

# JUNIATA HIGH SCHOOL



## **Course Description Booklet 2019-2020**

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## LIST OF COURSES OFFERED

*(Numbers in parentheses indicate credit value of the course.)*

### **ENGLISH (p.4-6)**

- (1) English 9
- (1) CP English 9
- (1) English 10
- (1) CP English 10
- (1) English 11
- (1) CP English 11
- (1) English 12
- (1) CP English 12
- (1) AP Language and Composition
- (1) AP Literature and Composition
- (0.6) Accelerated Reader

### **SOCIAL STUDIES (p.6-7)**

- (1) Civics
- (1) World History
- (1) United States History
- (1) Problems of Democracy/Economics
- (1) AP U.S. History
- (1) Political Science – Penn College (Dual En.)

### **MATH (p.7-8)**

- (1) Algebra I Part I
- (1) Algebra I Part II
- (1) Business Math
- (1) Algebra I
- (1) Algebra II
- (1) Geometry
- (1) Algebra III/Trigonometry
- (1) AP Calculus
- (1) AP Statistics

### **SCIENCE (p.9-10)**

- (1) Physical Science
- (1) General Science
- (1) Biology
- (1) Advanced Biology
- (1.5) Chemistry
- (1) Advanced Chemistry
- (1) Physics
- (1) Anatomy and Physiology
- (1) Medical Terminology – Penn College (Dual En.)
- (1) Chemistry – Penn College (Dual En.)

### **P.E. / Health (p.10)**

- (0.4) Physical Education

- (0.4) Health

### **FOREIGN LANGUAGE (p.11)**

- (1) Spanish I
- (1) Spanish II
- (1) Spanish III
- (1) Spanish IV
- (1) Spanish V
- (1) Spanish VI

### **BUSINESS/COMPUTERS (p.12-13)**

- (1) Media Studies and Productions
- (1) Computer Applications
- (1) Introduction to Computer Science
- (1) Advanced Computer Science
- (1) AP Computer Science Principles
- (1) Website Development - Penn College (Dual En.)
- (0.5) Personal Finance Management
- (0.5) Investing 101

### **ARTS/HUMANITIES (p.13-15)**

- (1) Sociology/Psychology (Elective)
- (0.5) Band
- (0.5) Chorus
- (1) Speech
- (0.5) Art
- (0.5) Painting
- (0.5) Sculpture
- (0.5) Industrial Arts
- (1) Industrial Arts
- (0.5) Early Childhood Education
- (0.5) Individual & Family Studies
- (1) Career and Consumer Science
- (0.4) Professional Growth

### **VOCATIONAL (p.15-19)**

- (0.5) Intro to CADD
- (3) Computer Aided Drafting and Design I
- (3) Computer Aided Drafting and Design II
- (3) Computer Aided Drafting and Design III
- (1) Agricultural Education I
- (1) Large Animal Science I
- (1) Veterinary Science I
- (1) Plant and Soil Science
- (1) Wildlife and Fisheries Science I
- (1) Ag Mechanics I
- (1) Ag Mechanics II
- (1) Ag Mechanics III
- (0.5) FFA & Leadership
- (0.5) Forestry
- (3) Building/Construction Trades

- (3) Health Professions  
 (3) Mifflin County Academy of Science & Technology

## COURSE DESCRIPTIONS

### ENGLISH

**\*\*All college preparatory English classes are considered to be upper-level courses and will, therefore, require more work and will be much more academically challenging than non-college prep. English classes. Due to the level of difficulty of these college preparatory English classes, it is not recommended that students who are currently taking a general English class switch to college prep. English for the following year. However, if a general English student does wish to switch to college prep. English, he/she must have at least a 90% average in his/her current general English class. In addition, he/she must obtain a letter of recommendation from his/her current general English teacher.**

#### ENGLISH 9

Periods per cycle: 6

Grade 9

The speed and educational level of this course are designed for students who are preparing for the job force or for students who are preparing for a technical post-high school education. The curriculum for English 9 will consist of grammar, writing, and literature. Grammar elements related to improving writing skills may be reviewed. Writing done for this class will be expository, persuasive, creative, or descriptive. To gain practice in improving analyzing skills, students will examine various literature genres such as the short story, nonfiction, poetry, and drama.

