

# **ENGLISH**

## **English I {Required 9<sup>th</sup> grade}**

**1 credit**

English I is a transition class between middle school and high school. Students will develop an understanding of the grammar and syntax of English and a facility in proper usage, as well as develop skills in written composition. Basic grammar and mechanics will be reviewed and assessed. Summaries, Narrative, Persuasive, Expository, and Personal writings are a large part of the development of each student. This course will include an introduction to literature in the forms of short story, drama, poetry and novel. Students will be guided toward a complete understanding and enjoyment of literature while working toward comprehension and a study of various literary elements and application into everyday life. There is a strong emphasis placed on vocabulary growth, development and utilizing the understanding of roots, prefixes, and suffixes to derive meaning.

## **English II {Required 10<sup>th</sup> grade}**

**1 credit**

English II will include a study of grammar, usage, sentence structure, composition, and literature. The study of world literature will familiarize students with short stories, drama, poetry, myths, legends, etc. from a number of authors representing various nationalities and ethnic groups. A strong development of vocabulary will be emphasized. Writing will be incorporated with a study of mechanics. In addition, students will be guided towards an appreciation and enjoyment of literature and effective communications skills.

## **Keystone Literature {Required 10<sup>th</sup> grade}**

**.50 credit**

This course is designed to enhance and improve student performance on the Keystone Literature Exam. This course will focus on 1) helping students read and interpret a variety of literary works, 2) enhancing students understanding of pertinent literary terms, and 3) teaching students a variety of test-taking strategies to use while testing as well as in other relevant situations. The purpose of this class is to help students become actively engaged in the reading experience. Coursework will emphasize understanding vocabulary in context by recognizing the use of synonyms and antonyms, connotation and denotation, and roots and affixes. Students will be exposed to different literary terms and techniques that will help them become active and analytical readers. Students will read different works of literature as well as different works of poetry, while annotating and discussing textual evidence.

## **ENGLISH**

### **Academic English {Required 11<sup>th</sup> grade}**

**1 credit**

Academic English is a course designed for those students who have aspirations of continuing their education beyond high school. The major emphasis is on written communication skills throughout literature. Students will be instructed and graded on various types of composition as well as a complete in-depth understanding of the literature. American Literature's primary themes and outstanding authors will be studied through a survey of American Literature. Genres include: historical fiction, short story, autobiography, poetry, drama, and the novel. There will be an emphasis on the application of all literary terms as well as vocabulary needed for the SAT.

### **AP English Literature and Composition {12<sup>th</sup> grade}**

**1 credit**

*Students must have a 3.00 GPA and teacher recommendation to schedule this course*

Advanced Placement (AP) English and Composition is an extremely rigorous class that demands rich, analytical thinking and writing about imaginative literature. It also confronts us with the key questions of life – “Who are we? Why are we here? What is right...or wrong? What matters? What doesn't?” This class is to prepare students for the demands of college while affording them the opportunity to immerse themselves in reading and discuss some of the most astounding and amazing literary works ever written. This class is similar to a college-level class. The reading will include critical thinking, analysis, and interpretation. Students will write an essay every couple weeks (in analytical, argumentative, and expository forms) and will read every day (novels, creative nonfiction, short stories, novellas, and poems). Lessons will focus on strengthening college-level writing skills. Students will learn to assert themselves as confident writers who can articulate innovative ideas about text, formulate a strong, logical argument, support a thematic statement and thesis with extensive evidence from the text, and define their own original and unique voice. Upon completion of this course, students should be proficient in discussing literature of varied themes, historical contexts, and genres whether it be in an on-demand, timed writing prompt, an in-depth, scrutinized, and revised essay, or in class discussion. Students will have the opportunity to take the Advanced Placement exam in May.

