High Elective section for available 9th grade electives and course descriptions.

9th Grade Course Selections and Descriptions

Science Grade 9 Course Block
(Must take 1 of the following courses)

SC300 BIOLOGY

Grade 9; 1 Credit; Year - During this course, all aspects of general biology will be covered including; molecular, cellular, evolutionary, organismal biology, ecology, genetics, biotechnology and systematics. Students will learn through a combination of self-study, small group, cooperative learning and class discussions. Lab techniques, methodologies and process skills will be emphasized. This course is to be taken in preparation for the Biology Keystone Exam which will be taken at the conclusion of the course. Please be reminded that Keystone proficiency is a graduation requirement. **SUGGESTED FOR: LIBERAL ARTS OR STEM CAREER PATHWAY**

SC310 PHYSICAL SCIENCE

Grade 9; 1 Credit; Year- This course will unify themes across the core sciences with special attention given to the basics of chemistry, physics, biology and environmental science. It is designed to prepare students for the study of science with real world application. This course will cover the behavior of matter and energy in living and nonliving systems including matter, energy, bioenergetics, organismal biology, and systematics. **SUGGESTED FOR: CCCTC OR LIBERAL ARTS CAREER PATHWAY**

Math Grade 9 Course Block

(Must Choose 1: Algebra IB, Algebra II or Geometry-- Essentials of Algebra is assigned based on Keystone results)

MA220 ALGEBRA IB

Grade 9; 1 Credit; Year; Prerequisite: Algebra IA - Algebra IB is a continuation of Algebra IA. This course contains a Keystone Exam near the end of the academic year which is also a requirement for graduation (passing the exam or a remediation credit). The emphasis of the course is based on reasoning, logic, and the ideas of abstract mathematics. This course creates the mathematical foundations to be successful in further mathematics courses. The main areas of focus are operations with polynomials and rational expressions, writing, solving and analyzing linear equations/inequalities, graphing linear/nonlinear equations, exponential rules, functions, and factoring quadratic expressions. The course continues in depth understanding of abstract mathematics. This class allows extended time for practice and skill development of algebraic content recommended by teaching staff to foster student success. **SUGGESTED FOR: CCCTC OR LIBERAL ARTS CAREER PATHWAY**

MA223 ALGEBRA II

Grades 8-11; 1 Credit; Year; Prerequisite: Algebra I - This course is required to fulfill the 4 required mathematics credits towards graduation. This course builds upon the basic concepts of algebra including integers and their properties, polynomials and factoring, rational expression and their uses, real numbers, quadratic equations, linear sentences, functions, systems of equations. New concepts include 4 types of variations and their graphs, matrices, imaginary numbers, complex numbers, and exponential and logarithmic functions. **SUGGESTED FOR: CCCTC & LIBERAL ARTS CAREER PATHWAY**

MA250 ESSENTIALS OF ALGEBRA

Grade 9; ½ Credit; Semester; Elective – This elective course is the alternative state approved method for students to demonstrate proficiency of Algebra I. **Students who are not proficient on the Algebra I Keystone examination will be scheduled for this course**. This course expands the Algebra concepts covered in Algebra 1 and is primarily focused on providing remediation for students who have taken Algebra 1. This class will meet for forty (40) minutes five (5) days per week. Topics covered will be selected based off of the students' Keystone Algebra Exam results and other diagnostic tools. Students who successfully pass this course demonstrate proficiency of Algebra I and fulfills the graduation requirement.

MA300 GEOMETRY

Grade 9-12; 1 Credit; Year; Prerequisite: Algebra II - Geometry is a course emphasizing the properties of Plane Geometry and integrating selected topics of Solid Geometry. The major objectives are to develop/strengthen the student's reasoning abilities, spatial visualization, algebraic skills, and basic understanding of the structure of mathematics. Content includes postulates/theorems, line and plane relationships, plane and solid figures, special

properties of triangles, properties of quadrilaterals, properties of circles, special angle pairs, construction, area and volume. **SUGGESTED FOR: STEM CAREER PATHWAY**

English Grade 9 Course Block

(Must take both courses)

EN300 ENGLISH I

Grade 9; 1 Credit; Year - English I is designed to develop high school writing skills; writing skills that will set a solid foundation for high school English and beyond. Basic skills in reading, grammar and composition are continued and developed in this language arts course. Major compositions focus on: narrative, informational, critical/thematic analysis, and persuasive writing styles. Students review and revise their papers throughout the year in portfolio assignments.

EN305 ENGLISH/LIT SEM I

Grade 9; 1 CREDIT; YEAR - Literary Seminar is an additional 9th grade language arts course focusing on the continual practice of reading and writing strategies. Experiences in literature include: non-fiction texts, short stories, plays, poetry, biographical excerpts, and novels. Writing assignments include: constructed response pieces, poetry, narrative writing, and responses to literature. Students also participate in formal discussions and presentations throughout the year.

Social Studies Grade 9 Course Block

(Must take both courses)

SS305 CIVICS I

Grade 9; ½ Credit; Semester -The first part of a two-part course, Civics I will focus on foundational knowledge on the structures of American government. Students will be introduced to the concept of government, historical and philosophical foundations of American democracy, as well as the formation of our Constitution. Students will then learn about the structure and function of our government, covering the legislative, executive, and judicial branches.

SS310 CIVICS II

Grade 9; ½ Credit; Semester - The second part of a two-part course, Civics II will focus on educating students in their role as knowledgeable and engaged citizens. Citizenship and service will be ongoing themes of the class including discussions and a service project. Students will focus on determining their political party and opinions, learn about elections and voting, as well as develop the ability to read current events and distinguish between fact and misinformation. Students will learn about civil rights protected by the Constitution and Supreme Court interpretation of those rights as well as criminal law and serving on a jury. Finally, students will learn about America's influence abroad and how foreign policy effects domestic policy. Students may not take Civics II without first completing Civics I.

Physical Education Grade 9 Required Courses

(Must take the following course)

PE300 SWIMMING/HEALTH 9

Grade 9; ½ Credit; Semester – Required for 9th grade students. Tenth grade students may be take this course based on student schedule needs.

Technology Grade 9 Required Courses

(Must take the following course)

BC300 INTRO TO STEM

Grade 9; ½ Credit; Semester – Required for 9th grade students. This course is an introduction to a number of technology related fields that are organized around the eight areas of core technological competency. These are: Circuitry, Computer Graphics, Digital Communications, Mechanics and Structures, Robotics and Control Technology, Scientific Date and Analysis, Software Engineering, and Sustainability. The course will be designed around the concept of project based learning and will incorporate an ePortfolio system to demonstrate student learning.

Senior High 10th Grade Course Requirements

All tenth grade students must register for a minimum of 7 credits. Lunch and studyhall are not considered as credit earning class periods. All tenth grade students will have the following:

English- 2 credits, Social Studies- 1 credit, Science- 1 credit, Math- 1 credit, Physical Education- 0.5 credits, Technology- 0.50 credits, Life 101 0.25 credits, Driver Education Theory 0.25 credits, Electives- 2 credits

English courses are 1 credit each. Tenth grade students are required to take 2 courses, but have an option for one of the following English courses:

EN400 ENGLISH II (1 CR) OR EN402 ENGLISH II Pre-AP (1 CR)
AND
EN405 ENGLISH/LIT SEM II (1 CR)

Social Studies courses are both 0.50 AND 1.0 credit. Tenth grade students are required to take the following 2 Social Studies courses:

SS405 WORLD CULTURES I (0.50 CR) AND SS410 WORLD CULTURES II (0.50 CR)
OR
SS415 WESTERN CIVILIZATIONS (1 CR)

Science courses are 1 credit each. Tenth grade students will have the option to take 1 of the following Science courses:

SC300 BIOLOGY (1 CR) OR SC407 CHEMISTRY (1 CR)

Math courses are 1 credit each. Tenth grade students will have the option to take 1 of the following Math courses:

MA300 GEOMETRY (1 CR) OR MA400 COLLEGE ALGEBRA (1 CR)

Physical Education courses are 0.50 credits. Ninth grade students are required to take the following PE course:

PE400 PE/HEALTH 10

Life 101 course is 0.25 credits and pairs with Driver Education Theory 0.25 for the semester. All tenth grade students are required to take the following courses:

FC770 LIFE 101 (0.25 CR) AND PE405 DRIVER EDUCATION THEORY (0.25 CR)

Each tenth grade student will be afforded the opportunity to take 2 full elective credits. Full year classes are 1 credit each and semester classes are ½ credit. Please be advised when scheduling that your elective requests must equal 2 full credits. See the Senior High Elective section for available 10th grade electives and course descriptions.

10th Grade Course Selections and Descriptions

Science Grade 10 Course Block

(Must choose 1 area of Chemistry (Chemistry or Physical Science)--Essentials of Biology is assigned based on the Keystone results)

SC300 BIOLOGY

Grade 9; 1 Credit; Year - During this course, all aspects of general biology will be covered including; molecular, cellular, evolutionary, organismal biology, ecology, genetics, biotechnology and systematics. Students will learn through a combination of self-study, small group, cooperative learning and class discussions. Lab techniques, methodologies and process skills will be emphasized. This course is to be taken in preparation for the Biology Keystone Exam which will be taken at the conclusion of the course. Please be reminded that Keystone proficiency is a graduation requirement. **SUGGESTED FOR: LIBERAL ARTS OR STEM CAREER PATHWAY**

SC407 CHEMISTRY

Grade 10-11; 1 Credit; Year - This course is designed to introduce the student to basic concepts of chemistry and connections of these principles to everyday life. Topics include atomic structure, the periodic table, chemical reactions, stoichiometry, properties of gases, matter and energy, chemical bonding, acids and bases, nuclear chemistry. **SUGGESTED FOR: LIBERAL ARTS & STEM CAREER PATHWAY**

SC411 ESSENTIALS OF BIOLOGY

Grade 10; ½ Credit; Semester; Elective – This elective course is the alternative state approved method for students to demonstrate proficiency of Biology. **Students who are not proficient on the Biology Keystone examination will be scheduled for this course.** This elective course expands the biology concepts covered in SC300. The course is primarily focused on providing remediation for students who have taken Biology, but still need to take the Biology Keystone Exam. This class will meet for forty (40) minutes five (5) days per week. Topics covered will be selected based off of the students' Biology Keystone Exam results and other diagnostic tools. Students who successfully pass this course demonstrate proficiency of Biology and fulfills the graduation requirement.

Math Grade 10 Course Block

(Must choose 1)

MA223 ALGEBRA II

Grades 10-12; 1 Credit; Year; Prerequisite: Algebra I – This course is required to fulfill the 4 required mathematics credits towards graduation. This course builds upon the basic concepts of algebra including integers and their properties, polynomials and factoring, rational expression and their uses, real numbers, quadratic equations, linear sentences, functions, systems of equations. New concepts include 4 types of variations and their graphs, matrices, imaginary numbers, complex numbers, and exponential and logarithmic functions. **SUGGESTED FOR: CCCTC & LIBERAL ARTS CAREER PATHWAY**

MA300 GEOMETRY

Grade 9-12; 1 Credit; Year; Prerequisite: Algebra I – Geometry is a course emphasizing the properties of Plane Geometry and integrating selected topics of Solid Geometry. The major objectives are to develop/strengthen the student's reasoning abilities, spatial visualization, algebraic skills, and basic understanding of the structure of mathematics. Content includes postulates/theorems, line and plane relationships, plane and solid figures, special properties of triangles, properties of quadrilaterals, properties of circles, special angle pairs, construction, area and volume. **SUGGESTED FOR: ALL CAREER PATHWAYS**

MA400 COLLEGE ALGEBRA

Grade 10-12; 1 Credit; Year; Prerequisite: Algebra II; Dual Enrollment (Mount Aloysius MATH 112 College Algebra): This course is designed to prepare students for higher-level mathematics through a mastery of algebraic concepts. Topics include factoring, laws of exponents, polynomials, equations and inequalities (including

linear, quadratic, and absolute value), graphing (using linear equations and inequalities), systems of equations and inequalities, functions, rational expressions and radicals. College credits for dual enrolled classes are subject to the student being able to meet the requirements mandated by the college awarding the credits. In this course, high school algebra concepts are reviewed and extended upon while focusing on expressions, solving equations and inequalities, a detailed study of functions including polynomial, exponential and logarithmic functions, conic sections, and basic concepts of probability and counting. **SUGGESTED FOR: LIBERAL ARTS & STEM CAREER PATHWAY**

MA510 STATISTICS

Grades 10-12; 1 Credit; Year; Prerequisites: Algebra II OR Geometry – This course is designed to introduce statistics and the use of data for predicting and decision making in today's society. Statistics 360 will explore the use of number, measurement, estimation, problem solving, computing theoretical probability, permutations and combinations. Students will broaden their view of mathematics and its usefulness as they discuss statistical conclusions across the curriculum both orally and in writing. Students will also gain knowledge of statistics and probability and their use in such fields as economics, business, education, psychology, sociology, biology, and medicine. Content will include topics of sampling, data collection, measures of central tendencies and dispersions, normal distributions, scatter plots, correlation, regression, making predictions, probability, and odds. Content will also include the use of the TI-83 calculators to assist in learning and strengthening the understanding of the concepts. **SUGGESTED FOR: ALL CAREER PATHWAYS**

MA515 STATISTICS AP

Grades 10-12; 1 Credit; Year; Prerequisites: Algebra II OR Geometry; Advanced Placement; Dual Enrollment (Mount Aloysius Math 220-Statistics) – AP Statistics is the high school equivalent of a one semester, introductory college statistics course. In this course, students develop strategies for collecting, organizing, analyzing, and drawing conclusions from data. Students design, administer, and tabulate results from surveys and experiments. Probability and simulations aid students in constructing models for chance phenomena. Sampling distributions provide the logical structure for confidence intervals and hypothesis tests. Students will utilize technology such as the TI 84 graphing calculator, Excel and Web-based java applets to investigate statistical concepts. Students will be required to prepare frequent written and oral analyses of real data in order to develop effective statistical communication skills. We also will be utilizing the video series "Against All Odds" on the World Wide Web. **SUGGESTED FOR: LIBERAL ARTS & STEM CAREER PATHWAY**

English Grade 10 Course Block

(Must take EN400 or EN 402 and EN405)

EN400 ENGLISH II

Grade 10; 1 Credit; Year - This is a course in Language Arts primarily for the technical career or college-bound student. Literature study focuses on the novel, biography, poetry, Shakespearean drama, and the short story. Writing assignments focus on, descriptive, persuasive, expository essays, and related grammar and vocabulary instruction. All 10th grade students will take the Keystone Exam in Literature at the conclusion of English II. Please be reminded that Keystone Proficiency is a graduation requirement.