#### COLLEGE PREP (CP) ENGLISH 9

Periods per cycle: 6

Grade 9

This course will largely be literature-based, with particular emphasis on the various genres and their elements. Through the study of literature, students will also be introduced to the use of critical thinking skills and incorporating analysis to draw conclusions. Writing and working to improve writing skills will also be a large part of this course. The only grammar that will be taught will be those elements that would help to enhance writing skills. Since this will be such an academically demanding course, students will be placed using the policy developed by the placement committee. Students will be required to write one research paper.

#### ENGLISH 10

Periods per cycle: 5

Grade 10

This course will address the tenth grade curriculum of analyzing world literature by focusing on understanding grammatical elements and their relation to writing; improving writing skills in persuasive, creative, and informative compositions; and improving critical thinking skills by analyzing literature. The speed and educational level of this course are designed for students who are preparing for the job force or who are preparing for a technical post-high school education.

#### COLLEGE PREP (CP) ENGLISH 10

Periods per cycle: 6

Grade 10

Since this is the second step in the college prep. English sequence, this class will have a much higher level of difficulty than was found in college prep. English 9. The curriculum for this class will focus on analyzing world literature. It will include the study of different literary works and their elements so as to improve critical thinking/critical analyzing skills as well as the study of writing, including both writing styles and writing techniques, both of which will be essential for college as well as for the next level of this course sequence. It is strongly recommended that a student should have achieved a 75% or better in his/her college prep. English 9 class before taking this class.

**ENGLISH 11**

Periods per cycle: 6

Grade 11

This course is designed to meet, support, and strengthen the needs of a student who is preparing for the job force or a technical post-high school education. We cover literary elements through the reading of American literature, learn formats of writing informative, persuasive, and narrative styles, and learn and practice grammar, vocabulary, and writing skills. Students will learn the proper method of research writing, explore careers, and practice professional writing and communication skills while enhancing critical thinking skills.

**COLLEGE PREP (CP) ENGLISH 11**

Periods per cycle: 6

Grade 11

This course is designed for students planning to attend college after graduation. The course involves a survey of American literature from the founding fathers to the present in the genres of poetry, nonfiction, short stories, novels, and drama. Through the study of literature, students will also be required to use critical thinking skills and incorporate analysis into discussions and writings. The other primary component is enhancing skills in writing informative, persuasive, and narrative pieces. A research project and required readings are included in order to fortify critical thinking skills. Vocabulary and review of grammar and mechanics are also included. It is strongly recommended that a student should have achieved a 75% or better in his/her college prep. English 10 class before taking this class.

**ENGLISH 12**

Periods per cycle: 6

Grade 12

This course is designed for the business or vocational student with an emphasis on preparing for the job force or a technical post-high school education. The curriculum will include grammar, writing, and vocabulary, especially as they relate to formal writing. Transition skills such as business letter writing, resume writing, and interviewing will also be part of the curriculum. Studying genres of British literature such as short stories, nonfiction, drama, the novel, and poetry will enable students to utilize comprehension skills as well as analyzing skills.

**COLLEGE PREP (CP) ENGLISH 12**

Periods per cycle: 6

Grade 12

This course is designed for students' planning to further their education after graduation. The course includes a survey of British literature from *Beowulf* to the present. All genres and periods will receive coverage. Many means of writing will be explored including critical analysis and researched-based projects. Required reading and vocabulary are also generally included. Students earning less than 75% in previous college prep English classes may have difficulty excelling in this class.

**AP LANGUAGE AND COMPOSITION**

Grades 11 and 12

**Course Description:**

Advanced Placement English Language and Composition engages students in becoming skilled readers of prose written in a variety of periods, disciplines, and rhetorical contexts and in becoming skilled writers who compose for a variety of purposes. The course will focus on expository, analytical, and argumentative writing that forms the basis of academic and professional communication as well as the personal and reflective writing that fosters the development of writing facility in any context. Its purpose is to enable students to read complex texts with understanding and to write prose of sufficient richness and complexity to communicate effectively with mature readers.

**Entrance Requirements:**

AP Language and Composition requires students to write essays through several stages of drafts, with revision aided by teacher and peers in order to develop students' awareness of their own composing processes: the way they explore ideas, reconsider strategies, and revise their work. The content, skills, and processes of the course are designed to provide students with a solid foundation in preparation for the AP English Language and Composition Exam. A student interested in taking AP Language and Composition will

need at least an 85% mark in their CP 10 or CP 11 English class, and he/she will need a recommendation from a former English teacher to take this course.