### **College English {Required 12<sup>th</sup> grade}**

**1 credit**

College English is an advanced course designed to prepare students for success within post-secondary education. Significant works of English literature are studied and analyzed in depth. In addition, this course will review the rudiments of grammar, mechanics and usage, incorporated within a strong writing program. Specifically, students will compile one research paper, utilizing several formats. Utilizing the library to its fullest potential is of utmost importance, along with an understanding of organizing and research skills. In addition, vocabulary development is strongly emphasized, with a review and understanding of roots, prefixes and suffixes (etymology). Students will be guided towards the development of a life-long appreciation of literature and composition

### **Journalism I, II, III, IV {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}**

**.50 credit**

Journalism will offer students the opportunity to write articles about current events and issues in regards to school, township, and various current events. Students will be required to turn in articles on a weekly basis that deal with their assigned topic of discussion. Students will also put together a school paper that will be published and sold throughout the school.

## **CAREER EDUCATION**

### **Digital Media / Marketing I, II, III {Elective 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} .50 credit**

The goal of Digital Media Marketing is to provide students with the basic tools and background knowledge to become creative and responsible digital citizens that have a critical eye. As a class, we will be looking at media and marketing techniques used to influence the consumer. Students will also recreate and reproduce some of the techniques through iMovie and other digital programs to help the students gain a better understanding of marketing techniques.

\*Studying Marketing Techniques

\*Creating and Marketing an item or service

\*Understanding propaganda and how it influences the consumer

\*Analyzing and interpreting commercials

### **Mentor Teacher Class {Elective 11<sup>th</sup>, 12<sup>th</sup> grade} .50 or 1 credit**

*Prerequisite minimum GPA 3.0*

Mentor Teacher is a supervised course for students interested in the learning process and for those students who may consider teaching or working with children as a career goal. Students will spend a significant amount of time with Elementary and/or Middle School teachers to assist with tutoring students, creating class projects, reading to students, and preparing assessments. Students will be graded on classroom journal entries and/or portfolio development. Criteria for acceptance into this class will include attendance, discipline review and a minimum cumulative GPA 3.0.

### **Test Prep {Required 11<sup>th</sup> grade} 1 credit**

Testing Improvement Program for Students - A course given to all juniors that encompasses skill development for Keystone exams and SAT/ACT tests in areas of Verbal, Math, and Science. Included will be concepts and strategies helpful to aid each student for overall improvement of test scores. Worksheets and other activities will be assigned to reinforce familiarity with possible test questions and problem solving scoring strategies necessary for testing. Test prep grades are not calculated into student's GPA.

### **Senior Project Based Learning {12<sup>th</sup> grade} .50 credit**

This class is designed for Seniors who haven't achieved a proficiency level on one or more Keystone exams: Algebra, Literature & Biology. Students will be required to complete this course with a C or higher to meet the Keystone exam graduation requirements. A .50 credit course is required for each Keystone exam in which a score of proficiency wasn't achieved.

## **SOCIAL STUDIES**

### **United States History I {Required 9<sup>th</sup> grade}**

**1 credit**

United States History I describes the Native American cultures as well as the European movements and events that led to discovery and colonization of the Americas. It also recounts the birth of the United States, the creation of the Constitution and the economic and geographic expansion of the United States. An examination of the causes, course, and effects of the Civil War and Reconstruction are studied. Also included in the course is a study of the stock market and its impact on United States economy.

### **United States History II {Required 10<sup>th</sup> grade}**

**1 credit**

United States History II provides coverage of American History with special emphasis on the period from Reconstruction through the Twentieth Century. It identifies the major themes in American History and explains their importance at each stage in the development of the United States. It also conveys a sense of experiences and influences that have shaped the United States.

### **World History {Required 11<sup>th</sup> grade}**

**1 credit**

This course presents a survey of history of the world from the Time of the Renaissance to present day. It is designed to show students that present happenings, and to some extent the future, can be interpreted and predicted by past events.

### **Advanced Placement (AP) World History {11<sup>th</sup> grade}**

**1 credit**

*Students must have a 3.00 GPA and teacher recommendation to schedule this course*

In this year-long course, students in 11<sup>th</sup> grade will explore World History from 8,000 B.C. to the present to better understand the evolution of global processes and contacts in different types of human societies. This understanding is gained through a combination of content knowledge and skills, including historical thinking, critical reading, analytical writing, synthesis of primary and secondary sources and discussion of similarities and differences across time and cultures. Students will have the opportunity to take the Advanced Placement (AP) World History Exam in May.