EN402 ENGLISH II Pre-AP

Grade 10; 1 Credit; Year; - This is an advanced course for sophomores. Students will explore various periods in American literature as they analyze how texts both shape and reflect society. Students will study the American literature cannon by reading and analyzing mythology, political speeches, short stories, poetry, drama, and a novel from authors including Washington Irving, Henry Wadsworth Longfellow, Nathaniel Hawthorne, Ralph Waldo Emerson, Edgar Allan Poe, Henry David Thoreau, Emily Dickinson, Walt Whitman and more. Writing assignments will focus on narrative, persuasive, argumentative, essay and research projects, as well as related grammar. Students will also research, write and deliver oral presentations. Students must have the recommendation of their English I teacher to elect this course. Students should be prepared to continue into Public Speaking and English Composition (junior year) and English IV, Advanced Placement (senior year). All 10th grade students will take the Keystone Exam in Literature at the conclusion of English II Pre-AP. Please be reminded that Keystone Proficiency is a graduation requirement.

EN405 ENGLISH/LIT SEM II

Grade 10; 1 Credit; Year - In Literature Seminar II, sophomore students will build on the reading and text analysis skills and strategies established during Literature Seminar I. Course work will heavily focus on reading in class and independently, and understanding and using many different terms associated with literature. Students will also study the characteristics of different types of literature including novel, short story, poetry, speech, and journalism. This course will consistently focus on the content of the Keystone Exam, the way it is set-up, and strategies needed to succeed on the exam.

Social Studies Grade 10 Course Block

(Must take SS405 and SS410 together or SS415 for the full year)

SS405 WORLD CULTURES I

Grade 10; ½ Credit; Semester – The first part in a two-part course, World Cultures

I will introduce students to the rapid changes in the world that happen during the 15th through the 19th centuries. Students will analyze the impact of European exploration on the economies, societies, and ecologies of the Old and New Worlds. Students will analyze the impact of new technologies of the period, such as the printing press, the caravel, and farming innovations. Students will understand and evaluate the ideas of Humanism, Enlightenment thinkers, and the Reformation.

SS410 WORLD CULTURES II

Grade 10; ½ Credit; Semester – The second part in a two-part course, World Cultures II will introduce students to the period of Revolutions and War around the globe from the 18th through the 20th centuries. Students will compare and contrast the American, French, and Russian Revolutions. Students will research and analyze the impact that the Industrial Revolution had around the globe. Students will evaluate and analyze the relationship between the Industrial Revolution and the start of the World Wars. Students will evaluate the emergence of Eastern Cultures as world powers in the 20th century.

SS415 WESTERN CIVILIZATIONS

Grade 10; 1 Credit; Year; **Dual Enrollment (Mount Aloysius HIST 101-World Civ. to 1500)** - Western Civilization examines past cultures in order to compare their experiences and make us aware of the opportunities and limitations of modern cultures. Major political, social, economic, and cultural trends and their influences on modern civilization are examined. As an introduction, this course begins in the Ancient Near East and proceeds through the Central Middle Ages. This is a dual enrolled course. This courses has the potential to become dual enrolled. **SUGGESTED FOR: LIBERAL ARTS & STEM CAREER PATHWAY**

Physical Education Grade 10 Required Courses

(Must take the following course)

PE400 PE/HEALTH 10

½ Credit; Semester – Required for 10th graders. Ninth grade students may be take this course based on student schedule needs.

Life 101 Grade 10 Required Course

(Must take the following course)

FC770 LIFE 101

Grade 10; ¼ Credit; 9 Weeks; Grade 9; Students considering cosmetology at the CCCTC must schedule this course in 9TH Grade This course will expose students to real life situations such as choosing a career, renting an apartment, choosing insurance, managing a checkbook, feeding a family, caring for children, ethical decision making in the workforce, and how to function in the workplace.

Driver Education Theory Required Course

(Must take the following course)

PE405 DRIVER EDUCATION THEORY

Grade 10; ¼ Credit; 9 Weeks; Grade 9; Students considering cosmetology at the CCCTC must schedule this course in 9TH Grade – This required course for all students is an academic study in safety education for drivers. It stresses basic driving skills, maneuvers, perceptual driving skills, decision-making skills, and driver attitudes. The rules of the road as they apply to country, highway, city and interstate driving are emphasized. Other major areas of emphasis are seat belt usage, the effects of alcohol and drugs on driving, and driving economically.

Students applying for admission to the CCCTC must have completed the following requirements in 9th and 10th grade prior to consideration:

English and Literature 4 credits
Social Studies 2 credits
Mathematics 2 credits
Science 2 credits
Driver Education Theory 0.25 credit
Life 101 0.25 credit
Physical Education and Health 1 credit
Computer Technology 0.50 credit
Electives 4 credits

*Students applying for admission to the CCCTC may use credit recovery during the summer of 9th and 10th grade years.

CAREER AND TECH CENTER

TC800 Collision Repair Technology I
TC802 Automotive Mechanics Technology I
TC804 Carpentry and Building Construction I
TC808 Cosmetology I
TC809 Cosmetology II
TC811 Information Technology I
TC814 Diesel Equipment Maintenance I
TC816 Digital Media Arts I
TC818 Drafting and Design I
TC824 Electrical Occupations I
TC828 Culinary Arts & Food Management I
TC830 Health Occupations Technology I
TC832 Metal Engineering Technology I
TC834 Masonry I
TC836 Welding and Metal Fabrication Technology I
TC848 HVACR I

Senior High 11th Grade Course Requirements

The required courses during the junior year will vary depending on the chosen career pathway. CCCTC students are required to take a minimum of 7.5 credits. Students who choose the Liberal Arts or STEM pathway will be required to take a minimum of 8 credits. Lunch and studyhall are not considered as credit earning class periods.

Required credits for CCCTC pathway:

English- 1 credit, Social Studies- 1 credit, Science- 1 credit, Math- 1 credit, Physical Education- 0.5 credits, Electives- 3.0 credits

Recommended courses for CCCTC pathway:

(Courses are recommended for the pathway. Students may choose a course selection from another pathway in place of the recommendation.)

English courses are 1 credit each. The recommended English course for the CCCTC pathway is:

EN500 ENGLISH III (1 CR)

The recommended Social Studies course for the CCCTC pathway is SS500 which is required Social Studies course and 1 of the following:

SS500 PENNSYLVANIA/LOCAL HISTORY (0.50 CR)
AND 1 of the following:
SS550 CIVIL WAR AND RECONSTRUCTION
SS555 THE WORLD WARS
SS560 MODERN AMERICA

Science courses are 1 credit each. 11th grade students will have the option to take 1 of the following Science courses. The recommended Science course for the CCCTC pathway is:

SC505 EARTH & SPACE SCIENCE (1 CR)

Math courses are 1 credit each. 11th grade students will have the option to take 1 of the following Math courses. The recommended Math course for the CCCTC pathway is:

MA525 CONSTRUCTION MATH (1 CR)

Physical Education courses are 0.50 credits. 11th grade students are required to take the following PE course:

PE550 SENIOR HIGH PE/HEALTH

Elective credits are fulfilled through the CTC.

Senior High 11th Grade Course Requirements

Required credits for Liberal Arts & STEM pathway:

English- 1 credit, Social Studies- 1 credit, Science- 1 credit, Math- 1 credit, Physical Education- 0.5 credits, Electives- 3.5 credits

Recommended courses for Liberal Arts & STEM pathway:

(Courses are recommended for the pathway. Students may choose a course selection from another pathway in place of the recommendation.)

English courses are 1 credit each. There are 2 choices for the Liberal Arts and STEM pathway is:

EN500 ENGLISH III (1 CR) OR EN520 ENGLISH COMP (1 CR)

Social Studies courses are both 0.50 and 1.0 credits. There are 2 choices for the Liberal Arts and STEM pathway:

SS500 PENNSYLVANIA/LOCAL HISTORY (0.50 CR)

AND 1 of the following:

SS550 CIVIL WAR AND RECONSTRUCTION (0.50 CR)
SS555 THE WORLD WARS (0.50 CR)
SS560 MODERN AMERICA (0.50 CR)

OR

SS510 UNITED STATES AND PENNSYLVANIA HISTORY AP

Science courses are 1 credit each. 11th grade students will have the option to take 1 of the following Science courses. The recommended Science course for the Liberal Arts and STEM pathway are:

SS510 PHYSICS (1 CR)

Math courses are 1 credit each. 11th grade students will have the option to take 1 of the following Math courses. All of the following are recommended for the Liberal Arts and STEM pathway:

MA400 COLLEGE ALGEBRA (1 CR)
MA510 STATISTICS (1 CR)
MA410 PRE-CALCULUS (1 CR)
MA535 AP COMPUTER SCIENCE A (1 CR)
MA540 AP COMPUTER SCIENCE PRINCIPLES (1 CR)

Physical Education courses are 0.50 credits. 11th grade students are required to take the following PE course:

PE550 SENIOR HIGH PE/HEALTH

Each 11th grade student will be afforded the opportunity to take 3.5 elective credits. Full year classes are 1 credit each and semester classes are ½ credit. Please be advised when scheduling that your elective requests should equal 3.5 credits.

See the Senior High Elective section for available 11th grade electives and course descriptions.

Grade 11 Course Selections and Descriptions

Science Grade 11 Course Block

(Must choose 1)

SC500 ADVANCED CHEMISTRY

Grade 11-12; 1 Credit; Year; Elective; Prerequisite: **Chemistry I –** This course is designed to prepare students who are interested in science and/or professional medical fields of study. The course deals with the following concepts: stoichiometry, intermolecular forces, solutions, states of matter, reaction rates, kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry, and nuclear chemistry. The fourth (4th) marking period of the course deals with organic chemistry with an emphasis on nomenclature and structure.
SUGGESTED FOR: STEM CAREER PATHWAY

SC510 PHYSICS

Grade 11-12; 1 Credit; Year; Dual Enrollment (Mount Aloysius PHYS 103-Applied Physics) – This course is intended for students who are interested in pursuing a 4-year college degree. It includes the study of scientific methods and measurement, linear and rotational motion, force, momentum, energy and conservation principles, simple harmonic motion, and wave phenomena. A significant amount of class time is dedicated to experiments and interactive demonstrations. Enrolling students should be comfortable with using algebra and geometry. **SUGGESTED FOR: LIBERAL ARTS & STEM CAREER PATHWAY**

SC505 EARTH & SPACE SCIENCE

Grade 11-12; 1 Credit; Year-This course describes the study of the earth and other planets as comprehensive physical systems, incorporating solid, liquid, gas, and radiation constituents, as well as exhibiting interactions with other systems. It includes planetary evolution, gravitational physics, atmospheric evolution, volcanism and crustal movement studies, global energy systems, organic systems and ecologies, oceanography, fluid dynamics, orbital mechanics, radiation physics, and the study of planetary and satellite systems. **SUGGESTED FOR CCCTC & LIBERAL ARTS CAREER PATHWAY**

SC625 ENVIRONMENTAL SCIENCE

Grades 11-12; 1 Credit; Year; Elective; Dual Enrollment (Pitt-Bradford ES0110-Intro to Env Science)
- This course is an interdisciplinary study that presents a general overview of how nature works and how Earth and life systems, including society, are interconnected. It examines how the environment is being used and abused by humans and what individuals can do to protect and improve it for future generations and other living things. **SUGGESTED FOR: ALL CAREER PATHWAYS**

Math Grade 11 Course Block

(Must Choose 1)

MA400 COLLEGE ALGEBRA

Grade 10-12; 1 Credit; Year; Prerequisite: Algebra II; Dual Enrollment (Mount Aloysius MATH 112-College Algebra): This course is designed to prepare students for higher-level mathematics through a mastery of algebraic concepts. Topics include factoring, laws of exponents, polynomials, equations and inequalities (including linear, quadratic, and absolute value), graphing (using linear equations and inequalities), systems of equations and inequalities, functions, rational expressions and radicals. College credits for dual enrolled classes are subject to the student being able to meet the requirements mandated by the college awarding the credits. In this course, high school algebra concepts are reviewed and extended upon while focusing on expressions, solving equations and inequalities, a detailed study of functions including polynomial, exponential and logarithmic functions, conic sections, and basic concepts of probability and counting. **SUGGESTED FOR: LIBERAL ARTS & STEM CAREER PATHWAY**

MA410 PRE-CALCULUS

Grades 11-12; 1 Credit; Year; Prerequisite: College Algebra and Geometry; Dual Enrollment (Pennsylvania Highlands MAT 170-Precalculus)- This course provides background in college level mathematics for the traditional College Preparatory senior and background for the advanced junior to pursue Calculus in High School. Use of the TI-89 graphing calculator is introduced in this course. This course offers a combination of college algebra and the stimulation of critical thinking. The course content consists of a thorough review of all algebraic operations, an introduction of the concept of functions, and the theory of equations. The Trigonometry content of this course covers both the analytic and the practical with the stress placed on the analytic side. Topics covered include the functions and the reduction of functions, identities, equations, graphs, radian measure, composite angles, and the solution of both right and oblique triangles. If time permits, the binomial theorem, progressions, and other topics will be selected to enrich the student's background in mathematics. **SUGGESTED FOR: LIBERAL ARTS & STEM CAREER PATHWAY**

MA510 STATISTICS

Grades 10-12; 1 Credit; Year; Prerequisites: Algebra II or Geometry – This course is designed to introduce statistics and the use of data for predicting and decision making in today's society. Statistics 360 will explore the use of number, measurement, estimation, problem solving, computing theoretical probability, permutations and combinations. Students will broaden their view of mathematics and its usefulness as they discuss statistical conclusions across the curriculum both orally and in writing. Students will also gain knowledge of statistics and probability and their use in such fields as economics, business, education, psychology, sociology, biology, and medicine. Content will include topics of sampling, data collection, measures of central tendencies and dispersions, normal distributions, scatter plots, correlation, regression, making predictions, probability, and odds. Content will also include the use of the TI-83 calculators to assist in learning and strengthening the understanding of the concepts. **SUGGESTED FOR: ALL CAREER PATHWAY**