### **AP LITERATURE AND COMPOSITION**

Grade 12

Periods per cycle: 6

Advanced Placement English Literature and Composition engages students in the careful reading and critical analysis of imaginative literature. Through the close reading of selected texts, students deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers. As they read, students consider a work's structure, styles, and themes as well as such smaller-scale elements as the use of figurative language, imagery, symbolism, and tone. Furthermore, students will have an opportunity to earn college credits if they choose to take the AP College Board national exam at the end of the year.

#### ***ENTRANCE REQUIREMENTS***

AP Literature and Composition requires discussion, critiques and feedback about established literature and about each student's work. Students must share their work and critique others' work. Students will be expected to read 15-20 novels and plays (several expected to be read over the summer before their senior years). A student interested in taking AP Literature and composition will need at least an 85% from their CP 11 English class, and he/she will need a recommendation from a former English teacher to take this course.

### **ACCELERATED READER**

Grades 9-12

Periods per cycle: 4

This is an individualized, guided independent reading program that has been shown to improve student reading and comprehension, fluency, vocabulary, critical reading ability, and retention of what is read. In addition, students learn valuable time management skills. This improvement positively impacts all subject areas.

## **Social Studies**

### **CIVICS**

Grade 9

Periods per cycle: 6

This course will be dedicated not to the memorization and regurgitation of facts, but to a simple idea. What does it mean to be a citizen of the United States? Everything that we learn will be relevant in answering that question. The course content includes early government system history, U.S. Government History, U.S. Government Branches, political parties, elections, election procedure, PA Government, PA History and local government.

### **WORLD HISTORY**

Grade 10

Periods per cycle: 6

World history is an historical approach to the last 500 years in world history. Areas covered include the Protestant Reformation; Democratic revolutions in England, America, France, and Latin America; the Industrial Revolution; Imperialism and World War I; the Soviet Union/Communism; Depression/Dictatorships/World War II; the Cold War and the superpowers; Global Interdependence; Asia, Africa, Middle East, and Latin America; and Economic/Environment/the future.

### **UNITED STATES HISTORY**

Grade 11

Periods per cycle: 6

United States history from 1929 to the present is a broad study of the domestic and international history of the United States covering economic, social, cultural, and political issues our nation faced throughout the twentieth century. This course will examine

chronologically, by decades, the interaction of these issues that shaped out past and continue to affect America today. The class will focus on vocabulary and the men and women in the twentieth century. We will link the past to the present as required by the Pennsylvania Standards for United States history.

### **PROBLEMS OF DEMOCRACY / ECONOMICS**

Periods per cycle: 6

Grade 12

This course consists of one semester of Problems of Democracy and one semester of Economics. Problems of Democracy will begin with a review of the Constitution and workings of the Federal Government. Students will examine the policy-making process and the role of the citizen, the media, and other groups in that process. Emphasis is placed on specific policy areas and current events which relate to each. The Economics portion deals with a study of our capitalist mixed economy. Students will become familiar with basic microeconomic and macroeconomic concepts. This will include supply and demand analysis, economic institutions, economic policies, and global economics and international trade. Attention will also be given to personal finance and investment which will include a personal budget project.

### **AP US HISTORY**

Grade 11 & 12

This AP US History is a challenging class that is designed to be the equivalent of a freshman college course in a high school setting. It is a year-long survey of American history from the age of exploration to the present. The course offers an issue-oriented approach in the study of the people of the US and their history. Major themes and traditions that make America exceptional will be explained in great detail. The course is designed to acquaint students with core characteristics and values found throughout our history. An analysis of those events and significant individuals will be done on a continuous basis.

Students will be required to apply the effort necessary to act as an historian and develop the ability to analyze historical evidence to determine its validity and relevance identify point of view and the nature of bias, and recognize the necessity of objectivity and substantiation. Students will be expected to read assigned passages from the required reading list prior to class meetings as well as outside materials as is necessary. Students should be prepared to read on a regular basis (approx. 6-10 hours per week). The volume of material involved in this course is extensive and students will need to commit designating time for reading in order to be successful in the course.

Class discussions will be based on the assigned reading and students will be expected to participate in those discussions. Studies have consistently shown that students who participate in class discussions and activities are more likely to grasp the learning objectives. The AP exam will be offered in May for students to take. Based on the score of student's exam, college credit will be given for US History.

#### ***ENTRANCE REQUIREMENTS***

Students are required to have a 90% cumulative average for all social studies classes starting with grade 9 and a 85% cumulative average for all English classes starting with grade 9. Students who wish to take the course as juniors would also need a letter of recommendation from their 10th grade social studies and English teachers.