**Government {Required 12<sup>th</sup> grade}****1 credit**

Government includes four separate mini courses:

- Government will include aspects of local, state, and federal agencies.
- Economics will encompass basic setup for business/establishment of a working budget.
- Law deals with all aspects of criminal and civil laws, along with court proceedings.
- Sociology provides an awareness of the differences within societies.

**SOCIAL STUDIES****Psychology {Elective 11<sup>th</sup>, 12<sup>th</sup> grade fall course}****1 credit*****{Dual Enrollment with Butler County Community College}***

A study of psychology helps students better understand human behavior. Students will adopt a scientific point of view as they analyze the behavior of the individual and roles as part of a group or culture. This course will be an introductory psychology course based on some of the basic concepts involved with mental processes and behavior. This course maybe offered for college credit. Please refer to page 3a

**Students interested in this course must attend a mandatory meeting in the spring.**

**Sociology {Elective 11<sup>th</sup>, 12<sup>th</sup> grade spring course}****1 credit*****{Dual Enrollment with Butler County Community College}***

This course is an orientation to the field of sociology dealing generally with our social institutions and their functions. Students will identify various social institutions, define basic sociological concepts and list major socio-economic problems confronting Americans today. This course is an examination of the concepts of culture, personality, social process, social institution, and social change. The unifying theme is social interaction. This course maybe offered for college credit. Please refer to page

**Students interested in this course must attend a mandatory meeting in the spring.**

**Senior Seminar {Required 12<sup>th</sup> grade}****.50 credit**

Senior Seminar is a half credit, interdisciplinary course in which students study personal finance management, income management, choosing financial institutions and services, strategies for savings, investing, and using cash and credit. Students will also investigate large purchases such as home, car, land, and insurance. This course is also designed to promote greater career planning and will include current event readings, writings and discussions.

## **MATH**

### **Algebra IA {9<sup>th</sup> grade}**

**1 credit**

Fundamentals of Algebra are taught in this course. Basic skills studied are utilization and interpretation of algebraic symbols, real number operations, use of exponents, evaluation of expressions, solutions of equations, inequalities and word problems, creation and interpretation of graphs, and linear functions and equations. These skills are developed by the continual use of numbers, exponents, and variables.

### **Algebra IB {9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> grade}**

**1 credit**

Skills acquired in Algebra IA are used to continue the study of real numbers, graphing, equations and functions. Students will also learn to graph and solve inequalities, solve systems of equations, operations and factoring of polynomials, and solve application/word problems. Students will take Keystone exam in May.

### **Keystone Algebra I {Required 10<sup>th</sup>, 11<sup>th</sup> grade}**

**.50 credit**

Students in grades 10 and 11 who schedule Algebra IB are required to schedule Keystone Algebra I also. This course will prepare students for the Keystone Exam which students will take in May.

**Geometry {9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}****1 credit**

Geometry is a course different from any other in high school math. The course introduces the ideas of lines, angles, triangles, and shapes. Various algebraic techniques, methods of proofs, and fundamental mathematics processes are used extensively with these ideas. Introductory Logic will be covered, if time permits

**Algebra II {10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}****1 credit**

*Prerequisite - Algebra IB and recommendation of teacher*

This course incorporates skills learned in Algebra IA/IB and develops more advanced skills of Algebra II. These skills are used in a variety of ways including graphing, problem solving, the study of functions, polynomials, quadratics, rational expressions and equations, and radical expressions and equations. Exponential and logarithmic properties, functions and equations will also be learned.

**MATH****Advanced Algebra & Trigonometry {10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}****1 credit**

*Prerequisite - completion of Algebra I & II and Geometry and/or teacher recommendation*

This class is a two-part sequence consisting of Advanced Algebra and Trigonometry. Roughly half of the year will be spent with each topic. The first part of the course will be spent introducing the ideas of Trigonometry. Students will work with radian and degree measures, graphing, triangles, solving trig equations, and trig applications. The second part of the course will be spent developing the ideas of Advanced Algebra. We will discuss ideas that include systems of equations, functions, quadratics, polynomials, and exponentials.

