

UNION HIGH SCHOOL
COURSE SELECTION GUIDE
2026-2027



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Planning Your High School Schedule

Choosing your classes is one of the most important decisions you make each year in high school. The courses you select should help you build the skills and knowledge needed for your future education and career goals. To make the best choices, you should talk with your parents/guardians, teachers, and your school counselor who are able to help you plan for your success.

When planning your schedule, think about what you want to do after high school. Different careers require different levels of training or education. Here are some common options:

- **Apprenticeship Training**
Learn a skilled trade through paid on-the-job training. You earn a wage while you gain experience and work with trained professionals.
- **Vocational or Technical Training**
Programs at trade, technical, or vocational schools that typically last from 3 to 24 months. These programs prepare you for specific careers and skills in the workforce.
- **Associate Degree Programs**
Usually two-year college programs offered at community colleges. Students typically earn an Associate Degree and gain preparation for careers or continued education.
- **Bachelor's Degree Programs**
Four-year programs at a college or university that lead to a Bachelor of Arts (BA) or Bachelor of Science (BS) degree. These programs open the door to a wide range of careers.
- **Master's/Doctoral Programs**
Advanced programs taken after earning a bachelor's degree. These degrees provide deeper knowledge and may be required for certain professions.

As you select your courses each year, keep your long-term goals in mind. Building strong academic skills now will help you be prepared for college, training programs, and the jobs of the future. Work together with your family, teachers, and school counselor to create a plan that supports your growth in our fast-paced world.

Union School District Graduation Requirements

Credits required and must be passed for graduation:

- 4 English credits
- 3 Social Studies credits (Required: American History, World History, American Government and Economics)
- 3 Math credits (Required: Algebra I)
- 3 Science credits (Required: Biology)
- 2 Arts & Humanities credits
- .50 Health credit
- 1.0 Physical Education credits (must be enrolled in Phys. Ed. every year)
- .50 Financial Literacy credit
- 7.00 Elective credits
- Careers (.25 cr. each year enrolled at Union) *Must pass these courses for each year enrolled at Union High School to meet graduation requirements.

Total Credits: 24.00 - 25.00 (depending on years enrolled at Union)

*** Students must take at least 6.50 credits per school year.**

A sample four year plan is listed below. Any additional Math, Science and/or Social Studies beyond the three required will complete Art & Humanity or Elective requirements. See above for specific credit details.

Grade 9

English (1 cr.)
Am. History or World History (1 cr.)
Math (1 cr.)
Life Science or Biology (1 cr.)
Physical Education (.50 cr.)
Elective/Art & Humanity (2 - 2.5 cr)
Careers 9 (.25 cr.)

Grade 11

English (1 cr.)
Am. Government / Economics (1 cr.)
Math (1 cr.)
Science (1 cr.) (CCCC students waive)
Elective/Art & Humanity (1.5 - 2.5 cr)
Health 11 (.50 cr.)
Physical Education (.50 cr.)
Careers 11 (.25 cr.)

Grade 10

English (1 cr.)
Am. History or World History (1 cr.) - (CCCC students will take in 12th grade)
Math (1 cr.)
Biology if not completed in 9th grade/Science (1 cr.)
Elective/Art & Humanity (2 - 2.5 cr)
Physical Education (.50 cr.)
Careers 10 (.25 cr.)

Grade 12

English (1 cr.)
Social Studies (1 cr.)
Math (1 cr.) (CCCC students waive)
Science (1 cr.)
Elective/Art & Humanity (2 - 2.5 cr)
Physical Education (.50 credit)
Careers 12 (.25 cr.)

** The principal has the authority to adjust a course sequence/prerequisite on a case by case basis due to extraordinary circumstances. The principal also has the authority to approve a course substitution in a non-core subject area on a case by case basis.

- In addition to the credit requirements all students must meet the criteria for a graduation pathway under Act 158, which is mandated by the Pennsylvania Department of Education. The school district will support each student in identifying and completing the pathway that best fits their goals. For more details about Act 158 and the available pathways, please visit: [Pennsylvania Pathways to Graduation](#) (see handout given to students).

Withdrawal From A Course

Students who choose to withdraw from a class after the drop/add period once the course is in session, will receive a withdrawal/fail (WF) on their transcript for that course and not receive credit.

Weighted Course Curriculum

The rationale for the implementation of weighted classes is: (1) to encourage students to take more challenging courses, and (2) to acknowledge and reward the caliber of rigorous coursework students select programmatically.

The following courses shall be weighted with 4 percentage points added on to the final average (list is subject to change):

Math – Trigonometry/ Pre-Calculus, Probability & Statistics, Calculus I

Science- Honors Physics I, Honors Physics II, Chemistry II, Honors Chemistry, Biology II

English- Honors English 9, Honors English 10, Honors World and British Literature and Honors Rhetoric and Composition

***In addition, any college level course work will also receive the weighted 4% added on to the final grade.

Salutatorian/Valedictorian & Honors/High Honors Graduate Eligibility

The Valedictorian and Salutatorian of the class will be determined by computing the cumulative GPA in grades 9-12 this includes the final submission of grades for the 4th - nine weeks of the senior year. To be eligible for valedictorian, salutatorian, honors, and/or high honors, a student must complete a minimum of twelve (12) credits through academic courses provided by the Union School District.

Seven (7) of the weighted courses listed above or college accredited courses must be completed to be eligible for the status of Honors (90%-92.99%) and High Honors (93% and above).

National Honor Society Eligibility

Students who earn a cumulative weighted grade point average of 93% or above after semester 1 of grades 10, 11, or 12, may receive an application for the National Honor Society. Grade point average is only one factor in determining who is inducted into this organization. The application will have additional criteria you must meet. The areas of Character, Leadership and Service are also a part of the evaluation process. The NHS committee will meet and review all applications to determine who meets the NHS criteria to participate in the induction ceremony.

Vocational Programs

Vocational programs for Union students will be provided by the Clarion County Career Center. The following vocational programs are available at Clarion County Career Center for the academic year:

Allied Health Science	Cosmetology Styling Academy
Automotive Technology	Diesel Technology
Computer Networking/Info Systems	Police Science
Construction Technology	Welding & Fabrication

Descriptions of the courses offered at the Clarion County Career Center can be found at the end of this guide. Additional materials are available in the guidance office. Students and parents are encouraged to visit the vocational programs to determine what educational opportunities are available at the Clarion County Career Center.

NOTE: No student will be permitted to start or continue in a program at the Career Center if they cannot maintain normal progress toward graduation. Students will have to make-up any deficiency in credit recovery before they can participate or continue in a program at the Clarion County Career Center.

Dual Enrollment (DE)

Union School District works collaboratively with Penn West University, Indiana University of PA (IUP), and Geneva College to provide 11th and 12th grade students with the opportunity to take online college courses while still in high school. Courses offered are general studies which can be transferred and carried over to most baccalaureate degrees. In order to qualify, students must have a minimum of a 3.0 GPA (each school may have additional requirements to participate).

Upon choosing to participate in dual enrollment, students will receive one elective credit toward their graduation requirements for each course. This elective credit will be factored into grade point average and will be considered a weighted course. Interested students are encouraged to inquire at the guidance office for additional information and the

application to participate in this program.

College in the High School (CHS)

We are also pleased to be able to offer students several College in the High School (CHS) courses through our collaboration with the Community College of Beaver County (CCBC) and Mt. Aloysius College. In this unique situation, students enrolled in a designated onsite Union course are eligible to earn college credits.

To earn the college credits students will need to complete all of the required application components by the deadline provided by the Guidance Office and in the students' Google Classroom. Parents/Guardian are responsible for making payment for the course directly to the institution.

College In the High School (CHS) Courses and Codes (Update 9/9/2025)

Mount Aloysius College			
Union Courses	Mount Aloysius Courses	Mount Aloysius Course Code	Mount Aloysius Credit Value
Honors World & British Literature	Fall: Introduction to Literature	ENGL 102	3.0 credits
Honors World & British Literature	Spring: Major British Writers	ENGL 205	3.0 credits
Probability & Statistics	Introduction to Statistics	MATH 220	3.0 credits
Calculus	Calculus I	MATH 117	4.0 credits
Honors Physics I & Honors Physics II	Applied Physics	PHYS 103	4.0 credits

Community College of Beaver County (CCBC)			
Union Courses	CCBC Courses	CCBC Course Code	CCBC Credit Value
Calculus	Calculus I	MATH 160	4.0 credits
Honors Physics I	College Physics I	PHYS 101	4.0 credits
Honors Physics II	College Physics II	PHYS 102	4.0 credits

GRADE 9 - 12 COURSE OFFERING

<u>ENGLISH</u>	<u>CREDITS</u>
130 ENGLISH 9 1.0	1.0
131 HONORS ENGLISH 9 *	1.0
140 ENGLISH 10	1.0
141 HONORS ENGLISH 10 *	1.0
150 RHETORIC AND COMPOSITION	1.0
151 HONORS RHETORIC AND COMPOSITION *	1.0
152 ENGLISH FOR THE WORKFORCE (WRITING)	1.0
153 ENGLISH FOR THE WORKFORCE (READING)	1.0
160 WORLD AND BRITISH LITERATURE	1.0
161 HONORS WORLD AND BRITISH LITERATURE * #	1.0