### **POLITICAL SCIENCE**

Periods per cycle: 6

Grade 11 & 12

This courses content includes, federal government, its power, and organization, as well as the functions of legislative, executive, and judicial branches. Students examine the historical development of our federal system and analyze the relationships between social forces, government, and political action.

\*This course is being offered in affiliation with the Pennsylvania College of Technology. It is worth 3 college credits to students planning on attending Penn Tech or any affiliated university.

## Math

### ALGEBRA I

Grades 9-12

Periods per cycle: 6

PREREQUISITE: Must pass Math 8 or Pre-Algebra

Algebra is the study of numbers, the symbols that represent numbers, and the relations and operations between numbers. The real number system will be explored, including irrationals in radical form. Polynomial operations and linear functions will be studied in detail. Students earning less than 80% in previous math classes may have difficulty excelling in this course.

### ALGEBRA II

Grades 9-12

Periods per cycle: 6

PREREQUISITE: Algebra I

Algebra II is the continued study of number symbols and number properties. Emphasis will be given to operations with real numbers in radical form and to rational expressions. Applications will be made in the areas of word problems, graphing linear and quadratic functions, and probability and statistics. Students who earned less than an 80% in Algebra I may experience difficulty in this course.

### GEOMETRY

Grades 10-12

Periods per cycle: 6

PREREQUISITE: Algebra I

This geometry course deals with the properties and relations of plane figures (such as angles, triangles, polygons, & circles) which can be constructed with a straight edge protractor and compass. The course also deals with elementary trigonometry in right triangles. Proofs are also included in the instruction. Students who did not earn a final percentage of 80% in Algebra may experience difficulty in this course.

### ALGEBRA III & TRIGONOMETRY

Grades 11-12

Periods per cycle: 6

PREREQUISITE: Algebra I, II, & Geometry

This course deals with a rigid review of Algebra II, elementary concepts of Algebra III, polynomial function graphing techniques, trigonometric function graphs, trigonometry from right triangles through oblique triangles (laws of sines & cosines), elementary analytic geometry, and an introduction to logarithms. Students who did not earn a final percentage of 80% in geometry may experience difficulty in this course.

### BUSINESS MATH

Grades 12 (Grade 11 By Permission)

Periods per cycle: 6

This course begins with a review of general math and then provides instruction in the following areas: budgeting, borrowing, saving and investing money; home and transportation expenses; taxes and insurance; and skills involved in the operation of a business. Good basic math skills are important for this course.

### AP CALCULUS AB

Grades 11-12

Periods per cycle: 6

PREREQUISITE: Algebra I & II, Geometry, Trigonometry

Calculus is the study of certain properties of numbers that help develop the concept of "limit." This concept is used to develop the two techniques of differentiation and integration and to apply these techniques to problem solving situations. The basic and many advanced mechanics of calculus are stressed with the emphasis on theory left for the student's college study. The mechanics of polynomial, rational, exponential, logarithmic, and trigonometric functions are practiced and applied to practical problems. These problems range from area and volume, ballistics to optimization, and rates of change. Topics covered include those recommended by the College Board for an advanced placement course. Students who did not earn a final percentage of 80% in trigonometry may experience difficulty in this course.

**AP STATISTICS**

Grade 11-12

PREREQUISITE: AP Calculus AB or permission by instructor

Periods per cycle: 6

Approved for advanced placement, AP statistics introduces students to the major concepts and tools used to collect, analyze and draw conclusions from data. The four basic conceptual themes studied are exploring data, sampling and experimentation, anticipating patterns and statistical inference.

**Science****PHYSICAL SCIENCE**

Grade 9

Periods per cycle: 6

This course consists of basic chemistry and fundamental physics. Topics to be covered include describing and measuring matter, biochemistry (macromolecules), the states of matter, atomic structure, elements and the periodic table, chemical bonding, chemical reactions, and solutions. The physics portion of the course focuses on forces and motion, forces in fluids, energy, and work.

**GENERAL SCIENCE**

Grades 10-12

Periods per cycle: 6

**This course is required for all students who do not score proficient or advanced on the Biology Keystone Exam.** This course is a non-math science course that explores environmental, chemical, and physical science. Units of study will include wetlands and watersheds, natural resources, and other environmental topics. At the conclusion of the course, all students will retake the Biology Keystone Exam.

**BIOLOGY**

Grades 10-12

Periods per cycle: 6

PREREQUISITE: Physical Science (or taken concurrently)

Biology is an introduction to the study of living things. Students will be exposed to processes used in biology through various lab activities. Academic emphasis is placed upon cell biology, biochemistry, genetics, taxonomy, evolution, zoology, and botany.