The Trigonometry segment of this course introduces the concepts of Trigonometric functions, ratios and circular functions. These functions are used to solve right triangle problems, oblique triangle problems {using laws of sines and cosines}, and applications of these types of problems including vector problems. Various methods of solving trigonometric equations are studied. Analysis of the graphs of the sine and cosine functions is also part of the curriculum.

**College Preparatory Math {12<sup>th</sup> grade}****1 credit***Prerequisite - Algebra II or teacher recommendation*

College Prep Math is a course offered to senior students designed to prepare them for college mathematics and real-world mathematics. Topics are associated with a third or fourth course in algebra, using and enhancing skills learned in prerequisite algebra courses. A review of algebraic topics includes simplifying expressions, graphing and solving linear equations and inequalities, graphing and solving quadratic equations, solving systems of equations, matrix operations, polynomial functions, and radical and rational expressions and equations. This course also entails real-world probability and statistics topics such as counting principals, percentage gained and lost, combinatorics, and statistical analysis. Financial and business mathematics topics including wages, taxes, banking, credit cards, loans, interest, insurance, and investments will also be covered in this course. Students will also learn and practice with reading and interpreting various financial statements. This course is intended as an alternative or supplement to the more rigorous Advanced Placement Calculus course.

**Advanced Placement (AP) Calculus {11<sup>th</sup>, 12<sup>th</sup> grade}****1 credit***Prerequisite - completion of Advanced Algebra/Trigonometry and teacher recommendation*

This course is designed to prepare students to take the College Board Advanced Placement (AP) Calculus AB Exam in May. Calculus is a study of functions and change. Students will analyze algebraic, trigonometric, exponential, and logarithmic functions in this course. The study of calculus begins with the concept of a limit. Students will study the rate of change of various functions through differentiation and finding derivatives of functions. Integral calculus involves the idea of taking an antiderivative and finding area under a curve. Applications of derivatives and integrals will also be studied in this course. Any college-bound senior who will be taking math or science classes in college will find this course to be invaluable. All students enrolled in this course are required to take the AP Calculus AB Exam to potentially earn college credit. Students may also consider an independent study option to prepare for the AP Calculus BC Exam for further college credit on top of the normal course work.

**SCIENCE****Environmental Science I {Required 9<sup>th</sup> grade}****1 credit**

A required course for all freshmen which includes concepts that satisfy the knowledge and standards related to the environment and ecology. It includes units on population, the atmosphere, and earth's surface and water bodies. Environmental Science will enable students to develop an understanding of the natural environment and the environmental problems the world faces.

**Environmental Science II {10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}****1 credit***Prerequisite-Environmental Science I*



This science course is open to all students. Units in this course delve deeper into topics covered in Environmental I. Environmental Science II will enable students to develop an appreciation for the environment and understand world problems.

**Biology I {Required 9<sup>th</sup>, 10<sup>th</sup> or 11<sup>th</sup> grade}**

**1 credit**

This course involves the basic concepts of biological sciences, including classification and the kingdoms, microscopy, cytology, bacteriology and virology, genetics, evolution, and ecology. These basic concepts are related to current events and everyday life and put into perspective of relevance to the future. Students are also required to take Keystone Biology when scheduling Biology I. Students will take the Keystone exam in May.

**Keystone Biology I {10<sup>th</sup> or 11<sup>th</sup> grade}**

**.50 credit**

Students in grades 10 and 11 who schedule Biology I are required to schedule Keystone Biology also. This course will prepare students for the Keystone Exam which students will take in May.

**Chemistry I – Lab {10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}**

**1.50 credits**

*Prerequisite-teacher recommendation, Algebra I & II*

This course studies the relationship between the structure and properties of matter. The students will increase their appreciation of the structure and behavior of the world as they investigate atomic structure, the periodicity of the elements, compounds, and chemical reactions. This course is recommended for all students who intend to go to college or a technical school.

**Chemistry II - Lab {10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}**

**1.50 credits**

*Prerequisite-Principles of Chemistry, Teacher recommendation*

This course investigates chemicals in solution. It includes the study of gases, reaction rates, acids and bases, electrochemistry, and nuclear chemistry. The course is recommended for all students who intend to go to college or a technical school.