<u>SOCIAL STUDIES</u>	<u>CREDITS</u>
230 AMERICAN HISTORY	1.0
240 WORLD HISTORY	1.0
250 AMERICAN GOVERNMENT/ECONOMICS	1.0

<u>PHYSICAL EDUCATION</u>	<u>CREDITS</u>
960 A-D Physical Education .50	.25 - .50

<u>HEALTH EDUCATION</u>	<u>CREDITS</u>
651 HEALTH .50	.50

<u>CAREERS</u>	<u>CREDITS</u>
930 CAREERS 9	.25
940 CAREERS 10	.25
950 CAREERS 11	.25
960 CAREERS 12	.25

<u>MATHEMATICS</u>	<u>CREDITS</u>
331 ALGEBRA IA	1.0
332 ALGEBRA IB	1.0
333 ALGEBRA I	1.0
334 APPLIED GEOMETRY	1.0
335 GEOMETRY	1.0
340 ALGEBRA II	1.0
350 TRIGONOMETRY/PRE-CALCULUS *	1.0
351 APPLIED PERSONAL FINANCE	1.0
352 PROBABILITY & STATISTICS * #	1.0
310 CALCULUS * #	1.0

<u>SCIENCE</u>	<u>CREDITS</u>
429 LIFE SCIENCE	1.0
430 BIOLOGY	1.0
440 CHEMISTRY I	1.5
442 PHYSICAL SCIENCE	1.0
443 HONORS PHYSICS I * #	1.0
444 ENVIRONMENTAL SCIENCE	1.0
450 CHEMISTRY II *	1.0
451 BIOLOGY II *	1.0
452 HONORS PHYSICS II * #	1.0
460 HONORS CHEMISTRY *	1.0

NOTE: All courses that appear in **BOLD PRINT** and have a “*” are considered honors courses and will apply the weighted 4% to the final grade. Please read the course guide for more specific information.

NOTE: # Denotes a College in High School course

ART & HUMANITY/ELECTIVES	CREDITS
170 CREATIVE WRITING	.50
171 SPEECH AND DEBATE	.50
270A-D HISTORY IN THE HEADLINES 9-12	.50
271 HOLOCAUST	.50
272 HISTORY OF MEDIA AND TELEVISION	1.0
273 PSYCHOLOGY (even years only)	.50
274 MILITARY HISTORY (even years only)	.50
275 WORLD RELIGIONS (odd years only)	.50
276 WORLD GOVERNMENTS (odd years only)	.50
280 WORLD CULTURES	1.0
470 ASTRONOMY	.50
471 FORENSICS	.50
472 PET - ENGINEERING DESIGN (odd years only)	.50
473 PET - ENGINEERING PROCESS (odd years only)	.50
474 PET - ANALOG AND DIGITAL CIRCUITS (even years only)	.50
475 PET - MICROCONTROLLERS AND ROBOTICS (even years only)	.50
476 ANATOMY/PHYSIOLOGY	.50
477 EXERCISE SCIENCE AND NUTRITION	.50
478 PET - HAM RADION TECHNICIAN LICENSE PREP	.50
479 EXPLORE SCIENCE I	.50
480 EXPLORE SCIENCE II	.50
530 SPANISH I	1.0
540 SPANISH II	1.0
550 SPANISH III	1.0
560 SPANISH IV	1.0
531 FRENCH I	1.0
541 FRENCH II	1.0
631 STRENGTH AND CONDITIONING I	.50
632 STRENGTH AND CONDITIONING II	.50

ART & HUMANITY/ELECTIVES	CREDITS
702 CONCERT BAND	1.0
703 MARCHING BAND	0.25
706 CONCERT CHOIR	1.0
724 HOME SKILLS POWER TECHNOLOGY (odd years only)	.50
725 HOME SKILLS CONSTRUCTION TECHNOLOGY (even years only)	.50
726 DRIVER EDUCATION	.25
729 WOODWORKING I	.50
730 WOODWORKING II	.50
731 WOODWORKING III	.50
740 INTRODUCTION TO EDUCATION	.50
750A-D YEARBOOK 9-12	.50
760A-D ART 9-12	1.0
761 DRAWING/PAINTING	.50
762 SCULPTING/CERAMICS	.50
780 COMPUTER APPLICATIONS I	1.0
781 INTRODUCTION TO COMPUTER PROGRAMMING I	.50
782 INTRODUCTION TO COMPUTER PROGRAMMING II	.50
785 DIGITAL PUBLISHING AND MEDIA PRODUCTION I	1.0
786 DIGITAL PUBLISHING AND MEDIA PRODUCTION II	1.0
787 DIGITAL PUBLISHING AND MEDIA PRODUCTION III	1.0
788 COMPUTER APPLICATIONS II	1.0
790 ACCOUNTING	1.0
792 PERSONAL FINANCE	.50

The following courses will fulfill the Art & Humanities credit requirements as of 2026-2027:

Spanish I - IV	French I & II	Art 9-12
Drawing/Painting	Sculpture/Ceramics	Concert Choir
Marching Band	Concert Band	Creative Writing
Yearbook 9-12	Speech & Debate	Holocaust
Psychology	Military History	History in the Headlines 9-12
World Religions	World Governments	World Cultures
The History of the Media and Television	Survey of Music	Intro to Education
Woodworking I, II, III	Digital Publishing and Media Production I, II, III	

ENGLISH DEPARTMENT

130 ENGLISH 9: Requirement; 1 cr. This class focuses on literature, poetry, grammar, vocabulary, and writing. Students cover several short story units, one novel, and one Shakespearean play. Emphasis is placed on writing, and scoring is based on the standards specified on the PA Writing Assessment Rubric. Students study vocabulary within the context of literature. Students participate in reinforcement activities, essay writing, and presentations of their work. Required career artifact(s) will be completed in this course.

131 HONORS ENGLISH 9: 1 cr. **Prerequisite:** English 8 passed with a grade of **93%** or above and/or teacher recommendation. Additionally, a score that is below proficient on the PSSA will disqualify a student for Honors 9 without administrative approval. This class focuses on literature, poetry, grammar, vocabulary, and writing. Students cover several short story units, several novels, and one Shakespearean play. This course requires accelerated independent reading and emphasis is placed on writing (including text-dependent analysis), and scoring is based on the standards specified on the PA Writing Assessment Rubric. Students study vocabulary to improve reading, writing, and assessment skills. Students participate in reinforcement activities, essay writing, and presentations of their work. Required career artifact(s) will be completed in this course. **This is a weighted course;** *therefore, students who enroll in this course should be aware that it requires a higher level of reading, writing, and critical thinking than previous English courses.*

140 ENGLISH 10: Requirement for 10th grade students (141 Honors English 10 may be selected instead); 1 cr. **Prerequisite:** English 9. This class focuses on American Literature as the foundation for developing skills in reading, writing, presentation, and research. Review and reinforcement for the Grade 10 Keystone Exams are also a focus of this course. Students study representative works from a variety of American authors and literary periods. Literary works include several novels, one or more plays, short stories, poetry, and nonfiction. Additionally, students generate various types of writing, including narrative, persuasive, and creative pieces. Emphasis is placed on vocabulary building, and effective writing and grammar skills are reviewed and reinforced. Required career artifact(s) may be completed in this course.

141 HONORS ENGLISH 10: 1 cr. **Prerequisite:** Honors English 9 passed with a grade of **85%** or above and/or teacher recommendation. This class focuses on American Literature as the foundation for developing skills in reading, writing, presentation, and research, with an emphasis on the development of critical reading, writing, and thinking skills. Review and reinforcement for the Grade 10 Keystone Exams are also a focus of

this course. Students study representative works from a variety of American authors and literary periods, including novels, plays, short stories, poetry, nonfiction, and students' independent reading. Additionally, students generate various types of writing, including narrative, persuasive, and creative pieces as well as an introduction to critical analysis. Vocabulary study emphasizes SAT and Keystone terms as well as preparation for the SAT. Effective writing and grammar skills are reviewed and reinforced. Required career artifact(s) may be completed in this course. **This is a weighted course; therefore, students who enroll in this course should be aware that it requires a higher level of reading, writing, and critical thinking than previous English courses.**

150 RHETORIC AND COMPOSITION (Odd Years Only): Requirement for 11th-12th grade students (151 Honors Rhetoric and Composition may be selected instead); 1 cr. This class focuses on building a personal concept of rhetoric and then applying these concepts in one's own writing and speaking as well as using the rhetorical situation to analyze works that have shaped our culture's thoughts from mythology to psychology. The assignments used to show this understanding include research papers, critical analysis, long and short creative writing projects, business/technological writing, as well as other formal and informal writing projects and public speaking. Although MLA format will be the primary format of the class, APA and the Chicago style will be utilized for exposure. Required career artifact(s) may be completed in this course.