**ADVANCED BIOLOGY**

Grades 11-12

Periods per cycle: 6

PREREQUISITE: Chemistry, Passed Bio Keystone with a Proficient

This course is available to students who have completed biology. It is the rigorous study of cell biology, genetics, and plant and animal physiology. Students who did not earn an 80% or higher in biology will have much difficulty in this course.

**CHEMISTRY**

Grades 11-12

Periods per cycle: 9

PREREQUISITE: Algebra

Chemistry is a rigorous course designed for those students who have a strong math background and wish to further their education beyond the high school level. Topics covered will include a study of compounds, their reactions, and problem solving based on those reactions; phases of matter and their characteristics; atomic structure in terms of properties, bonding, and periodicity; and chemical kinetics. These topics are covered through lecture and discussion, independent and cooperative study, and laboratory experiments. Students who have not earned a 75% or higher in both algebra and biology will have much difficulty in this course.

**ADVANCED CHEMISTRY**

Grades 12

Periods per cycle: 6

PREREQUISITE: Chemistry

Advanced chemistry is a continuation of chemistry with topics covered to include colligative properties, acids and bases, oxidation-reduction, organic chemistry, nuclear chemistry, and solution chemistry. Students who have not earned a 75% or higher in Chemistry will have much difficulty in this course.

**INTRODUCTORY CHEMISTRY** - *Pennsylvania College of Technology Course*

Grade 11-12

Periods per cycle: 6

**Prerequisite:** Algebra I, Placement Test

The basic principles of chemistry and its practice in the laboratory are covered with emphasis on the underlying structure of matter (atoms, ions, molecules) and how structure determines properties. This course is designed to teach chemistry terminology and symbols, as well as to develop analytical and critical thinking skills. For students who plan to attend Penn Tech after high school graduation, this chemistry class is appropriate for those who plan to pursue a non-science major needing one term of chemistry or to satisfy a lab science requirement. It is also appropriate for those who desire some background before taking General Chemistry I. No prior knowledge of chemistry is assumed but some algebraic skills are needed.

**MEDICAL TERMINOLOGY** - *Pennsylvania College of Technology Course*

Grade 11-12

Periods per cycle: 6

**Prerequisite:** Placement Test

This is the foundation for the use of the language of medicine, with an emphasis on correct pronunciation, various word parts, abbreviation, symbols and terms pertaining to body systems. Basic anatomy and physiology will be included. The causes, symptoms, pathology and diagnostic procedures for identifying various disease processes will be discussed and provide an increased understanding of medically related conditions and procedures.

**PHYSICS**

Grade 12

Periods per cycle: 6

PREREQUISITE: Algebra I &amp; II and Geometry

Physics is a fundamental science and should be included in the college preparatory science sequence. This course is a math-based description of matter and energy. It includes mechanics which deal with motion and force, and energy and momentum. It contains a description of the structure of matter, and then how heat energy affects that matter. Finally, the course gives explanations of the properties of waves and their effects on matter. Your math and problem-solving skills will be developed further when you use and understand better the workings of the world you experience each day of your life.

**ANATOMY & PHYSIOLOGY**

Grade 11-12

Periods per cycle: 6

PREREQUISITE: 80% in Biology, Chemistry is recommended, recommendation from prior science teacher

This course provides a comprehensive study of the anatomy and physiology. Topics include body organization; homeostasis; basic cytology; basic histology; and the integument, skeletal system, muscular system, cardiovascular system, respiratory system, digestive system, nervous systems, urinary system, reproductive system and special senses. There will be some dissection throughout the class (If this is a problem for you, this might not be the class for you). The focus will be on human anatomy but some comparative anatomy will be discussed. This class will require a proficient level of independent reading and use of digital media.

## P.E. / Health

### PHYSICAL EDUCATION

Grades 9-12

Periods per cycle: 2

This physical education class will provide a wide variety of activities to meet the physical, mental, social, and emotional needs, as well as the interests and abilities of all the students. The activities are designed to develop positive attitudes, a desire to participate and cooperate, physical fitness and an appreciation and understanding of the basic skills and rules of team, individual, and lifetimes sports. Ongoing assessment includes both written and participation based evaluations. The main focus of this course is on team sports, individual and dual sports, weight lifting, cardiovascular exercises, and recreational games. The activities are offered to each student in a co-educational program.