**SCIENCE**

**AP Biology - Lab {11<sup>th</sup>, 12<sup>th</sup> grade}**

**1.50 credits**

*Prerequisite - Biology I and Chemistry I*

AP Biology is a course designed to allow students to take a college level biology course. All major areas of biology are covered in detail along with lab work for most topics. Students must be willing to

spend time outside of class for proper preparation/study. This course is recommended for students who intend to go to college or have a career in the sciences.

Students will have the opportunity to take the Advanced Placement exam in May.

## **AP Physics – Lab {12<sup>th</sup> grade}**

**1.50 credits**

*Prerequisite Algebra I, II & Trig and teacher recommendation*

The AP Physics course will focus on the big ideas typically included in the first semester of an introductory college-level physics sequence and provides students with enduring understandings to support future advanced course work in the sciences. Through inquiry-based learning, students will develop critical thinking and reasoning skills, as defined by the AP Science Practices.

Students will cultivate their understanding of physics and science practices as they explore the following topics:

- . Kinematics
- . Dynamics: Newton's laws
- . Circular motion and universal law of gravitation
- . Simple harmonic motion: simple pendulum and mass-spring systems
- . Impulse, linear momentum, and conservation of linear momentum: collisions
- . Work, energy, and conservation of energy
- . Rotational motion: torque, rotational kinematics and energy, rotational dynamics, and conservation of angular momentum
- . Electrostatics: electric charge and electric force
- . DC circuits: resistors only
- . Mechanical waves and sound

Students will have the opportunity to take the Advanced Placement exam in May.

## **SCIENCE**

### **Chemistry in Action {12<sup>th</sup> grade}**

**1 credit**

This course is a life applicable science for students needing a 4<sup>th</sup> credit for graduation. Students will be directed to this science as assessed by academic need. This course is designed to cover essential life skills based on scientific principles. Students will explore home/life skills, environmental effects, and agriculture practices.

**Wildlife Management {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} .50 credit**

This year long course emphasizes the awareness of conservation, preservation, and stewardship of the Birds, Mammals, Amphibians, Reptiles and Fish of our Pennsylvania ecosystems. Students will build an awareness of the basic ecological principals underlying fish and wildlife management; develop and implement basic habitat management plans, identify fish and wildlife species; and analyze current policies, laws, regulations and practices as they relate to wildlife management in Pennsylvania. Students will build a knowledge base suitable for entry into multiple scientific disciplines, as well as the wildlife & fisheries management fields.

**Introduction to Forensic Science {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} .50 credit**

This course is a semester long course. Students may schedule the course in either the fall or spring.

Prerequisite-Algebra I

Forensic Science is the application of science to those criminal and civil laws that are enforced by police agencies in a criminal justice system. This course is designed to give students an introduction to forensic science. The experiments used reinforce previously learned scientific principles rooted in Biology, Chemistry and Physics. These introductory sequences are designed to show students situations that require various forensic techniques. Case Analysis questions for each activity relate to the concepts and techniques addressed in the lab and many require the students to “solve” the crime introduced in the scenario with the data they collect.

## **FOREIGN LANGUAGE**

**Note** \*Colleges usually prefer two plus years of one language versus two plus years of different languages. Colleges have various admission requirements. Please be sure to check each school that you are interested in regards to their requirements.

\*Students who elect to take Cyber French, will be required to work independently. Therefore, students should be disciplined and willing to complete work outside of their scheduled class time.

### **Cyber French I {9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}**

**1 credit**

#### **Elective via Union VLN Cyber Program**

Beginning French students are introduced to the basic elements of French as they move through the early stages of language acquisition. They study major vocabulary categories, verb tenses and other fundamental components of French grammar. The main purpose is to help students communicate in French at a basic level, appreciate the French-speaking world and develop cultural awareness.

### **Cyber French II {10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}**

**1 credit**

#### **Elective via Union VLN Cyber Program**

*Prerequisite-French I*

French II level students review the basic elements of French grammar acquired in French I and expand their communicative abilities. They advance their knowledge of French grammar and learn additional vocabulary. Their language skills increase to the point where they can participate more fully in general conversation, read more sophisticated passages and write with a firmer command of syntactical structures. Cultural awareness is further developed.