151 HONORS RHETORIC AND COMPOSITION (Odd years only): 11th-12th grade; 1 cr. **Prerequisite:** Honors English 10 passed with a grade of **85%** or above and/or teacher recommendation. Additionally, a score that is below proficient on the Keystone Exams will disqualify a student for an Honors ELA section without administrative approval. This class focuses in-depth on building a personal concept of rhetoric and then applying these concepts in one's own writing and speaking as well as using the rhetorical situation to analyze works that have shaped our culture's thoughts from mythology to psychology. The advanced assignments used to show this understanding include research papers, critical analysis, long and short creative writing projects, business/technological writing, as well as other formal and informal writing projects and public speaking. Although MLA format will be the primary format of the class, APA and the Chicago style will be utilized for exposure. Required career artifact(s) may be completed in this course. **This is a weighted course; therefore, students who enroll in this course should be aware that it requires a higher level of reading, writing, and critical thinking than previous English courses.**

160 WORLD AND BRITISH LITERATURE (Even Years Only): 11th-12th grade; 1 cr. This class focuses on World Literature and British Literature as the foundation to develop skills in reading, writing, presentation, and research. Students begin by studying

mythology, ancient and sacred works, novels, drama, poetry, and nonfiction from various countries. Then, the literature of the British Isles, from Anglo-Saxon to Contemporary times, traces the development of the English Language through literary, linguistic, historical, and cultural studies. Students are responsible for vocabulary building through activities that include informational writing, projects, creative writing, critical analysis, public speaking, and a research project using MLA documentation style. Required career artifact(s) may be completed in this course.

162 HONORS WORLD AND BRITISH LITERATURE (Even Years Only): 11th-12th grade; 1 cr. **Prerequisite:** Honors English 10 passed with a grade of **85%** or above and/or teacher recommendation. Additionally, a score that is below proficient on the Keystone Exams will disqualify a student for an Honors ELA section without administrative approval. This class focuses on World Literature and British Literature as the foundation to develop skills in reading, writing, presentation, and research. Students begin by studying mythology, ancient and sacred works, novels, drama, poetry, and nonfiction from various countries. Then, the literature of the British Isles, from Anglo-Saxon to Contemporary times, traces the development of the English Language through literary, linguistic, historical, and cultural studies. Minor concentrations are placed on political theory, sociology, philosophy, foreign languages, classical music, art, and public speaking. Activities include many compositions, presentations of work, and research projects using MLA documentation style. Required career artifact(s) may be completed in this course. **This is a weighted course; therefore, students who enroll in this course should be aware that it requires a higher level of reading, writing, and critical thinking than previous English courses.**

SOCIAL STUDIES DEPARTMENT

230 AMERICAN HISTORY: (Even Years Only): Requirement 9th-10th grade (12th grade Career Center); 1 cr. This course will be a survey of American History. This course will consist of topics such as colonization, the Revolutionary War, the Civil War, World War I, World War II, and contemporary U.S. History. Major class activities will consist of discussions, research projects, and primary source article analysis.

240 WORLD HISTORY: (Odd Years Only): Requirement 9th-10th grade (12th grade Career Center); 1 cr. This course will be a survey of World History. This course will consist of topics such as the Roman Empire, the Renaissance, the French Revolution, the rise of Communism, and contemporary world history. Students in the class will complete activities such as discussions, research projects, and primary source article analysis.

250 AMERICAN GOVERNMENT / ECONOMICS: Requirement for 11th grade students; 1 cr. This course will focus on economics ranging from the viewpoint of the individual consumer or small business owner to the global economy. The course will study the law of supply and demand, forms of business, labor unions, government finances and influence on the economy, money and prices, inflation and deflation cycles. This course will help students have a better understanding of money management concepts for financial success focusing on consumer economics. Students will also learn about Entrepreneurship ranging from characteristics of successful entrepreneurs, pros and cons of self employment and how to attract investors and manage expenses. Students will learn to generate business ideas along with how to promote and market a company. Topics such as financing a business, costs and pricing, accounting, the role of the government in business, regulations and laws and working with others will be discussed. The course relates history and politics to the study of economics and the world of work. The development of a business plan will be one project completed in this course (required career artifact).

MATHEMATICS DEPARTMENT

330 PRE-ALGEBRA 9: Designed for some 9th grade students. This course is for the 9th grade student who is not quite ready for Algebra I. The course focuses on further development of basic math skills and fundamental problem solving, communication, and mathematical reasoning skills.

331 ALGEBRA 1A: Available to students in 9th grade; 1 cr. Prerequisite: Fundamentals of Math II. Algebra I A is the first year in a 2 year sequence covering the same content of Algebra I. This foundational course introduces students to the language and structure of Algebra, developing essential problem-solving skills used throughout higher mathematics and many career fields. Students will learn to work with variables, expressions, and equations while building a strong understanding of linear relationships and functions. Extra emphasis will be placed on remediation of prerequisite skills and problem solving in order to ensure all students can successfully master the concepts of Algebra. The course (based on a PA State Department of Education approved curriculum consistent with PA Core Standards) is designed to guide students through cooperative investigations of the major topics of Algebra I. Topics include solving and graphing linear equations and inequalities, working with systems of equations, exploring polynomials and factoring, and understanding exponents and radicals. Students will also develop skills in data analysis, modeling real-world situations with mathematical expressions, and using multiple representations—including tables, graphs, and equations—to understand mathematical relationships. Through both computational practice and conceptual exploration, students will strengthen their critical thinking and reasoning abilities while

gaining confidence in using Algebra as a powerful tool for solving problems across disciplines. Student performance may trigger participation in the Keystone Exam.

332 ALGEBRA 1B: Available to students in 10th grade; 1 cr. Prerequisite: Algebra 1A or Algebra 1. Algebra 1B is the second year in a 2 year sequence covering the same content of Algebra I. See Algebra 1A for a description of this course. Students will be required to take and pass the Keystone Algebra I Exam at the completion of this course in order to graduate as per state requirements.

333 ALGEBRA I: Available to students in 8th grade and above; 1 cr. (for 9th graders and above) Prerequisite: teacher recommendation. This is a one year course for 8th graders who have shown proficiency in mathematics up through 7th grade or 9th and 10th graders who only need one year of Algebra. This foundational high school mathematics course introduces students to algebraic reasoning and problem-solving skills aligned with Pennsylvania Core Standards. Students will develop fluency in working with variables, expressions, equations, and functions while building mathematical practices essential for college and career readiness. Topics include solving and graphing linear equations and inequalities in one and two variables, working with systems of linear equations, performing operations with polynomials and applying factoring techniques, and understanding properties of exponents. Students will also explore radical expressions, study patterns of association in bivariate data, and learn to model real-world situations using multiple representations including tables, graphs, and algebraic notation. Throughout the course, students will strengthen their ability to reason abstractly, construct mathematical arguments, critique the reasoning of others, and apply mathematics to solve authentic problems. Emphasis is placed on making connections between algebraic, graphical, numerical, and verbal representations of mathematical relationships. This course provides the essential foundation for all higher-level mathematics courses. Students will be required to take and pass the Keystone Algebra I Exam at the completion of this course in order to graduate as per state requirements.

334 APPLIED GEOMETRY: Available to students in 9th grade and above; 1 cr. Applied Geometry is designed to help the student discover, learn, and apply Geometry without the concept of formalized proofs. Important concepts are described with words, symbols, models and hands-on activities to help students move from the concrete to the abstract.

335 GEOMETRY: Available to students in 9th grade and above; 1 cr. **Prerequisite:** Algebra 1. This course integrates and maintains algebraic skills & concepts, and makes geometric concepts relevant to everyday life. It is the study of points, lines, planes, angles, and geometric shapes, with an emphasis on triangles and quadrilaterals. It will also include concepts of proportionality and similarity. Students will use inductive and

deductive reasoning skills to make conjectures and discoveries about Geometry.

340 ALGEBRA II: Available to students in 10th grade and above; 1 cr. **Prerequisite:** Algebra I. This course is a stepping stone of all of the upper level math classes. Topics that are included but not limited to are linear equations, quadratic equations, transformations, complex numbers, roots and radical expressions, exponential models, logarithms, mathematical patterns, series, sequences, permutations and combinations. This class will also demonstrate many real world applications.

350 TRIG/PRE-CALC: Available to students in 11th grade and above; 1 cr. **Prerequisite:** Algebra II and Geometry. This course is designed to cover basic concepts of the six trigonometric functions, including relationships of sides and angles of triangles. The students will be able to complete a unit circle and graph trigonometric functions. The course will also discuss functions beyond an Algebra II level, as well as sequences and the counting principle. It will provide students with the skills and applications needed to be successful in Calculus. **This is a weighted course.**

351 APPLIED PERSONAL FINANCE: Available to 11th and 12th grade students; 1 cr. This course is the bridge between basic math skills and the real world. Students will learn concepts on comparison shopping, insurance, housing, vehicles, budgets, taxes, credit, banking accounts, and managing finances. This course not only teaches and reviews basic skills but also prepares students for math in everyday life.