MA515 STATISTICS AP

Grades 10-12; 1 Credit; Year; Prerequisites: Algebra II OR Geometry; Advanced Placement; Dual Enrollment (Mount Aloysius Math220-Statistics) – The AP Statistics course is designed for the college bound student who is interested in pursuing any career related to: medicine, genetics, business, mathematics, architecture, engineering, or any of the social sciences including psychology, sociology, political science, and education. Statistics is required for most majors in college with the possible exception of the fine arts. Students who successfully complete the course and AP examination may receive credit, advanced placement or both for a one-semester introductory college statistics class. Much of this course is devoted to developing the students into competent interpreters and investigators of statistical data and information. **SUGGESTED FOR: STEM CAREER PATHWAY**

MA525 CONSTRUCTION MATH

Grades 11-12; 1 Credit; Year; Dual Enrollment (Pennsylvania Highlands MAT115-Construction Math) - This course is to prepare the student for the mathematics use in building construction. Topics include applying basic mathematics to calculate spacing and sizing of Roof Rafters, Overhangs, and Stairs as used in building construction. Use of geometry for the calculation of building materials needed. **SUGGESTED FOR: ALL CAREER PATHWAYS**

MA535 AP COMPUTER SCIENCE A

Grade 11-12; 1 Credit; Year; Elective- AP Computer Science A introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language. **SUGGESTED FOR: ALL CAREER PATHWAYS**

MA540 AP COMPUTER SCIENCE PRINCIPLES

Grade 11-12; 1 Credit; Year; Elective-The goal of AP Computer Science Principles is to provide a broad, inspiring overview of computer science that is appropriate for all students who have completed a high school algebra course. By the end of this course, students will become empowered to critically analyze computing innovations as well as create inspiring applications that express their interests. In addition, they will be ready to incorporate computational thinking into their future fields of study. **SUGGESTED FOR: ALL CAREER PATHWAYS**

English Grade 11 Course Block

(Must choose EN500 or EN520)

EN500 ENGLISH III

Grade 11; 1 Credit; Year – This is a course in language arts for juniors. Although students are encouraged to read widely, emphasis is on American literature, the various genres and some of the most famous authors. Efforts are made to develop the students' abilities to think critically, write effectively, analyze a variety of texts, and to speak with poise and confidence. In general, students' skills in language arts are further developed and refined so that students may perform effectively in his/her future career path. **SUGGESTED FOR: CCCTC & LIBERAL ARTS CAREER PATHWAYS**

EN520 ENGLISH COMPOSITION AND PUBLIC SPEAKING

Grade 11; 1 Credit; Year; Dual Enrollment (Mount Aloysius ENGL 110-Rhetoric I) – English Composition I -emphasizes the techniques of writing expository essays with stress upon careful thinking, word choice, sentence structure, and methods of organization. Students practice the writing of clear, coherent, and unified paragraphs and essays. Editing skills and the use of correct grammar and mechanics are also emphasized. Students are taught research skills and are required to write a research paper. This is the standard college English composition course and Public Speaking **(Mount Aloysius COMM 260-Public Speaking**) – is designed to help the student build confidence in the theory and practice of public speaking, with the emphasis on the speaker-audience relationship. Skills include analyzing the speaking situation, choosing appropriate topics, conducting research, organizing ideas, utilizing evidence, using voice and body to deliver public speeches effectively to a live audience, and developing the ability to listen actively and critically. Through lectures, discussions, readings, technological supplements, and carefully designed speech projects and listening assignments, this course provides the following goals: to provide students with an understanding of the basic types of speeches and the purposes of each; to help students develop confidence and competence in the preparation and delivery of speeches; to enable students to listen critically to the speeches of others and offer constructive criticism; to increase students' awareness of the rights, privileges, and responsibilities of both speaker and listener in the communicative process. (This course combined with English Composition make up the 11th Grade English Requirement. Juniors must take both courses to receive 1 Credit of English). **SUGGESTED FOR: LIBERAL ARTS & STEM PATHWAYS**

Social Studies Grade 11 Course Block

(Must Choose American History Course SS500 PA/Local History AND
(SS550, SS555, or SS560), or the yearlong SS510 US and PA History AP)

SS500 PENNSYLVANIA/LOCAL HISTORY

Grade 11; ½ Credit; Semester – This course is designed to enlighten students about the importance of our Commonwealth in our initial quest for independence and in the birth of our nation. The course will also highlight the geography of Pennsylvania, with an emphasis on Clearfield County, as well as the importance Pennsylvanians have played throughout the history of our nation and state. **SUGGESTED FOR: ALL CAREER PATHWAYS**

AND

SS550 CIVIL WAR AND RECONSTRUCTION

Grade 11-12; ½ Credit; Semester; Elective- This course examines the wartime problems of the United States, as well as the consequences of the war and the postwar efforts to create a new Union. The individuals and groups who influenced the American experience will be emphasized, as well as the cultural, military, political, and socio-economic movements that shaped the nation. **SUGGESTED FOR: ALL CAREER PATHWAYS**

SS555 THE WORLD WARS

Grades 11-12; ½ Credit; Semester; Elective -- In this course, the major issues and causes of World War I and II will be discussed, along with a summary of the major battles, powers, and personalities (both military and political) that shaped the events and ultimate outcome of both epic struggles. This information will be presented as one overarching conflict and will give the student a working understanding of the basic history of these wars. **SUGGESTED FOR: ALL CAREER PATHWAYS**

SS560 MODERN AMERICA

Grade 11-12; ½ Credit; Semester; Elective -This course addresses the social, economic, political, and military aspects of the United States from the end of the World War II to the present. The course will emphasize the important people, issues, and events of the latter half of the 20th century through our present day. **SUGGESTED FOR: ALL CAREER PATHWAYS**

OR

SS510 UNITED STATES AND PENNSYLVANIA HISTORY AP

Grade 11; 1 Credit; Year; Advanced Placement - This course is designed to provide students with the analytic skills and factual knowledge necessary to deal critically with the problems and materials in American history. Students are prepared for intermediate and advanced college courses by making demands upon them equivalent to those of full-year introductory college courses. Students will learn to assess historical materials - their relevance to a given interpretative problem; their reliability, and their importance - and to weigh the evidence and interpretations presented in historical scholarship. Also, students should develop the skills necessary to arrive at conclusions on the basis of an informed judgment and to present reasons and evidence clearly and persuasively in essay format. The use of critical reading, writing and research skills outside of class will be emphasized. Enrollment requires a recommendation from the student's tenth grade social studies teacher. **SUGGESTED FOR: LIBERAL ARTS & STEM PATHWAYS**

Physical Education

PE550 SENIOR HIGH PE/HEALTH – Grade 11; ½ Credit; 1 Semester – Required for 11th graders.

Senior High 12th Grade Course Requirements

The required courses during the senior year will vary depending on the chosen career pathway. CCCTC students are required to take a minimum of 7.5 credits. Students who choose the Liberal Arts or STEM pathway will be required to take a minimum of 8 credits. Lunch and studyhall are not considered as credit earning class periods.

Required credits for CCCTC pathway:

English- 1 credit, Social Studies- 1 credit, Science- 1 credit, Math- 1 credit, Physical Education- 0.5 credits, Electives- 3.0 credits

Recommended courses for CCCTC pathway:

(Courses are recommended for the pathway.
Students may choose a course selection from another pathway in place of the recommendation.)

English courses are 1 credit each. The recommended English course for the CCCTC pathway is:

EN600 ENGLISH IV (1 CR)

The required Social Studies course for the CCCTC pathway is SS600 and 0.50 Social Studies elective of their choosing:

SS600 ECONOMICS (0.50 CR) AND 1 Social Studies Elective (0.50 CR)

Science courses are 1 credit each. 12th grade students will have the option to take 1 of the following Science courses. There are several Science options for the CCCTC pathway is:

SC625 ENVIRONMENTAL SCIENCE (1 CR)
SC610 EXERCISE PHYSIOLOGY (1.0 CR)
SC505 EARTH & SPACE SCIENCE (1.0 CR)

Math courses are 1 credit each. 12th grade students will have the option to take 1 of the following Math courses. The recommended Math course for the CCCTC pathway is:

MA327 FINANCIAL ALGEBRA (1 CR)

Physical Education courses are 0.50 credits. 12th grade students are required to take the following PE course:

PE550 SENIOR HIGH PE/HEALTH

Elective credits are fulfilled through the CTC.

Senior High 12th Grade Course Requirements

Required credits for Liberal Arts & STEM pathway:

English- 1 credit, Social Studies- 1 credit, Science- 1 credit, Math- 1 credit, Physical Education- 0.5 credits, Electives- 3.5 credits

Recommended courses for Liberal Arts & STEM pathway:

(Courses are recommended for the pathway. Students may choose a course selection from another pathway in place of the recommendation.)

English courses are 1 credit each. There are 2 choices for the Liberal Arts and STEM pathway is:

EN600 ENGLISH IV (1 CR) OR EN610 ENGLISH IV AP (1 CR)

There are 2 Social Studies choices for the Liberal Arts and STEM pathway:

SS600 ECONOMICS (0.50 CR) AND 1 Social Studies Elective (0.50 CR)

OR

SS535 US GOVERNMENT AND ECONOMICS

Science courses are 1 credit each. There are several Science options for the Liberal Arts and STEM pathway. Students should refer to the 12th grade science block and math electives for course selections.

Math courses are 1 credit each. There are several math options for the Liberal Arts and STEM pathway. Students should refer to the 12th grade math block and math electives for course selections

Physical Education courses are 0.50 credits. 12th grade students are required to take the following PE course:

PE550 SENIOR HIGH PE/HEALTH

Each 12th grade student will be afforded the opportunity to take 3.5 elective credits. Full year classes are 1 credit each and semester classes are ½ credit. Please be advised when scheduling that your elective requests should equal 3.5 credits.

See the Senior High Elective section for available 12th grade electives and course descriptions.

Grade 12 Course Selections and Required Courses

Science Grade 12 Course Block

(Must Choose 1)

SC500 ADVANCED CHEMISTRY

Grade 11-12; 1 Credit; Year; Elective; Prerequisite: **Chemistry; Dual Enrollment (Mount Aloysius CHEM 100-General Chemistry) –** This course is designed to prepare students who are interested in science and/or professional medical fields of study. The course deals with the following concepts: stoichiometry, intermolecular forces, solutions, states of matter, reaction rates, kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry, and nuclear chemistry. The fourth (4th) marking period of the course deals with organic chemistry with an emphasis on nomenclature and structure. **SUGGESTED FOR: STEM CAREER PATHWAY**

SC505 EARTH & SPACE SCIENCE

Grade 11-12; 1 Credit; Year-This course describes the study of the earth and other planets as comprehensive physical systems, incorporating solid, liquid, gas, and radiation constituents, as well as exhibiting interactions with other systems. It includes planetary evolution, gravitational physics, atmospheric evolution, volcanism and crustal movement studies, global energy systems, organic systems and ecologies, oceanography, fluid dynamics, orbital mechanics, radiation physics, and the study of planetary and satellite systems. **SUGGESTED FOR CCCTC & LIBERAL ARTS CAREER PATHWAY**

SC510 PHYSICS

Grade 11-12; 1 Credit; Year; Dual Enrollment (Mount Aloysius PHYS 103-Applied Physics) – This course is intended for students who are interested in pursuing a 4-year college degree. It includes the study of scientific methods and measurement, linear and rotational motion, force, momentum, energy and conservation principles, simple harmonic motion, and wave phenomena. A significant amount of class time is dedicated to experiments and interactive demonstrations. Enrolling students should be comfortable with using algebra and geometry. **SUGGESTED FOR: LIBERAL ARTS & STEM CAREER PATHWAY**

SC520 ADVANCED PHYSICS

Grade 12; 1 Credit; Year; Prerequisite: Physics I. This course continues to explore physics principles beyond SC510 (Physics 1). These include Electricity and Magnetism, Light and Optics, Thermodynamics, Atomic and Molecular, and Nuclear Physics. Lab experiments, reading, videos and discussions as well as project-based learning will form the core of this course. **SUGGESTED FOR: STEM CAREER PATHWAY**

SC600 ANATOMY AND PHYSIOLOGY

Grade 12; 1 Credit; Year; Elective: Dual Enrollment (Mount Aloysius BL201- Biology) - This course is designed to prepare students for entrance into pre-professional fields of study at the college level. It provides a comprehensive study of human anatomy and physiology. Laboratory work includes dissection of preserved specimens, microscopic study and physiologic activities. Strong study skills, including memorization of large quantities of material, utilization of charts/graphs and spelling and are required. **SUGGESTED FOR: LIBERAL ARTS & STEM CAREER PATHWAY**

SC610 EXERCISE PHYSIOLOGY

Grades 11-12; 1 Credit; Year; Elective; Dual Enrollment (Pennsylvania Highlands LIF 111-Health and Wellness) - This class is designed for students who have an interest in the health professional and fitness industries. It encompasses the study of human movement and the body's response to exercise and other health related issues. It also addresses performance enhancement and injury prevention. This class is designed for students interested in fields such as certified athletic trainers, physical therapists, health and physical education teachers, coaches, chiropractor, personal trainers, exercise equipment designer, wellness counselors, nutritionists, and other health/fitness professionals. This will be both a classroom and activity based class that will prepare students to take additional courses in exercise science. **SUGGESTED FOR: ALL CAREER PATHWAYS**

SC625 ENVIRONMENTAL SCIENCE

Grades 11-12; 1 Credit; Year; Elective; Dual Enrollment (Pitt-Bradford ES0110-Intro to Env Science) - This course is an interdisciplinary study that presents a general overview of how nature works and how Earth and life systems, including society, are interconnected. It examines how the environment is being used and abused by humans and what individuals can do to protect and improve it for future generations and other living things. **SUGGESTED FOR: ALL CAREER PATHWAYS**

Math Grade 12 Course Block

(Must Choose 1)

MA327 FINANCIAL ALGEBRA

Grade 12, 1 Credit; Year – This course is designed for seniors to reinforce their algebra knowledge and makes connections between algebra and real world situations. Seniors will benefit from this class whether they go straight into the work force, attend a trade school, or pursue a two or four year college degree. The major topics to be covered and related to algebra are: banking, stock market, budget planning, income taxes, employment basics, car, and home interest rates. **SUGGESTED FOR: ALL CAREER PATHWAYS**

MA400 COLLEGE ALGEBRA

Grade 10-12; 1 Credit; Year; Prerequisite: Algebra II; Dual Enrollment (Mount Aloysius MATH 112-College Algebra): This course is designed to prepare students for higher-level mathematics through a mastery of algebraic concepts. Topics include factoring, laws of exponents, polynomials, equations and inequalities (including linear, quadratic, and absolute value), graphing (using linear equations and inequalities), systems of equations and inequalities, functions, rational expressions and radicals. College credits for dual enrolled classes are subject to the student being able to meet the requirements mandated by the college awarding the credits. In this course, high school algebra concepts are reviewed and extended upon while focusing on expressions, solving equations and inequalities, a detailed study of functions including polynomial, exponential and logarithmic functions, conic sections, and basic concepts of probability and counting. **SUGGESTED FOR: LIBERAL ARTS & STEM PATHWAYS**

MA410 PRE-CALCULUS

Grades 11-12; 1 Credit; Year; Prerequisite: College Algebra and Geometry; Dual Enrollment (Pennsylvania Highlands MAT170- Precalculus)- This course provides background in college level mathematics for the traditional College Preparatory senior and background for the advanced junior to pursue Calculus in High School. Use of the TI-89 graphing calculator is introduced in this course. This course offers a combination of college algebra and the stimulation of critical thinking. The course content consists of a thorough review of all algebraic operations, an introduction of the concept of functions, and the theory of equations. The Trigonometry content of this course covers both the analytic and the practical with the stress placed on the analytic side. Topics covered include the functions and the reduction of functions, identities, equations, graphs, radian measure, composite angles, and the solution of both right and oblique triangles. If time permits, the binomial theorem, progressions, and other topics will be selected to enrich the student's background in mathematics. **SUGGESTED FOR: LIBERAL ARTS & STEM PATHWAYS**

MA500 CALCULUS AP

Grade 12; 1 Credit; Year; Advanced Placement; Prerequisite: Pre-Calculus; Dual Enrollment (Pennsylvania Highlands MAT 210-Calculus I) – In this course, certain aspects of college algebra, analytic geometry (algebraic geometry), and trigonometry are introduced or reviewed. Sets, limits, functions, graphing functions using polar/rectangular coordinates, and analytical curve sketching are studied. Differential & integral calculus along with applications constitute a major part of the curriculum. Certain theoretical aspects of calculus are studied functionally and as they relate to proofs. Use of the TI-89 graphing calculator is integrated throughout the course.