### **Cyber French III {11<sup>th</sup>, 12<sup>th</sup> grade}**

**1 credit**

#### **Elective via Union VLN Cyber Program**

*Prerequisite-French I and French II*

In French III, students will increase their ability to communicate using French. Emphasis continues with listening and speaking skills, but there will be additional emphasis on reading skills. Some areas of vocabulary focus include: professions, family, nationalities, personal information, leisure activities, sports, time expressions, food, drink, home, and animals. Students will build on their knowledge of the language as they review previously learned verbs and tenses and then learn additional verbs and more

about the past tenses. Students will study adjectives and learn how to use object pronouns. Students will continue to learn about the French-speaking world and the cultures of the French-speaking people.

## **FOREIGN LANGUAGE**

**Note** \*Colleges usually prefer two plus years of one language versus two plus years of different languages. Colleges have various admission requirements. Please be sure to check each school that you are interested in regards to their requirements.

### **Spanish I {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} 1 credit**

Students will be introduced to the oral and written patterns of the Spanish language. They will develop an active vocabulary. There is a focus on dialog, dictation and oral communication. Students will learn to comprehend spoken Spanish and to speak with acceptable pronunciation. Students will develop the skills of reading and writing in Spanish. There is an emphasis and awareness of the culture of the Spanish-speaking world; including the United States.

### **Spanish II {Elective 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} 1 credit**

*Prerequisite-Spanish I*

Students will review vocabulary and grammatical structures from Spanish I. Students will improve their ability to read and write Spanish and to comprehend Spanish spoken at a normal speed, as well as to speak with acceptable pronunciation. Students will also become more aware of Hispanic cultures around the world.

### **Spanish III {Elective 11<sup>th</sup>, 12<sup>th</sup> grade} 1 credit**

*Prerequisite-Spanish I and Spanish II*

Students will review vocabulary and grammatical structures of Spanish I and II. Students will develop skills in using the spoken language as well as experience in creative writing in Spanish. Students will be introduced to literary works in Spanish, and will complete independent projects. Students will improve vocabulary and knowledge of cultural aspects of the Spanish world.

### **Spanish IV {Elective 12<sup>th</sup> grade} 1 credit**

*Prerequisite-Spanish I, Spanish II and Spanish III*

Students will develop a more literary approach to the study of Spanish. Novels and short stories will be read and critiqued. A review of grammatical structures is included. Students will continue to develop

skills in using the spoken and written language. Cultural projects and demonstrations will be done as independent projects.

## **BUSINESS EDUCATION**

### **Introduction to Computer Programming and Applications** **1 credit** **{Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}**

Students will learn how to program in Visual BASIC. The course emphasizes programming methodology, algorithms and data structures. The students will learn the fundamentals of the language such as data types, control structures, strings, variable, loops and functions. The course is designed to teach students logic and improve problem solving skills. Students will solve various problems through computer programming. Focus will be on procedural programming.

### **Intermediate Computer Programming and Multimedia** **1 credit** **{Elective 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}**

*Prerequisite - Introduction to Computer Programming and Applications*

Students will learn how to program in C++. This course emphasizes fundamental areas of the programming language. Topics include C++ applications, applets, control structures, methods, arrays, object oriented programming concepts, object based programming, strings, and characters. Students will solve various problems through computer programming.

### **Advanced Computer Programming** **1 credit** **{Elective 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}**

*Prerequisite - Introduction to Computer Programming and Applications*

Students will learn advanced programming techniques in Visual Basic code and Visual C++. Students will complete advanced projects in Macromedia Director. Advanced web page design will also be taught in this year long advanced computer course.

### **Computer Applications** **1 credit** **{Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}**

Digital Photo Editing, Desktop Publishing & Web Page Design: this course will use Photoshop software to organize, edit and create brilliant photos to share. Students will also learn to apply special effects to

photos using layer styles, masks and filters. This course will also teach students how to design newspapers and brochures using Microsoft Publisher. Students will also learn how to create dynamic web pages using Adobe GoLive, HTML and Flash.