352 PROBABILITY & STATISTICS: Elective for 11th - 12th grade students; 1 cr. **(College in the High School Course) Prerequisite:** Must have completed Algebra II and Geometry. Students will learn to explore and interpret real data from surveys and simulations. This course will involve the use of mathematics to either help explain natural phenomena or in making decisions. Students will use statistical techniques involving probability, combinations, permutations, central tendency, standard deviation, correlation coefficients and confidence intervals. **This is a weighted course.**

360 CALCULUS: Available to students in 12th grade; 1 cr. **Prerequisite:** Trigonometry/Pre-Calculus. This course will include the study of limits, derivatives, and integrals. It will also involve the exploration of graphs and tables. Applications may be solved graphically, be supported numerically, confirmed analytically, or solved algebraically. **This is a weighted course.**

SCIENCE DEPARTMENT

429 LIFE SCIENCE: 9th grade; 1 cr. An introduction to selected principles of the biological sciences explored through current topics in biology. Areas of study will include the organization of life, cell structure and function, DNA structure and heredity, biodiversity, evolution, and ecology. This course is designed for the career or non-science student.

430 BIOLOGY I: Requirement for 9th or 10th grade students as determined by administration; 1 cr. This course is required for graduation. Concepts covered in this course include basic biological principles, chemical basis of life, bioenergetics, homeostasis, cell growth & reproduction, genetics, the theory of evolution and ecology. Students will be required to take and pass the Keystone Biology Exam at the completion of this course in order to graduate as per state requirements.

440 CHEMISTRY I: 10th - 12th grade science course; 1.5 cr. **Prerequisite:** Completion of Algebra I with a grade of "C" or higher. The first part concentrates on the names of the elements, formula writing, and math skills required for Chemistry and for laboratory work. The second part focuses on theory and such topics as chemical bonding, chemical naming, and chemical reactions. Major class activities include laboratory work which aids the student in the study of science by clearly illustrating the principles and concepts involved. Finally, Chemistry allows students the opportunity to develop techniques and other manipulative skills that students of science must master and to develop the skills the student needs to be successful in post-high-school endeavors.

442 PHYSICAL SCIENCE: 10th - 12th grade science course; 1 cr. This course will explore topics related to both chemistry and physics. Topics that will be covered include motion, forces, energy, electricity and magnetism, waves and optics, atoms, the structure of matter, and basic chemical properties and processes. Instructional techniques will include lectures, individual and group assignments, labs and projects.

443 HONORS PHYSICS I: 10th - 12th grade science course; 1 cr. **Prerequisite:** Completion of Algebra I with a grade "B" or higher. It is strongly encouraged that students have either taken Algebra II or are currently enrolled. This course is intended to be an algebra based physics course that will prepare students for physics courses at the college level. Topics that will be covered include motion, forces, energy, momentum, rotational motion, fluid dynamics, heat, and thermodynamics. Extra emphasis will be placed on applying scientific process and problem solving abilities. Instructional techniques will include lecture, individual and group work, labs and projects. College credit available through Mt. Aloysius College upon successful completion of Physics I

and Physics II. **This is a weighted course.**

444 ENVIRONMENTAL SCIENCE: 10th - 12th grade science course; 1 cr. **Prerequisite:** Biology I. This course is intended to provide the student with an awareness of the interrelationship between humans and their environment. Topics covered include endangered species, integrated pest management, forestry, ecosystems, and conservation of natural resources.

450 CHEMISTRY II: 11th - 12th grade Science course; 1.5 cr. **Prerequisite:** Chemistry I with a double lab period and must earn a "C" or higher. Chemistry II is similar to a first-year college chemistry course with an extensive emphasis on the mathematics of chemistry. This course examines such topics as chemical reactions, chemical theory, quantum mechanics, gasses, solution chemistry, and acids and bases. Major class activities include laboratory work and the development of the skills the student needs to be successful in post-high-school endeavors. **This is a weighted course.**

451 BIOLOGY II: 11th - 12th grade science course; 1 cr. **Prerequisite:** Minimum of a "B" in Biology I and Chemistry I and successful completion of the Keystone Biology Exam by scoring proficient or advanced. This course is intended for students who wish to pursue a degree in science and/or a health-related field. Topics such as molecular biology, cellular biology, genetics, ecology and biotechnology will be covered extensively in this course, as well as an introduction to anatomy. Investigative techniques are used to develop skills needed for college-level biology courses. Some animal dissection is required. **This is a weighted course.**

452 HONORS PHYSICS II: 11th - 12th grade science course; 1 cr. **(College in the High School Course) Prerequisite:** Completion of Physics I with a grade of "C" or higher. This course is intended as an extension of Physics I. Topics to be covered include periodic motion, sound, optics and electromagnetic waves, electrostatic forces, electric current, series and parallel circuits, magnetism, electromagnetic induction, nuclear, modern, and atomic physics. This course is highly encouraged for any student pursuing further education in engineering, physical sciences or medicine. College credit available through Mt. Aloysius College upon successful completion of Physics I and Physics II. **This is a weighted course.**

460 HONORS CHEMISTRY: 12th grade science course; 1.5 cr. **Prerequisite:** Completion of Chemistry II earning a "B" or higher. Honors Chemistry is similar to a first-year college chemistry course and is intended as an extension of Chemistry II with studies in detailed chemical bonding, acids and bases, molarity, redox reactions, reaction kinetics, chemical equilibrium, and organic chemistry. Laboratory exercises are

integrated with classroom learning. **This is a weighted course.**

HEALTH AND PHYSICAL EDUCATION DEPARTMENT

630/40/50/60 PHYSICAL EDUCATION: Requirement for all grade levels; various credit values apply. The physical education objectives are to promote and develop fitness and to teach fundamental skills in teamwork. Emphasis is placed on functional movements, the development of a life- long fitness plan and developing the 10 general physical skills including: Cardiovascular/ Respiratory Endurance, Stamina, Strength, Flexibility, Power, Speed, Coordination, Accuracy, Agility, and Balance. Students will be offered constantly varied exercises through a moderate intensity level to develop those skills. They will also increase their knowledge on rules of various activities including: floor hockey, flag football, soccer, softball, volleyball, basketball, nutrition, and other fitness activities.

651 HEALTH 11: Requirement for 11th grade students; .5 cr. It is a continuation of the information presented during the previous year. The primary emphasis is directed toward current health issues critical to the adolescent. Special attention is focused upon the male and female reproductive systems, pregnancy and childbirth, contraception, abstinence, sexually transmitted infections, harmful and violent relationships, as well as HIV and AIDS education. It is the purpose of the course to encourage the students to have a better understanding of themselves and the choices that they make, and the outcomes based on these decisions. The goal is for the students to learn about the consequences before they make choices and decisions. At this time, there are no prerequisites and all health classes are coeducational.

ART & HUMANITIES / ELECTIVES

153 ENGLISH FOR THE WORKFORCE (WRITING): Elective for 11th -12th grade students; 1 cr. This course is designed for students planning to enter the trades or workforce immediately after high school, with a strong focus on practical, real-world applications. Students will develop essential writing skills needed in professional settings, including clear communication, workplace documentation, and technical explanation. Public speaking and professional literacy will be incorporated. **(Students enrolled in the career center or with administrative approval may take this course in lieu of Rhetoric and Composition)**

164 ENGLISH FOR THE WORKFORCE (READING): Elective for 11th -12th grade students; 1 cr. This course is designed for students planning to enter the trades or workforce immediately after high school, with a strong focus on practical, real-world applications. Students will develop essential technical and informational reading skills to

help students understand vocabulary and respond to situations commonly encountered on job sites or in training programs. Public speaking and professional literacy will be incorporated. **(Students enrolled in the career center or with administrative approval may take this course in lieu of World and British Literature)**

170 CREATIVE WRITING: Elective for 9th - 12th grade students; .5 cr. Students explore their imaginations through creative writing in prose and poetry. This course emphasizes writing practice and development. Upon completion of this course, students will be prepared to seek publication in periodicals and contests.

171 SPEECH & DEBATE I : Elective for 10th - 12th grade students; .5 cr. Highly recommended for all college-bound students. This eighteen-week course introduces students to the composing strategies of public speaking through a gradual progression from impromptu to debate. Students will write and present informative, narrative, and persuasive speeches. Students will learn and implement delivery techniques to improve overall public speaking abilities.

270 HISTORY IN THE HEADLINES 9-12: Elective for 9th - 12th grade students; .5 cr. This course is designed to look at current issues and events that are occurring around the globe, in the United States, and within our community, and the impact that they will have on our lives and our country. We will use a variety of sources to gather topics, i.e. news programs, newspapers, magazines, the internet and our own classroom debates.

271 HOLOCAUST: Elective for 9th - 12th grade students; .5 cr. The Holocaust course will cover the problems Germany faced after WWI with the Weimar Republic. The course will investigate the rise of Hitler, the Holocaust, and problems with the Muslims & Israelis. Major class activities include discussion and research.