The AB Calculus course empathizes conceptual comprehension; a multi-representational approach to calculus (algebraic, graphical, numerical, analytic, and verbal); the use of technology, and unifying themes which include derivatives, integrals, limits, applications and modeling; and approximation. The course is intended to be challenging and demanding. Broad concepts and widely applicable methods are emphasized. The focus of the course is neither manipulation nor memorization of an extensive taxonomy of functions, curves, theorems, or problem types. Thus, although facility with manipulation and computational competence are important outcomes, they are not the cores of this course. Technology is used regularly by students and teachers to reinforce the relationships among the multiple representations of functions, confirm written work, implement experimentation, and assist in interpreting results. Through the use of the unifying themes of derivatives, integrals, limits, approximation, and applications/modeling, the course becomes a cohesive whole

rather than a collection of unrelated topics. These themes are developed using functions previously studied. This class meets seven periods per week. STUDENTS SHOULD HAVE A STRONG DESIRE TO TAKE THE AP TEST IN MAY IF CHOOSING THIS COURSE. **SUGGESTED FOR: STEM PATHWAYS**

MA510 STATISTICS

Grades 10-12; 1 Credit; Year; Prerequisites: Algebra II or Geometry –

This course is designed to introduce statistics and the use of data for predicting and decision making in today's society. Statistics 360 will explore the use of number, measurement, estimation, problem solving, computing theoretical probability, permutations and combinations. Students will broaden their view of mathematics and its usefulness as they discuss statistical conclusions across the curriculum both orally and in writing. Students will also gain knowledge of statistics and probability and their use in such fields as economics, business, education, psychology, sociology, biology, and medicine. Content will include topics of sampling, data collection, measures of central tendencies and dispersions, normal distributions, scatter plots, correlation, regression, making predictions, probability, and odds. Content will also include the use of the TI-83 calculators to assist in learning and strengthening the understanding of the concepts. **SUGGESTED FOR: ALL CAREER PATHWAYS**

MA515 STATISTICS AP

Grades 10-12; 1 Credit; Year; Prerequisites: Algebra II OR Geometry; Advanced Placement; Dual Enrollment (Mount Aloysius Math220-Statistics) –

AP Statistics is the high school equivalent of a one semester, introductory college statistics course. In this course, students develop strategies for collecting, organizing, analyzing, and drawing conclusions from data. Students design, administer, and tabulate results from surveys and experiments. Probability and simulations aid students in constructing models for chance phenomena. Sampling distributions provide the logical structure for confidence intervals and hypothesis tests. Students will utilize technology such as the TI 84 graphing calculator, Excel and Web-based java applets to investigate statistical concepts. Students will be required to prepare frequent written and oral analyses of real data in order to develop effective statistical communication skills. We also will be utilizing the video series "Against All Odds" on the World Wide Web. **SUGGESTED FOR: LIBERAL ARTS & STEM CAREER PATHWAYS**

MA525 CONSTRUCTION MATH

Grades 11-12; 1 Credit; Year; Dual Enrollment (Pennsylvania Highlands MAT115-Construction Math) - This course is to prepare the student for the mathematics use in building construction. Topics include applying basic mathematics to calculate spacing and sizing of Roof Rafters, Overhangs, and Stairs as used in building construction. Use of geometry for the calculation of building materials needed. **SUGGESTED FOR: ALL CAREER PATHWAYS**

MA535 AP COMPUTER SCIENCE A

Grade 11-12; 1 Credit; Year; Elective-

AP Computer Science A introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language. **SUGGESTED FOR: ALL CAREER PATHWAYS**

MA540 AP COMPUTER SCIENCE PRINCIPLES

Grade 11-12; 1 Credit; Year; Elective-The goal of AP Computer Science Principles is to provide a broad, inspiring overview of computer science that is appropriate for all students who have completed a high school algebra course. By the end of this course, students will become empowered to critically analyze computing innovations as well as create inspiring applications that express their interests. In addition, they will be ready to incorporate computational thinking into their future fields of study. **SUGGESTED FOR: ALL CAREER PATHWAYS**

English Grade 12 Course Block

(Must Choose 1)

EN600 ENGLISH IV

Grade 12; 1 Credit; Year – This is a basic course in Language Arts for senior college-bound students. Included are literature study units of the short story, novel, drama, biography, and poetry. Composition units emphasize techniques in expository writing and creative writing. Also, a unit on completing necessary forms for college entrance is included, and a term paper is required. Additional units include vocabulary study, preparing for SAT and ACT, and formal and informal speaking experiences. **SUGGESTED FOR ALL CAREER PATHWAYS**

EN610 ENGLISH IV AP

Grade 12; 1 Credit; Year; Advanced Placement; Dual Enrollment (Mount Aloysius EN111-Rhetoric II) – This is a college level course for senior students. It fulfills the credit requirements for English IV. In addition, students may be granted college credit through taking the AP Literature and Composition Test. It is highly recommended you have earned an 85% or better (or get a recommendation from your teacher) in your 11th grade English course in order to be successful in AP English IV. **SUGGESTED FOR LIBERAL ARTS & STEM CAREER PATHWAYS**

Social Studies Grade 12 Course Block

(Must Choose SS600 or SS535)

SS600 ECONOMICS

Grade 12; ½ Credit; Semester – This course has a twofold purpose: to describe the operations of the economic system and to analyze and solve economic problems. The student will come to understand the American free enterprise system, problems of scarcity, the market system, supply and demand, the government's role, competition, poverty, and international trade. **SUGGESTED FOR ALL CAREER PATHWAYS**

SS535 US GOVERNMENT AND ECONOMICS

Grade 12; 1 Credit; Year; Elective; Dual Enrollment (Pitt-Bradford PS0102- American Pol Proc)- This course is designed to give students an in-depth analytical perspective on government and politics in the United States. Students will study both the general concepts used to interpret US government and politics, the Constitution and analysis of specific examples of political dealings. The course work will be rigorous, with students being required to research, analyze and interpret basic data, prepare and present papers and stay current on political events. Students taking the course may wish to take the AP exam in May. **SUGGESTED FOR LIBERAL ARTS & STEM CAREER PATHWAYS**

Grade 12 Required Courses

Physical Education

PE550 SENIOR HIGH PE/HEALTH Grade 12; ½ Credit; Semester – Required for 12th graders.

ELECTIVES

Courses are available to grades 9-12 unless otherwise indicated.

All courses are ½ credit and a semester course unless marked with an *, those courses are 1 credit and a full year course.

Courses in bold font denotes weighted courses. Courses marked with a ^ meet the technology credit requirement.

ENGLISH
EN310 Journalism I ^
EN312 Journalism II ^
EN315 Theatre Arts
EN317 Adv. Theatre Arts
EN320 Creative Writing
EN325 Creative Writing II
EN402 (10) English II Pre-AP*
EN520 (11) Eng. Comp/Public Speaking (DE)*
EN510 (12) Public Speaking (DE)
EN515 (12) English Comp (DE)
EN610 (12) English IV AP* (DE)

SOCIAL STUDIES
SS510 (11) US/PA-AP*
SS515 (11-12) Psychology (DE)
SS520 Pop Culture*
SS530 (11-12 only) Sociology (DE)
SS415 (10) Western Civilizations *
SS550 (11-12) Civil War and Reconstruction
SS555 (11-12) The World Wars
SS560 (11-12) Modern America
SS565 (11-12) Criminal Justice
SS535 (12) US Gov. and Economics* (DE)
SS540 (11-12 only) Big History
SS545 (11-12 only) Sports in Cont. Amer. Society

MATH
MA400 (10-12) College Algebra (DE)*
MA410 (11-12) Pre- Calculus* (DE)
MA455 (12) Financial Algebra*
MA500 (12) Calculus AP* (DE)
MA510 (10-12) Statistics*
MA515 (10-12) Statistics-AP * (DE)
MA525 (11-12) Construction Math (DE)*
MA535 (11-12) AP Computer Science A*^
MA540 (11-12) AP Computer Science Principles^

SCIENCE
SC407 Chemistry*
SC411 Essentials of Biology
SC500 (11-12) Advanced Chemistry*
SC510 (11-12) Physics* (DE)
SC505 (11-12) Earth & Space Science
SC515 (12) AP Physics *
SC525 (12) Advanced Physics
SC600 (12) Anatomy* (DE)
SC610 (11-12) Exercise Physiology* (DE)
SC625 (11-12) Environmental Science* (DE)

WORLD LANGUAGES
WL300 Spanish I*
WL400 (10-12) Spanish II (DE)*
WL500 (11-12) Spanish III (DE)*
WL600 (12) Spanish IV AP*

MUSIC
MU800 Band *
MU802 Band Front
MU805 Orchestra*
MU810 Choir *
MU815 Music in Cinema/Movies
MU819 Introduction to Music (DE)
MU825 Guitar I
MU827 (10-12) Guitar II
MU830 Digital Music ^
MU833 American Popular Music
MU835 Piano I
MU837 Piano II

CAREER AND TECH CENTER (Grades 11/12)
(Courses Offered at CCCTC, These are 3 credit courses)
TC800 Collision Repair Technology I
TC801 Collision Repair Technology II
TC802 Automotive Mechanics Technology I
TC803 Automotive Mechanics Technology II
TC804 Carpentry and Building Construction I
TC805 Carpentry and Building Construction II
TC808 Cosmetology I (Grade 10)
TC809 Cosmetology II
TC810 Cosmetology III
TC811 Information Technology I
TC812 Information Technology II
TC814 Diesel Equipment Maintenance I
TC815 Diesel Equipment Maintenance II
TC816 Digital Media Arts I
TC817 Digital Media Arts II
TC818 Architectural Drafting I
TC819 Architectural Drafting II
TC824 Electrical Occupations I
TC825 Electrical Occupations II
TC826 Electronics and Robotics I
TC827 Electronics and Robotics II
TC828 Culinary Arts I
TC829 Culinary Arts II
TC830 Health Occupations I
TC831 Health Occupations II
TC832 Precision Machine I
TC833 Precision Machine II
TC834 Masonry I
TC835 Masonry II
TC836 Welding I
TC837 Welding II
TC846 Medical Office Assistant I
TC847 Medical Office Assistant II
TC848 HVACR I

CO-OP PROGRAM
(Credit amount will vary based on the student's experience)

FC991 Work/Cooperative Ed Program (Grade 12)

DRAFTING & TECHNOLOGY ED
TE750 Engineering and Design ^
TE850 Computer Aided Drafting I (CAD) ^
TE854 Computer Aided Drafting II
TE855 Architect Studio ^
TE864 (11-12) Dream House Design^
TE866 (10-12) Inventor I ^
TE867 (11-12) Inventor II ^
TE871 Material Process I
TE872 Material Process II
TE873 Material Process III
TE878 Construction Systems
TE880 (10-12) Fabrication Lab ^

ART
AR850 Basic Art
AR851 Drawing and Painting (DE)
AR854 (10-12) Art Design
AR856 Intro to Photography ^
AR858 (11-12) Ceramics Studio
AR860 Crafts
AR862 (11-12) Art Studio
AR864 Ceramics I
AR866 Ceramics II
AR890 Intro to Photoshop ^

AGRICULTURE EDUCATION
AG700 Veterinarian Science
AG702 Ag Mechanics I
AG703 Ag Mechanics II
AG705 Agriscience I*
AG707 Food Science I
AG711 Animal Science
AG717 Natural Resources/Wildlife I
AG719 Forestry Services
AG721 Plant Science and Landscape
AG725 Agr. Sci. -Supervised Ag. Exp. SAE*

FAMILY AND CONSUMER SCIENCES
FC730 Cake Design
FC735 Sewing & Fashion Design
FC738 Life Beyond High School
FC760 Creative Cooking I
FC761 Creative Cooking II
FC762 Food for Fitness
FC763 Foods of the World

BUSINESS AND COMPUTER ED
BC377 Coding for Apps & Games ^
BC709 HS Computer Applications- Needs based
BC710 Intro to STEM ^
BC713 Microcomputer Applications (DE) ^
BC730 Accounting Principles I (DE)
BC735 Accounting Principles II (DE)
BC750 Multimedia Design ^

Senior High Electives

(Electives are offered based upon course demand and available staffing. Not all electives are available every year.)