## **HEALTH EDUCATION**

**Physical Education {Required 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}** **.25 credit each year**  
*3 days per 6 day rotation*

Physical Education is designed to develop the physical efficiency and recreational skills of students. Each nine weeks the student is given knowledge and skills necessary to adopt a healthy and physically active lifestyle. The program is designed to be varied in scope with opportunities in the areas of team sports, recreational games, lifetime sports, and dance activities. Co-educational opportunities are provided in activities offered throughout the year. Skills are taught and presented with drills and lead-up activities designed to keep students' interest at a high level.

**Health {Required 12<sup>th</sup> grade}** **.50 credit**

The basis of this course is to provide students with an understanding of complete wellness. Areas explored are the physical, mental and social aspects as well as intellectual aspects of human well being. Also included in this course is an in-depth look at the interaction of all body systems including the structure and functions of the human body and outside forces which can destroy its normal pattern. Various other topics are introduced such as nutrition and fitness, health care education, pregnancy and birth.

## **SAFETY EDUCATION**

**Safety Education {Elective 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}** **.50 credit**

This course emphasizes the importance of being a safe defensive, responsible driver. Various aspects of driving in a variety of situations will be addressed. Pennsylvania traffic laws and procedures are

discussed. The social and economic responsibilities of the driver are noted. The driving task with its skilled actions based on sound judgment and correct decisions is stressed.

## **FINE ARTS**

### **Art Foundations {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} .50 credit**

Art Foundations is an introductory course with emphasis on observation, creative problem solving and art production. Students will explore the elements of art and the principles of design as they work through projects learning a variety of media skills and techniques on a 2-dimensional surface. Drawing, painting and printmaking are a few of the processes covered as well as creating and keeping a sketchbook journal.

This course is pre-requisite for 2-D Drawing, 2-D Painting and Honors Art/AP Art

### **2-D Studio Drawing {Elective 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} 1 credit**

*Prerequisite - Art Foundations*

Students will begin the course exploring the elements and principles of design while developing technical skills in the use of drawing and printmaking media. They will work in realistic, abstract and non-objective styles to create original two-dimensional artworks based upon themes of observation, expressive figure/portrait, landscape, still-life and personal communication of an idea. Students will analyze and critique artworks, discuss aesthetic issues and understand how art is related to history and culture.

### **2-D Studio Painting {Elective 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} 1 credit**

*Prerequisite - Art Foundations*

Students will begin the course exploring the elements and principles of design while developing technical skills in the use of tempera, watercolor and acrylic paint to create original 2-D artworks. They will express themselves through the themes of observation, still-life, figure/portraiture, landscape and a student-selected conceptual theme. Work will be inspired by observation, imagination and the study of



historical and world cultural paintings. Students will analyze and critique artwork, discuss aesthetic issues and understand historical and cultural influences on the evolution of painting.

**Ceramics {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} .50 or 1 credit**

Students will develop and use hand-building, wheel-thrown and decorative surface techniques. They will create original, functional and non-functional issues and understand how ceramic objects have been used throughout history.

**3D-Sculpture {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} .50 or 1 credit**

Students will develop technical skills in the use of various media such as plaster, paper, wire and found objects. They will create original relief and three-dimensional artworks using modeling, carving, assemblage and casting methods. Students will work with themes including observation, the human figure, personal expression and public sculpture. Students will analyze and critique artworks, discuss aesthetic issues and understand how art is related to history and culture.

## **FINE ARTS**

**Honors Art {Elective 11<sup>th</sup>, 12<sup>th</sup> grade} 1 credit**

*Prerequisite 2-D Drawing & 2-D Painting*

Students will develop advanced technical skills in the use of dry media, watercolor and acrylic or oil paint techniques to create original two-dimensional artworks. They will express themselves through themes of perspective from observation, narratives, reflection and transparency, the figure as a compositional element and the development of a thematic idea through a series of related works. Students will analyze and critique artworks, discuss aesthetic issues and understand historical influences.

Honors Art is an advanced studio art course designed for juniors and seniors with a serious interest in the visual arts. This course stresses strong technique, development of a studio work ethic and an emphasis on developing a personal voice through art.