272 THE HISTORY OF THE MEDIA AND TELEVISION: Elective for 9-12th grade; 1 cr. This course is designed to look at the influence the media has had on U.S. History. It will examine the use of the media to influence people, groups and other historical events as well as the different forms of media that have evolved over the years. This class will also look at advertising and the influence it can have on society and purchases made by people. Finally, this class will look at television and the role it has had in portraying historical events and if they are accurate or biased in one way or another. Our goal in this class will be to eventually create a school newspaper, news reports, blog spots, FREE advertisements for local businesses and events and coverage of school events including concerts, games etc.

273 PSYCHOLOGY (Even Years Only): Elective for 9th - 12th grade students; .5 cr. This semester-long course deals with man's understanding of himself. Designed, primarily, as an introductory course and serves as a primer for college prep students. A basic knowledge of how and why man does what he does enhances his interpersonal relationships. Core topics include, "States of Consciousness", "Sensation and Perception", "Cognition", "Personality" and "Abnormal Psychology". In addition to the fundamental concepts of Psychology, the course offers more in-depth study as students initiate research of both individual and collective interest. Students utilized this online platform, reference their textbook, and meet with the instructor to cover the basics of Psychology.

274 MILITARY HISTORY (Even Years Only): Elective for 9th -12th grade; .5 cr. Military History will focus on wars the United States has been involved in since the Revolutionary War. The class will look at the impact of these events on our nation's history and it will also look at the causes, events, major leaders (military and political) and the results of these wars.

275 WORLD RELIGIONS (Odd Years Only): Elective for 9th - 12th grade; .5 cr. Religion has been a monumental influence in the shaping of history in every civilization. This class will study the nine major religions of the world, Judaism, Christianity, Islam, Hinduism, Buddhism, Sikhism, Confucianism, Shinto and Taoism. Students will research and analyze the shared cultural regions and commonality of theology, beginning with the spiritual traditions of India, moving to aspects of faith in Confucian society, then on to the Abrahamic-based religions of Judaism, Christianity and Islam. Student assessment includes: Key Vocabulary, Key Concepts, Identifying historical individuals, geographic locations of various faiths (past and present), research projects with presentation, exploration of web sites.

276 WORLD GOVERNMENTS (Odd Years Only): Elective for 9th - 12th grade; .5 cr. Explores the government and politics of some of the major nations in the world as well as developing nations. Political structures, functions, processes and policies are compared with each other. Particular consideration is given to contemporary world problems.

280 WORLD CULTURES: Elective for 10th - 12th grade students; 1 cr. **Prerequisite:** American Government. World cultures is a concentrated study of the origin and development of Western Civilization. An in-depth examination of the spread of ancient cultures from the Egyptians and Greeks through the 20th century is covered in this course. The development of political, social, and economic conditions is stressed as well. In addition, World Cultures promotes evaluating the influence of past events on our modern society as well as understanding one's own culture through examining other

cultures.

470 ASTRONOMY: Elective for 9th - 12th grade students; .5 cr. Examine the motions of the earth, moon and the planets and their effects on the appearance of the sky; the nature of the sun and the planets. Students will also differentiate between asteroids and comets and how they result in meteors and meteorites.

471 FORENSICS: Elective for 9th - 12th grade students; .5 cr. This course is designed to introduce students to crime scene forensics. Major topics will include fingerprint, DNA, hair, fiber and blood evidence; tool marks; powder (chemicals); and basic crime scene analysis.

472 PET - ENGINEERING DESIGN (Odd Years Only): Elective for 9th - 12th grade; .5 cr. This course is intended to introduce students to the design process used in engineering, architecture and other fields of technology. Tools used will include digital micrometers, 3D printers, laser cutters, and computer numerical control (CNC) routers. Methods of design will include 3D modeling and architectural design, CADD, and CAM. Many of the concepts covered in this course will be used in subsequent engineering and technology courses. In addition, concepts covered in this course can be applied towards students earning a Robotics Technician Pre-Apprenticeship Certificate issued by the Pennsylvania Department of Labor and Industry for those students who elect to obtain this certification. This is a project-based course.

473 PET - ENGINEERING PROCESS (Odd Years Only): Elective for 9th - 12th grade; .5 cr. **Prerequisite:** Completion of PET 472. This course is intended to introduce students to the various fields of engineering and related technologies. Students will learn about the various fields of engineering, and then conduct a project related to that field. Topics include Civil Engineering, Mechanical Engineering, Nautical Engineering, and Aeronautical Engineering. Projects will involve project design, cost analysis, optimization and identifying and solving problems. In addition, concepts covered in this course can be applied towards students earning a Robotics Technician Pre-Apprenticeship Certificate issued by the Pennsylvania Department of Labor and Industry for those students who elect to obtain this certification. This is a project-based course.

474 PET - ANALOG AND DIGITAL CIRCUITS (Even Years Only): Elective for 9th - 12th grade; .5 cr. This course is intended to strengthen student understanding of the use of electricity in technology. Topics covered include the foundations of analog and digital electronics. Students will learn about Ohm's Law through the analysis of analog series and parallel circuits. Digital electronics will cover binary/decimal conversions, karnaugh

mapping & truth tables, boolean algebra, and applications of deMorgan's Theorem to simplify complex digital circuits. Circuit construction techniques as well as breadboarding will be covered. Students will also gain experience using open source variants of p-Spice to prototype and analyze circuits. In addition, concepts covered in this course can be applied towards students earning a Robotics Technician Pre-Apprenticeship Certificate issued by the Pennsylvania Department of Labor and Industry for those students who elect to obtain this certification. This is a project-based course.

475 PET - MICROCONTROLLERS AND ROBOTICS (Even Years Only): Elective for 9th - 12th grade; .5 cr. **Prerequisite:** PET 474. Students will study automated systems by focusing on system design and interfacing via the arduino microcontroller. Basics of computer programming are not required but will be taught as needed. Students will prototype their own micro combat robot which will scale into a working full-sized prototype for the Western Pennsylvania BotsIQ combat robotics contest. In addition, concepts covered in this course can be applied towards students earning a Robotics Technician Pre-Apprenticeship Certificate issued by the Pennsylvania Department of Labor and Industry for those students who elect to obtain this certification. This is a project-based course.

476 ANATOMY/PHYSIOLOGY: Elective for 10th - 12th grade students; .5 cr. **Prerequisite:** Successful completion of Biology I. Students will study the structure of human body systems, including skeletal, muscular, nervous, cardiovascular, and digestive. Diseases and disorders that affect organs will be introduced. This class is geared towards students planning on pursuing a career in a health field.

477 EXERCISE SCIENCE AND NUTRITION: Elective for 9th - 12th grade students; .5 cr. Students will be introduced to human anatomy. Focus will be on exercise physiology as well as nutrition. The aim of the course is to improve the health of students, guiding them to an understanding of better choices of exercise and diet.

478 PET - HAM RADIO TECHNICIAN LICENSE PREPARATION (Offline Independent Study): Elective for 9th - 12th grade; .5 cr. **Prerequisite:** None. Students will utilize provided resources to study for and pass the HAM Radio Technician Class Exam and obtain the Technician Class license from the FCC. Throughout this course, students will explore various study areas including radio and signal fundamentals, electricity, components, and circuits, propagation, antennas, and feedlines, amateur radio equipment, regulations and operating procedures governing amateur radio operation, and safety. A passing grade will only be awarded if the student obtains the Technician Class license and is listed in the FCC license database. It is expected that a minimum of

20 hours of study would be required to be familiar with the exam content. This course will be graded as a pass/fail course.

479 EXPLORE SCIENCE I: Elective for 9th - 12th grade; 0.5 cr. This course is intended to investigate science in our everyday lives. Students will make real world determinations as they investigate and apply science to their everyday lives. Topics will focus on an introduction to basic physical, chemical, & biological concepts and principles. Students will explore applications and apply them in the lab. This course will be project/lab based.

480 EXPLORE SCIENCE II: Elective for 9th - 12th grade; 0.5 cr. **Prerequisite:** Explore Science I with a passing grade. This course is a continuation of Explore Science I. Students will further their investigative skills in exploring everyday science. Students will explore applications and apply them in the lab. Topics will be more in depth than Explore Science I. This course will be project/lab based.

530 SPANISH I: Elective for 9th - 12th-grade students; 1 cr. (no credit awarded in 8th grade). Students in 8th grade must have passed 7th grade English and Math with an 'A' or 'B'. This course focuses on written and oral communication in the present, simple future, and present progressive tenses. Students learn to write and speak about family, school, weather, time, and express preferences. Some projects include a Hispanic country presentation and family tree project. Taking notes is required.

531 FRENCH I: Elective for 9th - 12th-grade students; 1 cr. This course focuses on written and oral communication in the present tense. Students learn to write and speak about family, school, weather, time, and express preferences. Students will explore French culture, as well as the culture of other French speaking countries. Some projects include a family tree project. Taking notes is required.