English Electives

EN310 JOURNALISM I

Grades 9-12; ½ Credit; Semester; Elective –Journalism I is designed for the student who is interested in basic journalism. This is a hands-on writing course. The focus is creating a variety of newspaper stories and photos for publication in The Stampede, the online student newspaper. Studies will include the gathering of news, news organization, interviewing, and writing news stories, features, sports stories, and editorials. In addition to developing writing and photography abilities, students will learn valuable web design and layout skills as they publish their work online. Students with strong writing skills and an interest in the school newspaper are encouraged. Due to its writing focus, it is recommended that students who register for this course have an 80% or above in English.

EN312 JOURNALISM II

Grades 9-12; ½ Credit; Semester; Elective; Prerequisite: Journalism I –Journalism II is designed for the student who, having successfully completed Journalism I, wishes to improve news-gathering and writing skills. It is a writing intensive class. Working on the school newspaper is a major aspect of this course. Several articles of each journalistic type will be written. Emphasis is on editing and rewriting. Due to its writing focus, it is recommended that students who register for this course have an 80% or above in English.

EN315 THEATRE ARTS

Grades 9-12; ½ Credit; Semester; Elective – Theatre Arts class is a performance-based class. Through the process of improvisation and creative thinking, students learn skills in taking direction and solving problems both in the classroom and on stage. Theatre Arts explores acting, voicing, directing, stage design, costuming, history, script writing, and acting theory. Students are expected to perform both for their peers both inside the classroom and outside. Drama is a collaborative effort involving communication, and cooperative learning. Due to the nature of this performance-based class, it is critical that students come to class with lines and actions memorized, and costumes and props in hand.

EN317 ADVANCED THEATRE ARTS

Grades 9-12; ½ Credit; Semester; Elective; Prerequisite: Theatre Arts – Theatre Arts – Advanced Theatre Arts class is a performance-based class. Students perform a variety of shows throughout the course of the semester. Some of the shows may include but are not limited to: The Crucible by Arthur Miller; Midsummer Night's Dream, Julius Caesar, Romeo and Juliet, and, Macbeth by Shakespeare; Antigone by Sophocles; and Our Town by Thorton Wilder. Students are not allowed to perform without teacher consent, which is stipulated by students' academic performance and availability. Students are expected to memorize lines and actions and come to class prepared with costumes and props in hand. Students are expected to audition for roles, study the historical, cultural, and thematic implications of scripts, and apply acting theory to their work. Also, improvisation and creative thinking are a must.

EN320 CREATIVE WRITING

Grades 9-12; ½ Credit; Semester; Elective – Creative writing is a one semester English elective where students will evaluate and create multiple types of fiction and non-fiction writing. They will study the elements involved in creating short stories, poetry, song lyrics, parody, and satire while also evaluating the author's purpose for using each medium. Students will also be expected to produce several pieces of their own writing where they have the opportunity to practice some of the elements used in creative writing.

EN325 CREATIVE WRITING II

Grades 9-12; ½ Credit; Semester; Elective Creative Writing II is a one semester English elective course where students will build upon skills and ideas that were introduced in Creative Writing I. This course will focus less on introductory material, and will focus more on advanced reading and analysis of fiction and non-fiction literature as well as other cultural forms of creative writing in media. Students will study author's style and purpose, while also evaluating the characteristics of advanced types of creative writing. Students will be required to use the full writing and revision process in order to create and present their own pieces of short story, poetry, satire, and non-fiction.

Social Studies Electives

SS515 PSYCHOLOGY

Grades 11-12; ½ Credit; Semester; Elective; Dual Enrollment (Mount Aloysius PSYC 101 – General Psych) – This introductory course into the study of human behavior and experience emphasizes the basic facts of psychology as a scientific discipline. The student will understand how the abstractions and principles of psychology occur in everyday life. Major units of study include an overview of the history of psychology: the primary schools of psychology and personality theories, motivation, perception, conditioning, emotions and stress, learning, disturbance and breakdown, and psychotherapy.

SS520 POP CULTURE

Grades 9-12; 1 Credit; Semester; Elective; Dual Enrollment (Pennsylvania Highlands HIS205) - This course is an exploration of the 20th into the 21st centuries through the use of American popular culture. Each decade will be examined for the items that helped shape its respective cultural identity. These include film and theater, food and drink, music, print media, sports and games, fashion and fads, television, and radio. By doing so, this class will teach us who we are; what we were; and where we are going.

SS530 SOCIOLOGY

Grades 11-12; ½ Credit; Semester; Elective; Dual Enrollment (Mount Aloysius SOCI 101 – Intro to Soc) – A study of man and his relationship to other people. This course covers the spectrum of personal relationships from the family to international relations. Students will identify the socialization process, social organization, social institutions, and cultural and social change. Students will identify social problems, study and discuss them. Changes in society, social stratification, social control, adolescence, the family, marriage, etc. are included.

SS535 US GOVERNMENT AND ECONOMICS

Grade 12; 1 Credit; Year; Elective; Dual Enrollment (Pitt-Bradford PS0102- American Pol Proc)- This course is designed to give students an in-depth analytical perspective on government and politics in the United States. Students will study both the general concepts used to interpret US government and politics, the Constitution and analysis of specific examples of political dealings. The course work will be rigorous, with students being required to research, analyze and interpret basic data, prepare and present papers and stay current on political events. Students taking the course may wish to take the AP exam in May.

SS540 BIG HISTORY

Grade 11-12; ½ Credit; Semester; Elective- This course will explore the entire history of humanity from origins to the future. We will explore the Big History Project, a wealth of information that looks at the entire history of the world, breaking time into nine thresholds that allowed for the rise of humans. We will explore origins of our planet, life, and humans, the reasons why humans control the whole earth, and discoveries that landed us where we are today. We will discuss modern problems facing our species as well as new problems we will face in the future. If you ever wondered, "Why am I here?", then this class will help you answer that.

SS545 SPORTS SOCIETY

Grade 11-12; ½ Credit; Semester; Elective- This course draws on critical perspectives to examine sport as an important social institution. As a microcosm of society, sport is a social construction and therefore is an arena in which sociological processes can be studied. As a class, we will draw on ethnographies, films, sports studies, critical theory, and contemporary media to examine cultural, social, political, and economic dimensions of sport. We will focus in particular on the problem of power and how sociological concepts such as stratification and inequality, globalization and colonialism, discrimination, norms, identities, mobility, violence, and social structure play out in the realm of sport. We will focus primarily on 'modern' sport, its roles in contemporary communities, and its intersection with social hierarchies, political movements, processes of globalization, and labor migration.

SS565 CRIMINAL JUSTICE

Grade 11-12, ½ Credit; Semester; Elective - The focus of this course is to introduce students to the field of criminal justice through the examination of historical data, statistical information, theories of crime causation, social control of behavior, development of laws, and evaluation of criminal justice system policies, procedures, and trends. Students learn the terminology of the field, and gain an awareness of the methods of inquiry utilized in the field.

SS550 CIVIL WAR AND RECONSTRUCTION

Grade 11-12; ½ Credit; Semester; Elective- This course examines the wartime problems of the United States, as well as the consequences of the war and the postwar efforts to create a new Union. The individuals and groups who influenced the American experience will be emphasized, as well as the cultural, military, political, and socio-economic movements that shaped the nation.

SS555 THE WORLD WARS

Grades 11-12; ½ Credit; Semester; Elective -- In this course, the major issues and causes of World War I and II will be discussed, along with a summary of the major battles, powers, and personalities (both military and political) that shaped the events and ultimate outcome of both epic struggles. This information will be presented as one overarching conflict and will give the student a working understanding of the basic history of these wars.

SS560 MODERN AMERICA

Grade 11-12; ½ Credit; Semester; Elective -This course addresses the social, economic, political, and military aspects of the United States from the end of the World War II to the present. The course will emphasize the important people, issues, and events of the latter half of the 20th century through our present day.

Science Electives

SC600 ANATOMY

Grade 12; 1 Credit; Year; Elective: Dual Enrollment (Mount Aloysius BIOL 201- Anatomy and Physiology I) - This course is designed to prepare students for entrance into pre-professional fields of study at the college level. It provides a comprehensive study of human anatomy and physiology. Laboratory work includes dissection of preserved specimens, microscopic study and physiologic activities. Strong study skills, including memorization of large quantities of material, utilization of charts/graphs and spelling and are required.

SC610 EXERCISE PHYSIOLOGY

Grades 11-12; 1 Credit; Year; Elective; Dual Enrollment (Pennsylvania Highlands LIF 111 Health and Wellness) - This class is designed for students who have an interest in the health professional and fitness industries. It encompasses the study of human movement and the body's response to exercise and other health related issues. It also addresses performance enhancement and injury prevention. This class is designed for students interested in fields such as certified athletic trainers, physical therapists, health and physical education teachers, coaches, chiropractor, personal

trainers, exercise equipment designer, wellness counselors, nutritionists, and other health/fitness professionals. This will be both a classroom and activity based class that will prepare students to take additional courses in exercise science.

SC625 ENVIRONMENTAL SCIENCE

Grades 11-12; 1 Credit; Year; Elective; Dual Enrollment (Pitt-Bradford ES0110-Intro to Env Science) - This course is an interdisciplinary study that presents a general overview of how nature works and how Earth and life systems, including society, are interconnected. It examines how the environment is being used and abused by humans and what individuals can do to protect and improve it for future generations and other living things.

SC500 ADVANCED CHEMISTRY

Grade 11-12; 1 Credit; Year; Elective; Prerequisite: **Chemistry; Dual Enrollment (Mount Aloysius CHEM 100-General Chemistry) –** This course is designed to prepare students who are interested in science and/or professional medical fields of study. The course deals with the following concepts: stoichiometry, intermolecular forces, solutions, states of matter, reaction rates, kinetics, equilibrium, acids and bases, thermodynamics, electrochemistry, and nuclear chemistry. The fourth (4^{th}) marking period of the course deals with organic chemistry with an emphasis on nomenclature and structure.

SC520 ADVANCED PHYSICS

Grade 12; 1 Credit; Year; Prerequisite: Physics I. This course continues to explore physics principles beyond SC510 (Physics 1). These include Electricity and Magnetism, Light and Optics, Thermodynamics, Atomic and Molecular, and Nuclear Physics. Lab experiments, reading, videos and discussions as well as project-based learning will form the core of this course. **SUGGESTED FOR: STEM CAREER PATHWAY**

World Language Electives

WL300 SPANISH I

Grades 9-12; 1 Credit; Year; Elective - This course is an integrated learning system designed to provide beginning-level secondary students with immediately useful communicative skills in Spanish. All four language skills (listening, speaking, reading and writing) are practiced in meaningful real-life, culturally-integrated contexts: talking about self, family and friends; getting around towns, using public transportation (subway, etc.); getting acquainted with the Hispanic world; giving and following directions; making purchases in a variety of stores. Students acquire proficiency through careful individual study, in-class interactive oral/aural activities and assigned out-of-class related reading/writing practice. Audio- and videotape programs and worksheets accompany the text. Festival/holiday celebrations, games, projects, puzzles, and realia further enrich the course. **SUGGESTED FOR LIBERAL ARTS & STEM CAREER PATHWAYS**

WL400 SPANISH II

Grades 10-12; 1 Credit; Year; Elective; Prerequisite: Spanish I; Dual Enrollment (Mount Aloysius SPAN 101- Elem Spanish I) This course may be taken for college credit in conjunction with Spanish I. Students must dual enroll in Spanish II to be eligible to dual enroll Spanish III. – This course builds upon Spanish I, expanding the cultural and conversational knowledge of the students to include all Hispanic countries. Students learn to communicate about the travel, shopping, daily routines, food, health, technology, cultural legends and cultural traditions. Students practice oral, auditory, written and reading communication skills. Instruction is given in both Spanish and English, with an increase in Spanish as the year progresses. Students will be required to speak a higher percentage of Spanish as the year progresses. **SUGGESTED FOR LIBERAL ARTS & STEM CAREER PATHWAYS**

WL500 SPANISH III

Grades 11-12; 1 Credit; Year; Elective; Prerequisites: Spanish I and II; Dual Enrollment (Mount Aloysius – SPAN 102 – Elem Spanish II) - This course continues to build on students' prior knowledge, expanding their cultural knowledge to include information about self-awareness, daily routines, shopping, health and fitness, travel, cultural holidays and cultural beliefs. Students practice oral, auditory, written and reading communication skills. Instruction is given in both Spanish and English, with an increase in Spanish as the year progresses. Students will be required to speak a higher percentage of Spanish as the year progresses. **SUGGESTED FOR LIBERAL ARTS & STEM CAREER PATHWAYS**

WL600 SPANISH IV AP

Grade 12; 1 Credit; Year; Elective; Prerequisites: Spanish I, II, and III; Advanced Placement– This is comprehensive review and systematic expansion of the basic structures and vocabulary of Spanish. Topics covered include personal relationships, cities, family, our world, work, finances, technology, sciences and legends. Students develop their listening, speaking, reading and writing skills and cultural competency to help prepare them for the Advanced Placement Spanish Language Exam. **SUGGESTED FOR LIBERAL ARTS & STEM CAREER PATHWAYS**

Music Electives

MU800 BAND

Grades 9-12; 1 Credit; Year; Elective; Prerequisites: Instrument Proficiency/Audition- The Band program at the Clearfield High School is a part of a comprehensive instrumental music program that performs throughout the entire year. Instrumentalists are given the opportunity to master their instrument while performing a varied program of musical styles. Special emphasis on tone quality, dynamics, articulation and technique will be stressed. There are many demands on the individual musician in the band. All participants are required to attend summer band rehearsals in June, July and August. The band participates in area patriotic ceremonies, parades and/or festivals as well as provides entertainment at home and away football games. All students physically capable are required to participate during the marching season. In addition, concerts will be performed in the winter and/or spring. Accomplished musicians are afforded the chance to participate in District, Regional, All-State and/or County Band Festivals. Rehearsals are held during the regularly scheduled music period as well as after school and/or evenings throughout the year. All students are also expected to attend instrumental music lessons during the school day on a bi-weekly, rotating schedule. All students are required to participate in all facets of the band program.