**AP Art {Elective 12<sup>th</sup> grade} 1 credit**

*Prerequisite 2-D Drawing, 2-D Painting & Honors Art, Teacher recommended*

This is the most advanced 2-D visual arts course available. AP Art encompasses a series of open-ended assignments with a minimal amount of formal instruction. Students are expected to be self-motivated and prepared to research media and techniques. This course requires additional work to be done outside of the regularly scheduled class, as well as full work participation during class time. Each student must assemble a portfolio of major assignments to represent his/her work as an artist. Students may choose,

but are not required, to formally submit their portfolios to the College Board and may receive possible college credit with a qualifying score.

The AP Art Course addresses three major concerns: a sense of quality in a student's work; the student's concentration on a particular visual interest or concept; and breadth of experience in the formal technical and expressive aspects of the artwork.

## **FINE ARTS**

### **Concert Choir {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} .50 or 1 credit**

Open to students in grades 9-12. Concert choir will enrich the student's life by providing a means of artistic expression through singing. It will build a greater understanding of music through performing a wide variety of literature both sacred and secular. Choir will encourage the growth of musical taste, deeper appreciation, and expand areas of enjoyment. Concert choir will provide an opportunity for the musically talented student to develop his/her potential through special performances; with groups such as Honors, District, Regional and State Chorus, small ensembles and madrigals. Musical style, interpretation, mood, tone production and articulation are stressed. At least 2 public performances are given during the school year.

### **High School Band {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} .50 or 1 credit**

This course provides opportunities for students in grades 9 through 12 to develop their musical potential and aesthetic understanding through performance of a woodwind, brass, or percussion instrument.

Students will rehearse and perform pieces at the Grade 3 and 4 level. Study includes the care and cultivation of a beautiful tone, the ability to read music fluently, the building of technical skills, and responsible rehearsal habits. Attention will also be given to relating their musical experiences to the time and culture of the pieces they study. Students will participate in at least two concerts throughout the year, usually held in December and May. Additional opportunities are available in the form of District and County Festivals, as well as performances in the community.

## **INDUSTRIAL ARTS**

### **Computer Aided Drafting I {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade} .50 credit**

This beginning course enables the student to develop the ability to visualize and express ideas through sketching and drawing. It also develops and strengthens his/her technical imagination, and encourages students to think precisely, and trains students to read and write the language of industry. Students have the experience of making workable drawings according to modern commercial practices. Students will study three different drafting areas, Technical, Architectural, and Computer Aided Drafting.

### **Computer Aided Drafting II, III, IV {Elective 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}.50 credit**

This second course offers students a more in-depth look at the three areas of drafting, Technical, Architectural, and Computer Aided Drafting. Students will work on more complicated drawings as well as work in design teams to solve real world problems. Students will also design and build scale models to further promote their design solutions.

**Wood Shop I {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}****.50 credit**

This course is available to all students in grades 9-12. Emphasis is placed on beginning experiences with wood. The use and care of tools and equipment is taught. Good work habits and safe procedures are stressed. Skills are improved through the completion of projects.

**Wood Shop II {Elective 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}****.50 credit**

This course is open only to students who have completed Wood Shop I. Emphasis is placed on advanced experiences with wood. The student is more self-reliant in selecting and developing projects. Safety and good work habits are stressed.

**Wood Shop III {Elective 11<sup>th</sup>, 12<sup>th</sup> grade}****.50 credit**

This course designed for juniors and includes individualized instruction using woodworking techniques. These techniques will be applied toward individual construction projects, some of which are selected by the student.

**Wood Shop IV {Elective 12<sup>th</sup> grade}****.50 credit**

This course designed for seniors and includes individualized instruction using woodworking techniques. These techniques will be applied toward individual construction projects, some of which are selected by the student.

## **VOCATIONAL COURSES**

**Robotics I – IV {Elective 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup> grade}****.50 credit**

In this course students will design, build, program and test robots to solve real-world problems. Students will work with three different types of robots which include Lego Mindstorm, Tetrix and Vex robots. The robots will be programmed using RobotC programming software. Students will also design and produce custom parts for the robots. The parts will be designed using Solidworks 3-D modeling software and then produced using a 3-D printer. As students take Robotics for multiple years, projects will become more involved.