540 SPANISH II: Elective for 10th - 12th-grade students; 1 cr. **Prerequisite:** Completion of Spanish I with a passing grade. Students will talk about shopping, clothing, sports, ask for and give directions, discuss their daily routine, and talk about the past, present, and future. Projects include a monster project, a city and scavenger hunt project, and runway project with clothing vocabulary. Taking notes is required.

541 FRENCH II: Elective for 10th - 12th-grade students; 1 cr. Completion of French I with a passing grade. Students will talk about shopping, clothing, sports, ask for and give directions, discuss their daily routine, and talk about the past, present, and future. Projects include a monster project, a city and scavenger hunt project, and runway project with clothing vocabulary. Taking notes is required.

550 SPANISH III: Elective for 11th - 12th grade students; 1 cr. **Prerequisite:** Completion of Spanish II with a 'B' or higher (or approval from teacher). Students will continue to study past tenses and compare and contrast their different verb conjugations. Students will learn how to discuss their health, give commands, and express personal reactions. They will incorporate double object pronouns into their speech and will begin study of the subjunctive tense. Students will read a short story in Spanish to reinforce vocabulary, tenses, geography, and culture of Latin America. Projects include cooking show projects with affirmative tú commands and ABC booklet. Taking notes is required.

560 SPANISH IV: Elective for 12th grade students; 1 cr. **Prerequisite:** Completion of Spanish III with a 'B' or higher (or approval from teacher). Students will study the subjunctive tense in depth and will read and discuss excerpts from short stories and a variety of literature including "Don Quixote de la Mancha." Students will discuss various verb tenses in depth that have not been discussed previously. Students should feel confident speaking in Spanish by the end of this course. Taking notes is required.

631 STRENGTH AND CONDITIONING: Elective for 9th -12th grade students; .5 cr. This course will improve the students cardiovascular/ respiratory endurance, stamina, strength, flexibility, power, speed, coordination, accuracy, agility, and balance. Students will use exercise bands, weight machines, and free weights. Later in the program students will be introduced to more equipment that can be implemented into the program and will begin development of their own weight training plan that suits their particular lifelong goals. Students will be taught proper techniques of weight lifting to ensure safety.

632 STRENGTH AND CONDITIONING II: Elective for 10th-12th grade students; .5 cr. This course will build upon Strength and Conditioning 1. During this course the students will be introduced to proper nutrition for pre workout, post workout, and overall maintenance of muscle growth and muscle strength. Students will use HIIT (High Intensity Interval Training) workouts as well as regular weight lifting. The use of compound movements will be introduced into their programs. We will go over the use of various weight lifting apps and then research which app that can be used to enhance their particular workout goal. Students will write and develop their own 4-week workout plan.

702 CONCERT BAND: Elective for 9th - 12th grade students; 1 cr. **Prerequisite:** Music lessons or participation in Band 7/8. This course will consist of the performance and study of repertoire of instrumental literature with a level of difficulty of 4-6 on a scale of 1 to 6. Students will have the opportunity to perform an appropriate part in ensembles, attend lessons and perform scales/rudiments from memory. Concert attendance is mandatory.

703 MARCHING BAND 9-12: Elective for 9th - 12th grade students; .25 cr.

Prerequisite: Music lessons or participation in 7/8 grade Band or 9-12 grade Band. This course will consist of the performance and drill, from the repertoire of an audience based literature, placed to motion for football games and parades with a level of difficulty of 3-5 on a scale of 1 to 6. Students will have the opportunity to perform for a variety of events. Band camp attendance is mandatory.

706 CONCERT CHOIR: Elective for 9th - 12th grade students; 1 cr./ .5 cr. **Prerequisite:** Students can match pitch. The course studies choral music from many genres, cultures, and musical periods. Students who participate in this course have the option of participating in various choral festivals, and small ensembles. This group represents our school in performances throughout the community.

724 HOME SKILLS TECHNOLOGY - Power Technology (ODD YEARS ONLY):

Elective for 9th - 12th grade students; 0.5 cr. This one-semester Power Technology course offers hands-on experience in engine mechanics, power systems, maintenance, and automotive technology. Students will learn safety protocols, internal combustion engine basics, and skills in diagnosing and repairing small engines. The curriculum covers larger power equipment and automotive systems, including transmission, braking, electrical, steering, and suspension. A capstone project may involve designing, building, and testing a go-kart, applying mechanical, electrical, and safety concepts in a real-world setting. This course is ideal for students interested in basic small engine and automotive maintenance, technology, engineering, or automotive careers, providing foundational skills and practical experience.

725 HOME SKILLS TECHNOLOGY - Construction Technology (EVEN YEARS ONLY):

Elective for 9th - 12th grade; 0.5 cr. This one-semester Home Skills Technology course provides hands-on experience in fundamental construction trades. Students will learn essential skills in measurement, tool selection and safety, carpentry, residential wiring, and plumbing. Key projects may include building a birdhouse to demonstrate precise measuring and hand-tool use, constructing a small shed to develop carpentry skills, wiring receptacles, outlets, switches, and circuit breakers, as well as plumbing tasks like installing sinks and making connections. This course is ideal for students interested in basic home repairs, construction, or engineering, offering foundational skills and practical experience.

726 DRIVER EDUCATION: Elective for 9th - 12th grade; .25 cr. (online). This course will provide students with the basics of driving. The course will focus on the mental aspects of driving.

729 WOODWORKING I: Elective for 9th–12th grade students; .5 cr.

Students will learn the fundamentals of woodworking through hands-on design and construction of small furniture and household projects. Emphasis will be placed on shop safety, measurement, tool identification, and the use of both hand and power tools. Students will explore wood properties, joinery techniques, and surface finishing while developing precision and craftsmanship. Projects may include picture frames, boxes, stools, end tables, or similar items. Students will also gain experience in reading plans, estimating materials, and applying practical problem-solving skills related to design and fabrication. *****Limit 10 students per shop class period due to limited tools*****

730 WOODWORKING II: Elective for 9th–12th grade students; .5 cr.; Prerequisite:

Woodworking I. Students will expand upon the foundational skills learned in Woodworking I by exploring advanced joinery, furniture design, and finishing techniques. Emphasis will be placed on craftsmanship, precision measurement, and the proper use and maintenance of woodworking machinery. Students will design and construct larger and more complex projects such as cabinets, chairs, or tables. Topics include project planning and design, wood selection, and the use of jigs and fixtures to improve accuracy and efficiency. Students will gain a basic understanding of cabinetmaking principles and production methods used in the woodworking industry. *****Limit 10 students per shop class period due to limited tools*****

731 WOODWORKING III: Elective for 10th–12th grade students; .5 cr. Prerequisite:

Woodworking II. Students will continue developing advanced woodworking techniques through independent, design-driven projects. Emphasis is placed on planning, craftsmanship, and professional work habits. Students will plan, design, budget, and construct custom furniture or cabinetry projects using the tools and methods mastered in previous courses. Additional focus will be given to advanced joinery, surface finishing, and presentation of completed work. *****Limit 10 students per shop class period due to limited tools*****

740 INTRODUCTION TO EDUCATION: Elective for 11th–12th grade students; .5 cr.

This course is designed for students interested in pursuing a career in education or related human services fields. Students will explore the history, philosophy, and structure of the American educational system while examining the roles and responsibilities of teachers in today's schools. Through a combination of classroom study and practical field experience, students will gain insight into lesson planning, instructional strategies, classroom management, and student learning styles. A key component of the course involves assisting in a real classroom setting under the supervision of a certified teacher, allowing students to observe, support, and reflect on authentic teaching experiences. Emphasis will be placed on professional ethics, effective communication, and the

development of a personal teaching philosophy.

750 YEARBOOK 9 - 12: Elective for 9th - 12th grade students; .5 cr. Students will complete all tasks necessary to design, create, edit, and distribute a quality yearbook for the current school year. Students will use elements of design, layout, and photography. Students must set and meet deadlines for successful yearbook production. This includes scheduling sports/clubs/dances/etc. photos, taking student activity photos - academic and extracurricular- and submitting page layouts and designs on or before deadlines. Students will also be responsible for the overall decision-making, editing, and design of the yearbook, including the yearbook cover. Many projects will require group work and collaboration. Students will be required to attend some after-school games, events, and dances.

760 ART 9-12: Elective for 9th - 12th grade students; 1 cr. Art 9-12 is a studio course for the intermediate to serious art students. We will further explore the many mediums of art, as well as develop critical thinking and problem solving, as students work more independently.

761 DRAWING/PAINTING: Elective for 9th - 12th grade students; .5 cr. This course will begin with a complete drawing instruction and evolve to cover painting techniques and mediums including watercolor and acrylic paints.

762 SCULPTURE/CERAMICS: Elective for 9th - 12th grade students; .5 cr. This course will explore Ceramics through the hand-building technique. Students will create functional as well as sculptural projects out of clay. Plaster will also be explored as a sculpting medium.