MU802 BAND FRONT (Majorette/Silk Corps/Color Guard)

Grades 9-12; ½ Credit; Semester; Elective; Prerequisites: Audition – These groups are sections of the band that perform during the marching season. All girls must audition to become a member of these squads. The routines are drawn up with the cooperation of the instructor and greatly enhance the performance of the Bison Band. These groups perform with the band at all of the marching performances. Participants must attend summer band rehearsals in June, July and August. Rehearsals are held during the regularly scheduled music period as well as after school and/or evenings. **THIS IS NOT A CLASS OFFERED**

MU805 ORCHESTRA

Grades 9-12; 1 Credit; Year; Elective; Prerequisites: Instrument Proficiency/Audition- This performing group enables the orchestral string student the opportunity to perform both popular and standard symphony literature. Auditions are held yearly to fill the winds and percussion openings within the orchestra. The orchestra performs a concert every spring. Members from the orchestra also have the opportunity to participate in District, Regional, and State orchestra festivals. Students are expected to attend instrumental sectionals throughout the year. String members also are expected to attend lessons throughout the school year and/or in the month of June. Additional rehearsals will be scheduled after school and/or in the evenings as needed.

MU810 CHOIR

Grades 9-12; 1 Credit; Year; Elective; Prerequisite: Audition– Choir gives students the opportunity to sing in four parts: soprano, alto, tenor, and bass. This performing group will rehearse classical and contemporary selections. The members will learn of music notation, increase their ability to hear harmony, and generally learn to sing. Performances are in December and May. Members have the privilege of auditioning for the District, Regional and State Chorus. Those members who are only in Chorus, and not Band or Orchestra, will meet five days a week.

MU815 MUSIC IN CINEMA/MOVIES

Grades 9-12; ½ Credit; Semester; Elective – Beginning in the late 1800s with silent films and through to the present day, this course provides an overview of the major stylistic trends and musical influences that led to the development of film scoring as a vital and living dramatic art form. Films are never produced in a vacuum, but are products of their time and place; likewise, the music that is designed to support and accompany these films is no exception. To understand the concepts of clichés, archetypes, and other associative devices used by film composers, the student must go back to the original source, and consider the historical context. Even if you are taking the course for interest's sake alone, you will be able to better appreciate the art and craft of effective film music, as you come to understand that nothing you hear happens by chance. We will discuss and analyze the lives and works of significant composers, ranging from the romantic/operatic orchestral tradition to the influences of popular styles such as jazz, rock, and song scores. We will also examine more recent trends including electronic/synthesized scores and the influence of world music.

MU819 INTRO TO MUSIC

Grades 9-12; ½ Credit; Semester; Elective; Dual Enrollment (Mount Aloysius MUSC 281 – Special Topics in Music) – This class is designed for the student who enjoys all types of music or the student who would like to gain an appreciation for all types of music. The class will sample all types of music and will provide the student with the basic knowledge in all aspects of music. It will discuss music's role in society and will trace its origins to the present.

MU825 GUITAR I

Grades 9-12: ½ Credit; Semester; Elective- This course is designed to introduce students to the guitar as a melody and accompaniment instrument. Included in the course will be a brief history of the instrument, discussion of different types of guitars and different styles of guitar music. Using H.O.T./Hands On Training (Class Guitar Resources) Book I, students will learn tuning, basic music theory, scales, chords, chord construction, various accompaniment patterns and songs utilizing various styles and techniques learned. Students must provide their own six string guitar for home.

MU827 GUITAR II

Grades 9-12; ½ Credit; Semester; Elective; Prerequisite – Guitar I– This course is designed as a continuance of Introduction to Guitar I. Emphasis is on note reading, tablature, barres, chords, and those musical nuances not covered in Introduction to Guitar using H.O.T./Hands On Training (Class Guitar Resources) Book II.

MU830 DIGITAL MUSIC

Grades 9-12; ½ Credit; Semester; Elective - In GarageBand 101, students will create, perform and record their own music using the digital music program, GarageBand. Students will develop tech skills and combine these with musical skills as they work with GarageBand. They will gain a thorough understanding of the operation of GarageBand, how to incorporate it into their music creation process and how to use it to record their own compositions. This course will encourage individual and cooperative creativity through a Project-Based Learning Environment.

MU833 AMERICAN POPULAR MUSIC

Grades 9-12; ½ Credit; Semester; Elective — Throughout the years, musical styles have reflected the society of the time and have evolved with changes in the world. Not only does music change with society but it changes with technological advances as well. As technology changes, new styles emerge and humans develop new ways to consume music. From radio to television, and records to the internet, music and the way we consume it has dramatically changed in the past ninety years. Even the innovations in the technology used to create musical instruments and recording

equipment has effected what styles and songs are made and popular within the music landscape. Throughout this section, we will try to briefly cover the types of music that were popular since the 1940's up until the present day by providing lists of genres and artists as well as some historical context. This course will discover how popular music has evolved through the decades from the 1920s to today.

MU835 PIANO I

Grades 9-12- ½ Credit; Semester; Elective – Class piano is designed to teach the concepts and fundamentals needed to perform on the piano. It will increase musical understanding beyond just reading notes by teaching students a vocabulary of chords and keys, accompaniment patterns, and improvisational techniques. Students will play melodies in several positions and have the opportunity to participate in ensemble playing. Students will develop good practice habits, and learn techniques to increase the muscular agility and flexibility of their hands. We will delve into music at its source, find out how music is constructed, and discover the composers and history behind the music.

MU837 PIANO II

Grades 9-12; ½ Credit; Semester; Elective; Prerequisite: Piano I – A continuation of Piano 1. This class will dive deeper into more challenging repertoire and solo playing. Students will be able to play music ranging from the Classical era through the current 21st Century period. Students will also learn more about the instrument itself including how it works and the history of how it has evolved through time.

Drafting and Technology Education Electives

TE750 ENGINEERING AND DESIGN

Grades 9-12; ½ Credit; Elective; 1 Semester; Prerequisite: Interest in science math and their application to the world around. This hands-on course is intended to be an introductory course that will explore how building and design affect the world around us. Students will be presented with a number of challenging problems to be solved using teamwork and their creativity and knowledge of scientific and mathematical principles. Students will design, build and test their models to the limits to find out if they have what it takes to be the next great engineer/designer.

TE850 COMPUTER AIDED DRAFTING (CAD) I

Grades 9-12; ½ Credit; Elective; 1 Semester: Dual Enrollment (Penn Highlands-CAD 101). – If you are considering a career such as engineering, drafting or architecture, one of the most powerful tools available to you is the computer. Computer experience is rapidly becoming a requirement for job entry in most technical fields. This course will allow you to become faster, more capable, and more creative with the skills learned in drafting courses.

TE854 COMPUTER AIDED DRAFTING (CAD) II

Grades 9-12; ½ Credit; Elective; 1 Semester: Prerequisite-CAD I. – Take your CAD skills to the next level. In this course, you will continue to learn more of the capabilities of the AutoCAD program. Added emphasis will be placed on the skills and preparation necessary to successfully complete an exam, and earn a universally recognized certification known as "Autodesk Certified User."

TE855 ARCHITECTURAL STUDIO

Grades 10-12; ½ Credit; Elective; 1 Semester; This course is meant for students who would like to turn their architectural drawings into physical models and renderings using various studio materials. Model building, sketches, and other methods will be examined.

TE864 DREAM HOUSE DESIGN

Grades 11-12; ½ Credit; Elective; 1 Semester; Prerequisite: CAD I or Inventor I – Everyone needs a place to live and in today's housing market, students who have experience in designing homes will have a definite advantage. This software program will help students understand the concepts of housing design and give them the opportunity to complete a home design of their own.

TE866 INVENTOR I

Grades 10- 12; ½ Credit; Elective; 1 Semester; Prerequisite: CAD I– Today's world of design is looking for people who have experience in using software to design a variety of objects for work and play. This course offers hands on design work to develop 3-dimensional models. This class is for serious students who are considering a career in engineering or other design-related field. Good computer skills and a strong background in CAD are required for success in this course. A state of the art 3d prototype printer is used in this class to allow students to experience turning their designs and drawings into real parts made of ABS plastic.

TE867 INVENTOR II

Grades 11, 12; ½ Credit; Elective; 1 Semester; Prerequisite: Inventor I – The aim of this course is to give the student an opportunity to use Inventor software to effectively create real-world parametric models and two-dimensional drawings. Many of the projects will be completed working in small groups or teams. Students will use a state of the art 3d prototype printer to create models that can be examined and assembled to complement their design work.

TE871 MATERIAL PROCESS I

Grades 9-12; ½ Credit; Elective; 1 Semester – Material Process I is a basic woodworking lab class that teaches the students about processing lumber and machine safety. The students will be required to complete several projects that prove the understanding of the power tools and machines. Students will also build background knowledge in the processes required for measuring, sanding, finishing and basic do it yourself skills.

TE872 MATERIAL PROCESS II

Grades 9-12; ½ Credit; Elective; 1 Semester; Prerequisite: Material Processing I - Students enrolled in Material Process II will gain an understanding of more advanced woodworking techniques including cutting angles, and more advanced joinery. The students will be engaged in activities and projects that will broaden the knowledge base that they gained in Material Processing I. Techniques and quality products are stressed throughout the course.

TE873 MATERIAL PROCESS III

Grades: 10-12, ½ Credit. Prerequisite: Material Processing I and II. Material Process III is a cumulative class that showcases the student's knowledge in woodworking. Students broaden their skills by researching a project that is completed at an individual level. New skills will be acquired through a student's own research and teacher facilitation, old skills may be applied in a way that may not have been traditionally done. Students will go start to finish on a project that interests and motivates them to work at their highest level in the lab setting.

TE878 CONSTRUCTION SYSTEMS

Grades 9-12; ½ Credit; Elective; 1 Semester – This class is not an alternative to Woodworking I. Students will develop a basic understanding of the behavior of structures. They will use problem-solving activities to study aspects of structural designs using concepts of community planning and structural engineering and architecture. Students will explore different types of construction and modern trends in building styles.

TE880 FABRICATION LAB

Grades 10-12; ½ Credit; Elective; 1 Semester; Prerequisite: Students must have taken and passed either CAD I or Inventor. Student may also receive special permission for acceptance from the course instructor based on unique skill sets. Student must have an interest in "real-world" production scenarios and learning how to use advanced production machines/techniques. This hands-on course will put you in the driver seat of highly advanced

machines and the software that runs them. Students will learn how to operate the plotters, 3d printer CNC router and the Epilog laser engraver/cutter. As requests/orders are received, students will be tasked with the set-up, production and delivery of the orders by their deadline. Projects may be posters for classrooms, replacement parts designed and built on the 3d printer or more advanced signs/projects produced on the laser or router. Project requests will often originate in the school district but may also require interaction with organizations/businesses throughout the community. Any free-time between productions will be a great opportunity to apply the learned skills to personal projects and continue to learn more advanced techniques.

Art Electives

AR850 BASIC ART

Grades 9 - 12; ½ Credit; Semester; Elective – This course introduces the fundamentals of art through a variety of media. Basic Art provides a base knowledge for all of the other art courses offered. Projects will include but are not limited to: pencil drawing, painting, ceramics/clay, printmaking, colored pencil and graphic design. Completion of this course is highly recommended before enrolling in other art classes.

AR851 DRAWING AND PAINTING

Grades 9 -12; ½ Credit; Semester; Elective; Dual Enrollment (Mount Aloysius AR281- Special Topics Art) - This course stresses the fundamentals of drawing and painting through technique and the mastery of different media. Projects will include: pencil, colored pencil, painting, sculpture, multi-media and independent study. *It is recommended that students pass Basic Art before enrolling in this course.*

AR854 ART DESIGN

Grades 10- 12; ½ Credit; Semester; Elective; Prerequisite: STUDENT MUST HAVE TAKEN AND PASSED BASIC ART and DRAWING AND PAINTING- This course emphasizes advanced design processes with the art skills acquired from Basic Art and Drawing and Painting**.** Students will explore traditional graphic design techniques and media along with computer technology to develop, create and solve graphic design problems. This class is designed to provide students with knowledge and skills for visual communication through graphic design, advertising, illustration, and digitally printed materials.

AR856 INTRO TO PHOTOGRAPY

Grades 9-12; ½ Credit; Semester; Elective – This is a hands-on introductory course in the theory and practice of digital photography. Students will learn the basics of a digital camera along with its creative functions. In addition to basic technology, students will become familiar to photographic language, historical and cultural backgrounds plus career opportunities. Students will apply the skills learned in class to create their own photographs and then digitally enhance them in the Lightroom and Photoshop programs. Students will develop proficiency in artistic visual expression, creative thinking, problem solving, along with enhancing their photography portfolio.

AR858 CERAMICS STUDIO

Grades 11-12; ½ Credit; Semester; Elective; Prerequisite: Ceramics I & Ceramics II –This advanced studio course is built for independent students who want to continue to explore the art of Ceramics. Students will continue to learn building and glazing techniques through the creation of hand built or wheel thrown pieces. MUST HAVE INSTRUCTOR APPROVAL TO ENTER THE CLASS.

AR860 CRAFTS

Grades 9-12; ½ Credit; Semester; Elective – This is a hands on course that allows students to work with multiple art mediums and learn simple craft techniques. Students will learn how to problem solve and will have the opportunity to visually express themselves through the use of craft.

AR862 ART STUDIO

Grades 11-12; ½ Credit; Semester; Elective; Prerequisite: Students must have taken and passed Basic Art, Drawing and Painting, and/or Ceramics I/II -This course is designed for the self-motivated student who wishes to continue to develop and refine advanced art skills that have been acquired in both Basic Art and Drawing and Painting and/or Ceramics I/II. This course can provide students the opportunity to develop college portfolio admission requirements or explore independent ventures. ***Students must have instructor permission to enroll in this course.***

AR864 CERAMICS I

Grades 9-12; ½ Credit; 1 Semester; Elective – Introductory course in ceramics for those who have little or no experience in clay. Students will study slab, coil, and pinch building techniques, as well as learning proper glazing methods. Students will problem solve and grow in creativity and skills while they build projects that can be used for practical purposes or decoration.

AR866 CERAMICS II

Grades 9-12; ½ Credit; Semester; Elective; Prerequisite: Ceramics I – This course is designed for students who have experience working with clay and have learned all the basic building techniques. Students will continue to stretch in their creative and building skills and will also be introduced to wheel thrown techniques. Proper building methods will be utilized as well as advanced glazing and firing techniques.

AR890 INTRO TO PHOTOSHOP

Grades 9-12; ½ Credit; Semester; Elective - This Digital Art and Design class is an introductory class that teaches the fundamentals of graphic design and digital art. Students will primarily learn how to use Adobe Photoshop, as well as other technology such as and Adobe Illustrator, 3-D scanners/printers and electronic cutting tools.

Agriculture Electives

All students are able to select any of the Agriculture courses as electives.