780 COMPUTER APPLICATIONS I: Elective for 9th - 12th grade students; 1 cr. This course is designed to introduce intermediate, as well as advanced, concepts in use of a computer as a business and personal tool. Students will complete activities related to managing a business from an entrepreneurial or managerial perspective, focusing on word processing, spreadsheets, database management, and desktop publishing. These applications will include, but are not limited to, Google Docs and Sheets and portions of the Microsoft Office Suite. This is an essential class for the college-bound student and the school-to-work student.

781 INTRODUCTION TO COMPUTER PROGRAMMING I: Elective for 9th - 12th grade students; .5 cr. Students will learn the foundations of computer programming through the Python language, focusing on how computers represent and process information. Topics include variables, data types, selection, iteration, functions, and basic data structures.

After mastering core syntax and logic, students will explore how emerging AI tools can assist with coding, debugging, and creative design. The course culminates in a personal project—such as a simple game or interactive program—developed with both student-written and AI-generated code.

782 INTRODUCTION TO COMPUTER PROGRAMMING II: Elective for 9th–12th grade students; .5 cr. **Prerequisite:** Introduction to Computer Programming I.

Students will build upon the programming fundamentals learned in Introduction to Computer Programming by developing interactive games and simulations. This course emphasizes game design as the framework for learning advanced programming concepts such as algorithms, modular programming, arrays, event handling, problem-solving strategies, and basic object-oriented principles. Students will explore core elements of game mechanics, player interaction, storytelling logic, and user interface design. Through hands-on individual and team projects, students will design, code, test, and refine playable games using beginner-friendly development platforms and languages. The course promotes creativity, critical thinking, and computational logic while preparing students for advanced coursework in computer science, digital media, or software/game development.

785 DIGITAL PUBLISHING AND MEDIA PRODUCTION I: Elective for 9th - 12th grade students; 1 cr. Students will learn the foundations of Visual Design (Foundations of Design and Print Production) and begin to study one or more of the following digital careers: Digital Video (Video Design and Production), Digital Design (Web Design), and Interactive Design (Animation). Many projects will require group work and collaboration.

786 DIGITAL PUBLISHING AND MEDIA PRODUCTION II: Elective for 10th -12th grade students; 1 cr. **Prerequisites:** minimum of a “C” in Digital Publishing and Media Production I. Students will advance study in the following digital careers: Digital Video (Video Design and Production), Digital Design (Web Design), and Interactive Design (Animation). Many projects will require group work and collaboration.

787 DIGITAL PUBLISHING AND MEDIA PRODUCTION III: Elective for 11th -12th grade students; 1 cr. **Prerequisites:** minimum of a “C” in Digital Publishing and Media Production I and a “C” In Digital Publishing and Media Production II. Students will complete advanced study in the following digital careers: Digital Video (Video Design and Production), Digital Design (Web Design), and Interactive Design (Animation). At this level students will take a leadership role in collaborative video projects. Many projects will require group work and collaboration.

788 COMPUTER APPLICATIONS II: Elective for 10th - 12th grade students; 1 cr. **Prerequisite:** Computer Applications I or teacher approval. This course builds upon the

foundational skills learned in Computer Applications for Business, developing students' proficiency in business technology through practical, real-world applications. Students will enhance their expertise in word processing, spreadsheets, and presentations while learning to integrate these tools effectively for business purposes. The course focuses on developing practical skills including: advanced spreadsheet functions (formulas, charts, data analysis), professional document formatting and templates, effective presentation design, and collaborative cloud-based work. Students will also explore relevant business technologies such as project management basics, digital communication tools, and professional online platforms. Projects emphasize real-world business scenarios such as creating financial reports, designing marketing materials, managing business data, and preparing professional presentations. Students will work with both Google Workspace and Microsoft Office Suite, learning to choose the right tool for each task and work efficiently in team environments.

790 ACCOUNTING: Elective for 9th - 12th grade students; 1 cr. This course is designed to introduce the student to basic accounting concepts of a proprietorship, partnership, and corporation. Students will plan, record, analyze, and interpret financial transactions and records of a service and merchandising business as it relates to the accounting cycle. In this course, manual procedures of accounting will be emphasized, however some computer aided accounting procedures will be presented.

792 PERSONAL FINANCE: Available to 11th and 12th grade students; 0.5 cr. This course focuses on earning, spending, saving, investing, and managing finances. It will assist students in recognizing their future financial responsibilities. Students will explore and learn skills that will prepare them to become informed and educated Consumers.

930/940/950/960 CAREERS: Required course for 9th - 12th grade; .25 cr. each year enrolled at Union (including online). This course provides students the opportunity to research a career in which they are interested. Within the research completed, they will discover schools that offer training necessary for the career, length of the program, tuition, job opportunities, job outlook and current salaries. Required career artifact(s) will be completed in this course.

Clarion County Career Center

The Clarion County Career Center (CCCC) offers programs in eight (8) different career areas to students from seven (7) area sending schools. Students who choose to enroll in a CCCC program will attend during the AM session (lasting approximately 2.5 hours). The remainder of their day involves completing their core academic courses of study at Union High School. Programs are designed to be three years in length, beginning in the 10th grade. However, 11th and 12th grade students may also begin a program, and would be encouraged to do so, if this would assist them in reaching their career or educational goals. There are many opportunities for students enrolled in a CCCC program. All programs prepare students for immediate employment, or post-secondary education program options. Senior students who demonstrate a high level of competency in their program, can participate in a cooperative education experience with an area employer. Furthermore, SOAR and local articulation agreements can provide students with advanced credits or placement. Lastly, CCCC students have the opportunity to earn industry recognized certificates, or licenses, through examinations or certification testing programs.

970 Allied Health Science (5 half days/week - 2 semesters, 3 credits)

This curriculum is designed for all individuals interested in medical careers. The program includes background information in medical, nursing, dental, laboratory, imaging and rehabilitative occupational areas. Individual course selections include dental assisting, nursing assisting, and medical assisting. Students may return after graduation for a **certified** Nursing Assistant course free of charge.

971 Automotive Technology (5 half days/week - 2 semesters, 3 credits)

Students can pursue the eight Automotive Service Excellence (ASE) certifications. Areas to be covered include engine repair, automatic and manual transmissions, suspension and steering, brakes, electrical/electronic systems, heating/air conditioning, and engine performance. Students may also be **certified** to become an ASE certified technician and/or PA State license inspection mechanic.

972 Computer Networking/Information Technology (5 half days/week - 2

semesters, 3 credits) This program will prepare individuals with the technical skills required to support networks and network users. Possible skill development includes network design, security, and computer repair. Possible **certifications** include A+, Network+, and CISCO. Certifications may be eligible for college credits.

Cooperative Vocational Education

Cooperative education or “co-op” is a method of training that combines vocational instruction with the real world, on-the-job experience. Qualified seniors may spend one-half day, or its equivalent, on the job. The co-op coordinator will assist the student in finding a job. Students must maintain acceptable grades at their sending school, have

good attendance, and provide their own transportation to and from the work site. The student gains valuable experience, improved work ethics, and a paycheck.

973 Construction Technology (5 half days/week - 2 semesters, 3 credits)

Students enrolled in this program receive training in carpentry, electric, plumbing, roofing, window and door installation, siding, blueprint reading, masonry and International Residential Code (IRC). Every year a modular house is built. This gives hands-on experience with a full-scale project. Skills learned may also be of value when owning a home or rental property. OSHA certification may be obtained.

974 Cosmetology Styling Academy (5 half days/week - 2 semesters, 3 credits)

The Academy's curriculum consists of hair styling, permanent waves, hair coloring, bleaching, straightening, hair testing and scalp care. Also included in this program is instruction about the skin, which includes facial treatments and cosmetics. Students learn proper manicuring methods as well as sales theory, maintaining client's hair record cards, state laws and diseases of the skin. Students may be eligible to become a **certified** cosmetologist after completing 1250 hours of training.

976 Diesel Technology (5 half days/week - 2 semesters, 3 credits)

The skills students learn in diesel technology include but are not limited to preventative maintenance, diesel engine rebuilding, electronic engine controls, electrical troubleshooting, air system troubleshooting, engine and drive component disassembly, brake troubleshooting, air conditioning, and basic welding. Included in this program is customization of trucks and repair work.

977 Police Science (5 half days/week - 2 semesters, 3 credits)

Police Science prepares students for a variety of exciting careers in criminal justice. Criminal justice and private security is studied the first year. Second year students work on Emergency Dispatch certification. Third year students concentrate on the First Responder certification. Physical fitness is highly stressed. Students are taught self-defense as well as investigating techniques. Students who complete the three-year program with a "B" average and instructor's recommendation will receive **six credits** from Butler County Community College when enrolling into the criminology program.

978 Welding & Fabrication (5 half days/week - 2 semesters, 3 credits)

Students are trained to become successful in the welding fields using state of the art equipment. The different types of welding include oxy-acetylene cutting, brazing, stick welding, MIG, TIG, pipe, and dual shield. Blueprint reading and pipe welding also will be taught. New learning stations include a robotic welder and a CNC plasma cutter. Certification from the American Welding Society may be obtained.