AGRICULTURE EDUCATION –To complete The Agriculture Program students will need 3 credits of Agriculture over at least a two-year period and a Supervised Agriculture Experience Project Book each year. Students can also choose a career pathway in Agriculture.

Semester Courses

AG711 ANIMAL SCIENCE I

GRADES 9-12; ½ Credit; Fall Semester; Elective - This course is designed to introduce students to small and large animal care, breed identification, disease ID/prevention, safe handling, training techniques, nutrition, animal rights and welfare. Students will also concentrate on developing a breeding program through genetic applications and judging selection. Emphasis will be place on anatomy and physiology directed for the use of form and function.

AG700 VETERINARIAN SCIENCE

GRADES 9-12; ½ Credit; Spring Semester; Elective; Prerequisite: AG 711. This course will provide a basic knowledge of species differentiation in nutrition, infectious diseases, prevention, and diagnosis. An emphasis will be placed on basic veterinary technician skills including lab procedures and handling and restraining animals. All students will become certified in Red Cross Pet First Aid.

AG702 AGRICULTURAL MECHANICS I

Grades 9-12; ½ Credit; Fall Semester; Elective- This course is an introduction to basic mechanical skills. Safety working with power machinery, welding materials, hand tools, wood products, basic wiring and plumbing are stressed.

AG703 AGRICULTURAL MECHANICS II

Grades 9-12; ½ Credit; Spring Semester; Elective; Prerequisite: Ag Mechanics I – This course is an advanced mechanical skills, and safety working with power machinery, hand tools, shop skills, and construction of individual projects are stressed. Students will learn skills in woodworking, welding, general shop set-up and maintenance and reading blue prints.

AG707 FOOD SCIENCE I

Grades 9 -12; ½ Credit; Fall Semester; Elective – This course is a comprehensive overview of the science of foods. Students will explore career opportunities, basic chemistry of foods, food safety & supply, nutrition, packaging trends, food composition, preservation, environmental concerns, and world food needs. This course will provide laboratory and other hands-on experiences in the food industry.

AG717 NATURAL RESOURCES/WILDLIFE I

Grades 9-12; ½ Credit; Semester; Elective – This course discusses natural resources as they apply to man and wildlife, as well as how they need to be managed. An emphasis is placed on protecting and developing natural resources in PA (Marcellus shale), biotechnology and wildlife habitat, game management, wildlife identification. Students will have the opportunity to apply the skills and knowledge they develop through the Clearfield County Envirothon and FFA Career Development Events.

AG719 FORESTRY SCIENCE

Grades 9-12; ½ Credit; Fall Semester; Elective- Students will be exposed to multiple uses of forest management practices that utilize forest resources efficiently. Topics will include forest restoration, tree identification, insect & diseases, wood products and manufacture, environmental conservation and recreation. Students will complete FI -110 and FS-190 Wildfire certifications in this course.

AG721 PLANT SCIENCE/GREENHOUSE & LANDSCAPING TECHNIQUES

Grades 9-12; ½ Credit; Spring Semester; Elective – This course introduces students to the plant industry, offers practical knowledge and experience in plant production and greenhouse management. Plant growth, plant propagation, transplanting, and plant maintenance are the major areas of instruction. Students will understand the basic concepts of landscape & design, explore plant species, modified plant environment, and plant propagation as they relate to plant production.

Full Year Courses

AG705 AGRISCIENCE I

Grade 9-12; 1 Credit; Year; Elective - FFA leadership, parliamentary procedure, career exploration, animal science, shop equipment, food and plant science. This course is an introduction to the science of agriculture providing a solid foundation for in-depth agriculture classes. Concepts are taught through classroom and laboratory/shop instruction, outdoor activities, field trips and class projects.

AG725 AGRICULTURAL SCIENCE – Supervised Agricultural Experience (SAE)

Grades 12; 1 Credit; Year; Elective – Students will receive one (l) credit for successfully completing their first year of S.A.E. project work. Projects include: Entrepreneurship, work experience and agriscience research. SAE is a high school agricultural education program approach to experiential learning involved in supervised agricultural experience programs, agricultural service learning, exploratory, improvement, supplemental and directed school laboratory.

Family and Consumer Science Electives

FC730 CAKE DESIGN

Grades 9-12; ½ Credit; 1 Semester; Elective – Most of this course will be based on the Wilton Method of Cake Decorating Course I & II. The Wilton Courses have been known for 83 years, being popular throughout the world. There is online support from the Wilton Company, offering monthly publications, a vast array of recipes for cakes, cupcakes, cookies, desserts, icing recipes, fillings, idea finders, and an online store to purchase supplies. The Wilton Company also supports several contests including county fairs. Students would have the opportunity to create and showcase their work at the local county fair.

FC735 SEWING & FASHION DESIGN

Grades 9-12; ½ Credit; 1 Semester; Elective – This course introduces students to the basics of sewing, quilt and fashion construction thru individual projects. Fabric care and selection varied sewing techniques and the use of the sewing machine will be used in the course. Students will also be introduced to quilt construction techniques, fashion fundamentals, elements and principals of clothing design and consumerism. Students will be required to purchase supplies for this class.

FC738 LIFE BEYOND HIGH SCHOOL

Grades 12; ½ Credit; 1 Semester; Elective – Are you ready to grow up? Ready to move out? Have you ever heard of "adulting"? This course is all about life after high school. Learn important skills including time management, basic car maintenance, etiquette, job interviews, low cost cooking basics and communication skills.

FC760 CREATIVE COOKING I

Grades 9-12; ½ Credit; 1 Semester; Elective – Students learn basic food preparation skills needed for independent living and for success in food-related careers in this class. Food preparation projects allow the student to practice good sanitation and kitchen safety while becoming adept at following recipes, managing resources, cooperation as a team, and developing leadership skills. Through guest speakers and videos, the class will investigate food-related opportunities as well as the importance of post-secondary education in reaching their individual goals.

FC761 CREATIVE COOKING II

Grades 9-12; 1/2 Credit; 1 Semester; Elective; Prerequisite: Creative Cooking I – Students will use the basic food preparation skills learned in Nutrition, Food and Fitness I to further develop the necessary skills for their futures. Advance food preparation projects, meal planning, research on the nutrients that the body uses as well as the functions of each will be discussed. Foods will be prepared with an emphasis on cost and preservation of nutrients, computing the cost per serving, market order planning, as well as lessons on various small appliances are included.

FC762 FOOD FOR FITNESS

Grades 9-12; ½ Credit; Semester; Elective – This course is designed for students interested in health-related careers, foods and nutrition, as well as those who are athletes or just interested in keeping physically fit. Topics discussed include an emphasis on nutritional information, making food choices, awareness of weight and weight control, basic food preparation techniques and careers in the nutritional field. Meals will be planned for good nutritional and wise buying practices. Also included will be walking and exercising as part of the curriculum.

FC763 FOODS OF THE WORLD

Grades 9-12; ½ Credit; 1 Semester; Elective – Students choosing this course should develop an appreciation of the cultures of different ethnic groups and nationalities. Regional American cooking will also be studied as well as the food cultures of countries of the students' choosing. Each student will do library and computer internet research on various countries throughout the course.

Business and Computer Education Electives

BC377 CODING FOR APPS & GAMES

Grades 9-12; ½ Credit; Semester; Elective - In this course, students will build a foundation of coding and computing skills along with an adaptable knowledge of these skills. The course will offer students the opportunity to explore various computer science topics including, but not limited to, introduction to programming, app building and game design. The building of these foundational skills will allow for students to live and participate in the ever growing digital and business societies we are surrounded by today and in the future.

BC709 HS COMPUTER APPLICATIONS

Grades 9-12, *NEEDS BASED, ½ Credit; Semester; Elective - This course covers the fundamental skills needed to work in a windows environment of a computer as well as the terminology associated with computers and software. The students learn many of the available tools for manipulation of documents and have a chance to apply these skills in keying a variety of reports, enumerations using bullets and numbering, personal-business letters, and other documents. Basic spreadsheets will be covered with emphasis on formatting, printing, writing formulas, and creating simple charts. The students will be given the basics of creating and using databases. Other Microsoft Office programs will be explored if time permits. The skills attained in this course should help students throughout their high school and future careers. This course meets the graduation requirement in the computer area.

BC300 INTRO TO STEM

Grade 9; ½ Credit; Semester – Required for 9th grade students. This course is an introduction to a number of technology related fields that are organized around the eight areas of core technological competency. These are: Circuitry, Computer Graphics, Digital Communications, Mechanics and Structures, Robotics and Control Technology, Scientific Date and Analysis, Software Engineering, and Sustainability. The course will be designed around the concept of project-based learning and will incorporate an ePortfolio system to demonstrate student learning.

BC713 MICROCOMPUTER APPLICATIONS

Grades 9- 12; ½ Credit; Semester; Elective; Dual Enrollment (Pennsylvania Highlands CIT 100 Microcomputer Applications) — This hands-on course introduces the student to the Microsoft Office suite, including MS Word, MS Excel, and MS PowerPoint. This course provides students with a working knowledge of these software packages to accomplish the more common tasks including Windows, word processing, spreadsheets, and presentations. If time permits, the students are taught to integrate data from various parts of the software package. At the end of this semester course, the student will feel comfortable with the computer and will be able to do production work as may be required in any area.

BC730 ACCOUNTING PRINCIPLES I

Grades 10-12; ½ Credit; Semester; Elective- Dual Enrollment (Pennsylvania Highlands ACC150)- This is an introductory accounting course designed to introduce underlying concepts and Generally Accepted Accounting Principles (GAAP) used in determining revenue recognition, expense recognition, asset valuation, and reporting of liabilities. Double-entry accounting is introduced and applied to service companies. The entire accounting cycle for a service business operating as a sole proprietorship will be presented - from the point of original entry through the adjustment process, financial statement preparation, and post¬-closing trial balance preparation. Students will first be exposed to a manual accounting system, then QuickBooks Online will be utilized to expose students to computerized accounting systems.

BC735 ACCOUNTING PRINCIPLES II

Grades 10-12; ½ Credit; Elective- Dual Enrollment (Pennsylvania Highlands ACC175)-This course builds on the underlying concepts and principles of accounting attained in ACC 150 Accounting Principles I. Internal control policies and procedures, bank reconciliations, and petty cash funds are explored. Merchandising companies are introduced, and accounting for and reporting of inventory assets are presented. The entire accounting cycle for a merchandising business operating as a sole proprietorship will be presented - from the point of original entry through the adjustment process, financial statement preparation, and post-closing trial balance preparation. Students will first be

exposed to a manual accounting system, then QuickBooks Online will be utilized to expose students to computerized accounting systems. Accounting for uncollectible accounts receivable, short-term notes receivable, and short-term notes payable is also introduced.

BC750 MULTIMEDIA DESIGN

Grades 9-12, ½ Credit; Semester; Elective- This introductory, hands-on course will provide students with computer science opportunities to create multiple forms of media and integrate them into a digital world. Additionally, students will learn how to effectively utilize this media for creativity, communication, problem solving, and fun. The foundational skills students obtain will facilitate the growth and development of their knowledge for the ever-changing digital, social, and business societies in which they are immersed.

Drivers Education

PE405 DRIVER EDUCATION CAR

Grades 10-12; Elective; 5 ½ Weeks; Prerequisite: Driver Education Theory. Students will sign-up for this course with the instructor once school is in session. – This is an actual practice driving course which includes use of all controls and all basic maneuvers. Residential, rural, highway, town, interstate, and emergency driving techniques are experienced by the driving candidates. Skills such as parallel parking, angle parking, and perpendicular parking are perfected. Each student must have a minimum of six hours behind-the-wheel training. Although not required, each student usually has approximately twelve hours of observation. **The student does need their learner's permit.**

CO-OP Program

FC991 WORK/ COOPERATIVE ED PROGRAM

Grade 12; Year; 3 Credits; Elective- This course prepares students to have marketable job skills upon graduation. The program provides job training opportunities, increases skills through individual and class study, and encourages attitudes and habits that meet employment standards. Skill training is provided on location at local business or industry sites for students. Students meet once a week with their teacher and have the opportunity to work with cooperating employers during the afternoon and other normal working hours. In order to participate in the program, students must be admitted and quality, with excellent attendance satisfactory grades. Juniors may participate with administrative approval.

Career-Technical Courses

2022-2023 Secondary Course Offerings

Clearfield County Career and Technology Center

1620 River Road – Clearfield, PA 16830
(814)765-5308 – www.ccctc.edu

The Clearfield County Career & Technology Center offers career-oriented, multiyear sequences of courses that integrate core academic knowledge with technical and occupational knowledge to provide students with pathways to postsecondary education and careers. Knowledge is gained through theory lessons, state-of-the-art labs, on-the-job-training, and industry certification obtainment. Our programs of study provide a wide range of learning experiences reaching career clusters in manufacturing, food production, building construction, business, healthcare, hospitality, and transportation.

Education in a career and technical education school offers a lifetime of opportunity and economic stability. Our mission is to train students for the workforce with an education that gives them an opportunity to grow.

Leaving our footprint on area careers

Participating Public School Districts & Private Schools

- Clearfield Alliance
- Clearfield
- Curwensville
- Moshannon Valley
- Philipsburg-Osceola
- Soaring Heights
- West Branch

The National Technical Honor Society (NTHS) is an organization dedicated to the ideals of honesty, service, leadership, and skill development among America's future workforce. To be considered for membership, students must achieve a 93% GPA in their program area at CCCTC and an 85% GPA at their high school. Prospective members must also have a 95% attendance rate. Students are nominated for NTHS membership by their program instructors. Nominated students who meet the highest standards in each of the identified areas are recommended for induction.

Skills USA is a student organization at CCCTC. With more than 280,000 student and instructor members nation-wide, Skills USA is an applied method of instruction designed to prepare America's high-performance workers in career and technical programs. The organization provides quality education experiences for students in areas including leadership, teamwork, citizenship and character development. Skills USA builds and reinforces self-confidence, work attitudes and communication skills. Members are encouraged to develop into total quality workers and individuals with the highest ethical standards, superior work skills, commitment to life-long education and pride in their work. Skills USA members are also encouraged to support the local community with community service projects. CCCTC Skills USA members compete in their program studies at a district, state, and national level at competitions.

NOCTI is the end-of-the-year skills assessment required to be taken by all program completers. Completers received the Pennsylvania's skills certificate and are eligible for Free Soar College Credits.