JUNIOR HIGH CORE & ELECTIVES

110 ENGLISH/READING 7 (ELA): Requirement. This reading and writing course is an interactive process of constructing meaning from text and converting thoughts to the written word. The students will learn, practice, and apply a variety of strategies in the areas of listening, speaking, reading, writing, and study skills. The development of these strategies will enable the students to interpret various fiction and nonfiction types of literature including poetry and novels. The students will be identifying literary elements, increasing vocabulary, interpreting figurative and literal language, creating written responses to literature, interpreting graphic aids, and utilizing a variety of skills to comprehend text. The students will also learn writing skills that will prepare them for 8th grade, focusing on narrative, argumentative, informative, and other constructed responses. Through these writings, students will be exposed to appropriate grammar lessons and clear sentence structures and techniques (e.g. transition words). A variety of texts will be used to enhance students' development of comprehension skills used to understand fiction and nonfiction material. The questioning is aligned with the PA Core. Another focal point will be preparing for PSSA testing. Required career artifact(s) will be completed in this course.

120 ENGLISH/READING 8 (ELA): Requirement. This reading and writing course is an interactive process of constructing meaning from text and converting thoughts to the written word. The students will learn, practice, and apply a variety of strategies in the areas of listening, speaking, reading, writing, and study skills. The development of these strategies will enable the students to interpret various fiction and nonfiction types of literature including poetry and novels. The students will be identifying literary elements, increasing vocabulary, interpreting figurative and literal language, creating written responses to literature, interpreting graphic aids, and utilizing a variety of skills to comprehend text. The students will also learn writing skills that will prepare them for 9th grade, focusing on narrative, argumentative, informative, and other constructed responses. Through these writings, students will be exposed to appropriate grammar lessons and clear sentence structures and techniques (e.g. transition words). A variety of texts will be used to enhance students' development of comprehension skills used to understand fiction and nonfiction material. The questioning is aligned with the PA Core. Another focal point will be preparing for PSSA testing. Required career artifact(s) will be completed in this course.

122 LANGUAGE EXPLORATION 8: Requirement for 8th grade students. Jump into an exciting journey exploring two of the world's most popular languages! In this course, students will discover the basics of French and Spanish through fun activities like

creating mini books, playing language games, and learning about holidays, food, and daily life in French and Spanish-speaking countries. You'll learn common phrases in both languages that will help you greet new friends, order food, and talk about your interests. No previous language experience is needed, just bring your curiosity and enthusiasm to learn about new cultures and ways of communicating with people around the world.

210 SOCIAL STUDIES 7: Requirement for 7th grade students. Students will focus on the formation of the United States Government, including the process to ratify the Constitution and the Bill of Rights, early influences on our government, comparisons of Democracy to other types of government, the duties and responsibilities of each Branch of our government, and the electoral process.

220 SOCIAL STUDIES 8: Requirement for 8th grade students. Pennsylvania History examines the evolution of Pennsylvania as a historical Keystone of the United States. This course focuses on geography, history, cultural, political, economic, and social development of our state from the hunting grounds of Native Americans into the industrial heart of the nation. This class also introduces World History as we begin in the earliest recorded history and will analyze the earliest civilizations in the World's history and economic factors that made them rise and fall. Required career artifact(s) will be completed in this course.

300 MATH LAB 7: Available to all seventh grade students who were not proficient on the Mathematics PSSA. The course is designed to provide extra support with key foundational math skills. These topics could be from previous grades or they could be topics the student is covering in seventh grade but have not yet reached proficiency. Pending teacher availability.

301 MATH LAB 8: Available to all eighth grade students who were not proficient on the Mathematics PSSA with teacher recommendation. The course is designed to provide extra support with key foundational math skills. These topics could be from previous grades or they could be topics the student is covering in eighth grade but have not yet reached proficiency. Pending teacher availability.

310 FUNDAMENTALS OF MATH I: Designed for all 7th grade students. The course focuses on developing the basic skills of addition, subtraction, multiplication, and division of integers, fractions, and decimals as well as fundamental problem solving, communication, and mathematical reasoning skills. This course also has an emphasis on the five modules of the PA Math Standards, which include numbers & operations, measurement, geometry, algebraic concepts, and data analysis & probability.

320 FUNDAMENTALS OF MATH II: Designed for 8th grade students. Prerequisite: Fundamentals of Math I. This course further prepares students for high school mathematics by deepening their understanding of key algebraic and geometric concepts aligned with Pennsylvania Core Standards. Students will develop mathematical reasoning, problem-solving skills, and the ability to apply mathematics to real-world situations. Topics include working with rational and irrational numbers, understanding and applying properties of exponents, solving linear equations and systems of equations, and exploring functions and their representations through tables, graphs, and equations. Students will investigate geometric concepts including transformations, congruence, similarity, and the Pythagorean Theorem, as well as work with volume formulas for cylinders, cones, and spheres. The course emphasizes mathematical practices such as making sense of problems, reasoning abstractly, constructing viable arguments, and modeling with mathematics. Students will use multiple representations to analyze patterns and relationships, make connections between concepts, and communicate their mathematical thinking clearly. Through collaborative activities, hands-on investigations, and technology integration, students will build confidence and fluency in mathematics while developing the critical thinking skills necessary for success in Algebra 1 and beyond. Required career artifact(s) will be completed in this course.

322 PSSA MATH 8: Requirement for all 8th grade students enrolled in Algebra 1. Emphasis is placed on topics and standards assessed on the eighth grade PSSA exam, which include the number system, expressions and equations, functions, geometry, and statistics and probability.

410 SCIENCE 7: Requirement for 7th grade students. General content and skills will be covered that will build a foundation for the rest of high school and post high school science courses. Information covered will include the metric system, measuring skills, lab equipment and lab safety, scientific method, matter, and energy, basic chemistry and life science.

420 SCIENCE 8: Requirement for 8th grade students. This course is a survey of the earth sciences, physical science, chemistry, biology and nature of science.

424 STEAM (Science, Technology, Engineering, Arts & Mathematics) WORKSHOP: Requirement for 8th grade. Students will explore the fundamentals of computer aided drafting and design, electronics, and microcontroller programming and gain experience utilizing 3D printing and laser engraving technologies. This course will have an applied focus on simple machines, electricity and magnetism, optics and sound.

510 MUSIC 7: Requirement for 7th grade students. Students will learn the basics of

Music theory, Music history, musical theater, and the basics of instrumental music; Guitar and Piano.

511 ART 7: Requirement for 7th grade students; 9-week Course. This is an introductory course into the visual arts. Students will learn the elements of art and explore these elements through the creation of their own artwork.

512 DIGITAL RESPONSIBILITY: Requirement for 7th grade students. This course will help students transition to high school, and begin to prepare them for the demands they will encounter in this setting. Students will learn about digital literacy and responsibility, cyber citizenship, appropriate use of social media, study skills, time management, and other effective practices for student success. Required career artifact(s) will be completed in this course.

520 MUSIC 8: Requirement for 8th grade students. Students will learn the basics of Music theory, Music history, musical theater, and the basics of instrumental music; Guitar and Piano.

521 FINANCIAL LITERACY/RESPONSIBILITY: Requirement for 8th grade students. This financial literacy course provides 8th grade students with essential knowledge and skills to promote responsible money management and informed financial decision-making in their personal lives. Concepts covered include budgeting, saving, banking services, credit and debt management, investing, risk management, and retirement planning. Required career artifact(s) will be completed in this course.

610 Physical Education 8: Requirement for 7th grade students

620 Physical Education 8: Requirement for 8th grade students

621 HEALTH 8: Requirement for 8th grade students; Primary emphasis is directed toward current health issues critical to the adolescent. Special attention is focused upon the definition and what it is meant to be healthy, as well as nutrition and weight control, emotional health, drug, tobacco, alcohol education, the basic function of the human body, abstinence, and reproductive systems. It is the purpose of the course to encourage and guide students to a better understanding of themselves and to contribute to their ability to achieve optimal physical, emotional, and social well being. At this time, there are no prerequisites and all health classes are coeducational.

700 BAND 7/8: Elective for 7th and 8th grade students; 1 cr. **Prerequisite:** Music lessons or participation in the Elementary Band program. This course will consist of the

performance and study of repertoire of instrumental literature with a level of difficulty of 1-2 on a scale of 1 to 6. Students will have the opportunity to perform an appropriate part in ensembles, attend set lessons and perform scales/rudiments from memory. Concert attendance is mandatory.

701 MARCHING BAND 7/8: Elective for 7th - 8th grade students. **Prerequisite:** Music lessons or participation in Elementary Band Program or 7/8 grade Band. This course will consist of the performance and drill, from the repertoire of an audience based literature, placed to motion for football games and parades with a level of difficulty of 3-5 on a scale of 1 to 6. Students will have the opportunity to perform for a variety of events. Band camp attendance is mandatory.