Students who enroll at CCCTC in a Program of Study may qualify for several free college credits in their major at participating colleges across Pennsylvania. To qualify for SOAR college credits, students must be enrolled in a program of study and pass their NOCTI exam at the end of the 2-year program.

Auto Mechanics Technology: **CIP Code 47.0604** **2 Year Program**

The Automotive Mechanics Technology Program prepares students for careers as automotive technicians and service personnel or post-secondary education. The program includes instruction in the automotive engine, automotive engine systems, lubrication, cooling, fuel, exhaust, electrical and electronics systems, and emission systems, drive trains, chassis systems, and auxiliary systems. Students can earn college credits through dual enrollment with Penn College and can earn Soar College Credits. **Certifications earned:** NOCTI Certificate, OSHA Certification, 900 Hours of Instruction Certificate, PA Auto Inspections Certificate, SP2, MACS 609A AC Card.

Carpentry and Building Construction: CIP Code 46.0201 **2 Year Program**

The Carpentry and Building Construction Technology Program prepares students for careers in residential and light commercial construction, apprenticeships, or continuing education at a post-secondary institution. The program provides intensive safety training for all hand held and stationary construction power equipment. Areas of instruction include, site selection and building permits, foundations and forms, floor framing, wall framing, roof framing, and roof coverings, exterior finish, insulation and interior finish. Students can earn college credits through dual enrollment with Penn College and can earn Soar College Credits. **Certifications earned:** NOCTI Certificate, OSHA Certification, 900 Hours of Instruction Certificate.

Collision Repair Technology: CIP Code 47.0603 — 2 Year Program

The Collision Repair Technology Program provides students with the skills, knowledge, motivation, and work ethic to begin working in entry-level collision repair positions or to continue education at a post-secondary institution. The main components of the program are appropriate use of hand and power tools, welding, minor body repairs, and interior trim and upholstery. Students study major body repairs, glass door service, electrical systems, refinishing, and cost estimating. Students are also instructed on frame equipment, front-end alignment, and computer training. Students can earn college credits through dual enrollment with Penn College and can earn Soar College Credits. **Certifications earned:** NOCTI Certificate, OSHA Certification, 900 Hours of Instruction Certificate, PA State Inspection License, ICAR Certification, and ASE Student Certification.

Cooperative Education/Diversified Occupations: CIP Code 32.0105 — 1 Year Program

This program is for seniors only. Co-Op/DO combines classroom instruction with workplace experience; the Diversified Occupations program provides a cooperative arrangement between the school and employers where the student receives general education instruction in the school and on-the-job training through at least 15 hours of employment in business/industry. CAPSTONE: Think of this as the finishing touch to the CCCTC program the student is already involved in. This experience gives the student the chance to go to work instead of attending CCCTC class. The students "cap off" their in-school training with related job experience at an approved training site. DIVERSIFIED OCCUPATIONS (D.O.) A training opportunity for a student that is not already attending the CCCTC. This experience gives the student a chance to receive credit toward graduation while working part of the school day. The student gains work experience in a career area that they have an interest in but is not offered at CCCTC. 4 Easy Steps to apply…Step 1. Be employed at a job with at least 15 hours a week. Step 2. Get a Co-Op Enrollment Application from you high school counselor. Step 3. Complete Application. Step 4. Return Application to CCCTC Co-Op Coordinator. Co-Op/Do Applications can occur at ANY time and be added at any time during the senior year. Students can earn the following certifications: NOCTI Certificate, OSHA Certification, and 450 Hours of Instruction Certificate.

Cosmetology: CIP Code 12.0401 **3 Year Program**

A career-opportunity in cosmetology has endless benefits. You can do anything from working in a salon to owning your own day spa! This fulltime, daytime course prepares you for the PA State Board of Cosmetology exam. Topics included in this course include but are not limited to: Spa Treatments, Color Analysis, Advanced Skin Care, Haircutting and Styling, Permanent Waving, Hair Coloring and Highlighting, Manicures and Pedicures, Scalp Treatments, Hair Straightening, Facials, Safety, and Sanitation and Disinfection. **Certification earned:** NOCTI Certificate, OSHA Certification, 1,250 Hours of Instruction Certificate, and PA Cosmetology License (additional cost).

Culinary Arts & Food Management: CIP Code 12.0508 **2 Year Program**

The Culinary Arts and Food Management Program prepares students for careers in food production, baking, and restaurant services, or for continuing education at a post-secondary institution. In the production area, instruction is provided on the basics of food preparation including, but not limited to, salads, sandwiches, soups, sauces, meats, and vegetable cookery. In baking, instruction includes breads, cakes, cookies, pies, choux paste and other specialty desserts, and cake decorating. In the restaurant services component, students are taught how to greet, serve, and prepare food for the customer in a restaurant laboratory setting. Emphasis in the second year of the program is placed on safety and sanitation. Students receive classroom theory and laboratory experience using the latest methods and techniques. Students can earn college credits through dual enrollment with Penn College and can earn

Soar College Credits. Culinary has a 1:1 articulation agreement with Pittsburgh Technical Institute for 8 college credits. **Certifications earned:** NOCTI Certificate, OSHA Certification, 900 Hours of Instruction Certificate, ProStart, and ServSafe Certification.

Diesel Equipment Maintenance: CIP Code 47.0613 **2 Year Program**

The Diesel Equipment Maintenance and Repair Technology Program prepares students for careers in the diesel field as a mechanic's helper or for continuing education at a post-secondary institution. The program starts with principles of internal combustion engines and the differences between gas and diesel. Students learn about the electronics, transmissions, differentials, brakes and air systems, and will ultimately overhaul different diesel engines. Students can earn college credits through dual enrollment with Penn College and can earn Soar College Credits. **Certifications earned:** NOCTI Certificate, OSHA Certification, 900 Hours of Instruction Certificate, PA Auto Inspection and a Class A and B CDL (additional cost).

Digital Media Arts: CIP Code 11.0801 **2 Year Program**

Do you want to be the next YouTube star? Interested in photography or graphic design? Want to make TV shows or movies? Build websites with rich multimedia and video content? The Clearfield County CTC's new Digital Media Arts program prepares students for work in business and entertainment, shooting and editing photographs, making videos and digital marketing material, and creating websites. The Internet is here to stay and advances in technology make digital media skills an ongoing corporate need. Students use Adobe Creative Cloud software including Photoshop, Lightroom, Dreamweaver, After Effects, Premiere Pro, InDesign, and Illustrator. Students also learn to set up and manage websites using content management systems. Students will learn to build, code, and publish web content in a variety of formats. The Digital Media Arts program is a stepping stone to these potential careers: Graphic & Website Designer • Web Application Developer • Software Developer • Videographer• Computer Programmer • Advertising & Promotions Manager • Radio & TV Reporter, Producer & Editor • Public Relations & Marketing Representative • Digital Illustrator & 3D Animator • Film & TV Special Effects Artist • Digital Photographer • Multimedia & Mobile Application Developer • Digital Communications Specialist. **Certifications earned:** NOCTI Certificate, OSHA Certification, 900 Hours of Instruction Certificate.

Drafting and Design: CIP Code 15.1301 **2 Year Program**

The Drafting and Design Program prepares students for careers in drafting, architecture, and architectural engineering or continuing education in related fields. The drafting component of the program focuses on computer- aided drafting utilizing the latest version of AutoCAD and Autodesk Revit. Students in the program have the opportunity to draft a complete set of construction drawings. In doing so, students learn approved construction methods. Students also have the opportunity to work on presentation drawings, which allow them to explore their artistic side through 3D renderings, perspective drawings, sketches, and model building with a 3D printer. The architectural engineering component of the program offers students detailed instruction on many aspects of plumbing systems design, as well as a generalized look at the design and drafting of a building's mechanical systems and electrical layout. Students can earn up to 31 college credits from Pennsylvania Highlands and leave high school with an associate's degree. Students can also earn Soar College Credits. Drafting has a 1:1 articulation agreement with Pittsburgh Technical Institute for 8 college credits. **Certifications earned:** NOCTI Certificate, OSHA Certification, and 900 Hours of Instruction Certificate.

Electrical Occupations: CIP Code 46.0399 **2 Year Program**

The Electrical Occupations Program prepares students for careers in the electrical field in the areas of residential, light commercial, and light industrial, or for continuing education at a post-secondary institution. Areas of instruction include use of hand and power tools, basic electron theory, blueprint reading, motor control circuits, tool and electrical safety, using the national electrical code, conduit bending and introduction to programmable logic controls, single phase and 3 phase transformers. Students can earn Soar College Credits. Electrical has a 1:1 articulation agreement with Pittsburgh Technical Institute for 4 college credits. **Certifications earned:** NOCTI Certificate, OSHA Certification, 900 Hours of instruction Certificate, CAT 5 Certification, CTECH-Copper based Network Cabling Certification.

Health Occupations Technology: CIP Code 51.0899 **2 Year Program**

Health Occupations Technology prepares students for careers in a variety of health occupations by focusing on several components, all of which are necessary for success in any health occupation. Students learn basic patient skills that apply to any health-related occupation. Some of these skills include direct patient care, setting up for an exam, performing some basic laboratory tests, and completing some of the necessary documentation and associated clerical work. Medical terminology, the language of the healthcare world is key to the success of the student and is stressed throughout the program in many applications. Anatomy and Physiology which teach a student how the body is put together and how it functions when it is well and demonstrates what happens when disease sets in are also very important in the program. Students can earn college credits from Penn College. Students can also earn Soar College Credits. Health Occupations has a 1:1 articulation agreement South Hills School of Business and Technology for Exemption Testing. Health Occupations has a 1:1 articulation agreement with Pittsburgh Technical Institute for 4 college credits.

Certifications earned: NOCTI Certificate, OSHA Certification, 900 Hours of Instruction Certificate, CPR Certification, CNA

Heating, Air Conditioning, Ventilation, Refrigeration: CIP Code **2 Year Program**

HVAC/R will prepare students for an entry-level position as an installer, maintenance, or service technician dealing with aspects of the residential and commercial field. This career area is always growing, has great monetary potential, and will always be in demand. Students will become adept at working with specialty tools, pressure/temperature/electrical meters, metal fabricating devices, torches, refrigerants, and live HVAC/R equipment. **Certifications earned:** NOCTI Certificate, OSHA Certification, 900 Hours of Instruction, Gas Tite Certification.

Information Technology: CIP Code 15.1202 **2 Year Program**

The Information Technology prepares students for their first step towards fulfilling an IT career in cloud computing, networking, mobility, security or systems administration and/or continuing education at a post-secondary institution. Students will learn computer maintenance, Security, Networking, Operating Systems, IT Operations, Troubleshooting, and Technical Support. The program takes a broad-spectrum approach to teaching the Information Technology field. Students can earn college credits through dual enrollment with Penn College and can earn Soar College Credits. Information Technology has a 1:1 articulation agreement with Dubois Business College and South Hills School of Business and Technology for Exemption Testing. **Certifications earned:** NOCTI Certificate, OSHA Certification, 900 Hours of Instruction Certificate, CompTIA IT Fundamentals, and CompTIA A+ Certification.

Masonry: CIP Code 46.0101 **2 Year Program**

The Masonry and Building Construction Technology Program prepares students for careers in the masonry construction field, apprenticeships, or post-secondary education. There are two elements to the program. The hands-on component of the program provides instruction on block, brick, stone, glass block, concrete, and plastering along with building walls, chimneys, arches, fire-places, and other structures. The theory component of the program includes mortar, chimneys, foundations, fireplaces, arches, estimating, blueprint reading, and safety. Students will complete individual and group projects, which will include written exercises. Students earn college credits from Penn College with enrollment and Soar College Credits. **Certifications earned:** NOCTI Certificate, OSHA Certification, and 900 Hours

Welding & Metal Fabrication Technology: CIP Code 48.0508 **2 Year Program**

The Welding Technology Program prepares students for careers in welding, construction, and metal fabrication or continuing education at a post-secondary institution to prepare them to become welding inspectors and even welding engineers. Program topics include safe and proper use of welding equipment, welding symbols, reading detailed welding drawings, base metal preparation, Fundamentals & techniques of shielded metal arc welding (SMAW), oxy-acetylene welding, brazing and cutting, Fundamentals& techniques of gas tungsten arc welding, plasma arc cutting, & quality fundamentals and technical gas metal arc welding. Students can earn college credits through dual enrollment with Penn College and can earn Soar College Credits. Welding has a 1:1 articulation agreement with Pittsburgh Technical Institute for 3 college credits. **Certifications earned:** NOCTI Certificate, OSHA Certification, 900 Hours of Instruction Certificate, and AWS 1.1 Certification.

Saint Francis University has paired up with CCCTC to offer a FREE college credits articulation agreement. Any CCCTC student that completes their training at CCCTC will be issued 27 college credits at no cost! Students can then attend Saint Francis University where they can earn one of three associate degrees: [27] • Associate of Applied Science in Engineering/Mechanical Technology • Associate of Applied Science in Human Resource/Computer Technology • Associate of Applied Science in Health Professions Technology

More college credit opportunities at CCCTC. Visit www.ccctc.edu/highschool-programs and click on the college credit opportunities link.

CTC Technical Mathematics
Associated PIMS # 02153
Local Course Number
MAT 510-Junior Year
MAT 520-Senior Year

Academic Credit Available-
.5 Credits- Junior Year
.5 Credits- Senior Year
(Could be offered as elective credit for grade 9 and 10 at risk students)

Technical Mathematics courses extend students' proficiency in mathematics, and often apply these skills to technical and/or industrial situations and problems. Technical Mathematics topics may include but are not limited to rational numbers; systems of measurements; tolerances;

numerical languages; geometry; algebra; statistics; and using tables, graphs, charts, and other data displays. Technology is integrated as appropriate. This course will be integrated into associated CTC courses and co-taught by the CTC English and Content instructors.

CTC Applied English and Communications
Associated PIMS # 01156

Local Course Number
ENG 510- Junior Year
ENG 520-Senior Year

Academic Credit
Available-
.5 Credits- Junior Year
.5 Credits- Senior Year
(Could be offered as elective credit for grade 9 and 10 at risk or 10th grade cosmetology students)

Applied English and Communications courses teach students communication skills—reading, writing, listening, speaking—concentrating on "real-world" applications. These courses usually emphasize the practical application of communication as a business tool—using technical reports and manuals, business letters, resumes, and applications as examples—rather than emphasize language arts skills as applied to scholarly and literary materials. This course will be integrated into associated CTC courses and co-taught by the CTC English and Content instructors.