### HEALTH

Grade 9

Periods per cycle: 2

Health education is a science that aims at providing a better understanding of one's self and the development of proper habits and attitudes toward healthful living. This is made possible by the study of units such as: alcohol, communicable diseases, drugs, mental and emotional health, nutrition, physical fitness, human reproductive systems, STD's, HIV/AIDS, tobacco and life skills training (promoting health and personal development). The students learn basic information about each area, and then branch out into three main directions - how it can be harmful for them and others, prevention, and what help is available.

## Foreign Language

### SPANISH I

Grades 9-12

Periods per cycle: 6

This academic course is designed for college-preparatory students. The student will develop basic skill levels in listening, reading, writing, and speaking Spanish. To succeed in this course, the student must memorize vocabulary and understand and apply correct grammatical structures. There will also be material presented about the cultures of the Spanish speaking world. It is strongly recommended that students possess strong academic English skills.

### SPANISH II

Grades 9-12

Periods per cycle: 6

PREREQUISITE: Spanish I

This academic course is designated for college-preparatory students. The student will further enrich his vocabulary, as well as develop more complex grammar skills. The student will also continue to study culture and to become more involved in writing, in addition to reading, listening, understanding and speaking Spanish. More time in memorization is required to master these skills. Students must receive a final average of 70% C or higher in Spanish I to move on to Spanish II.

### SPANISH III

Grades 10-12

Periods per cycle: 6

PREREQUISITE: Spanish II

This course covers the more advanced grammar concepts in the language through various group activities and games. Grammar practice and language acquisition are also accompanied by role-play and interactive activities. Reading and writing are emphasized through literary works and essays. The history of Spain is noted in its culture, art, and its people. Students are allowed to express themselves in the target language by interaction with one another and the teacher. Videos are sometimes presented to allow for a better understanding of a particular concept. Students must receive a final average of 70% C or higher in Spanish II to move on to Spanish III.

**SPANISH IV**

Grade 11-12

Periods per cycle: 6

PREREQUISITE: Spanish III

The students will gain a high level of proficiency in reading, writing, listening and speaking. They will cover all grammar structures and continue to increase their vocabulary. The culture of Central and South America and the Caribbean will be emphasized. Presentations and projects are an important part of the course. Students must receive a final average of 70% C or higher in Spanish III to move on to Spanish IV.

**SPANISH V**

Grades 11-12

Periods per cycle: 6

PREREQUISITE: Spanish IV

This advanced level course includes a wide variety of literature including short stories, essays, and poems from Spanish-speaking countries. Authentic language is presented in context with cultural perspectives. Students will enhance their writing skills with grammar review lessons and continue to increase their vocabulary. Audio and video selections accompany this course. The students will attain a higher level of proficiency in reading, writing, listening, and speaking. Students must receive a final average of 70% C or higher in Spanish IV to move on to Spanish V.

**SPANISH VI**

Grades 11-12

Periods per cycle: 6

PREREQUISITE: Spanish V

This advanced level course includes a wide variety of literature including short stories, essays, and poems from Spanish-speaking countries. Authentic language is presented in context with cultural perspectives. Students will refine their writing skills with grammar review lessons and continue to enrich their vocabulary. Audio and video selections accompany this course. The students will attain the highest level of proficiency in reading, writing, listening, and speaking. Students must receive a final average of 70% C or higher in Spanish V to move on to Spanish VI.

**Business/Computers****Media Studies and Productions**

Grades 9-12

Periods per Cycle: 6

During this course students will incorporate natural interests in creating different types of media projects. Concrete subjects covered will consist of: modifying audio clips, computer animation, 3D plotting, video creation, and information processing. At the beginning of each unit, students will observe and analyze a different type of electronic media. As they develop a mastery of the theories (most importantly semiotics), they will practice by creating their own pieces of digital media. Productions will be creative in nature, but they will serve a purpose and meet a standard.

**Computer Applications**

Grades 9-12

Periods per Cycle: 6

*(Prerequisite: 70% in Algebra)*

In this course, students will learn the fundamentals of important computer applications. The first portion of the class will focus on the basic components of spreadsheets including data base management and graphics. Various features and functions will be mastered through the use of lessons and projects in Microsoft Excel. Students will learn how spreadsheets are created and organized to locate useful information. The second portion of the class will be an introduction to document processing (skilled production of letters, reports, tables, and other communications forms). Students will then progress into a desktop publishing unit. *(Formerly labeled Spreadsheets)*

**Website Development** (*PCT-NOW course*)

Grades 10-12

Periods per Cycle: 6

Introductory coverage of the internet and online web technologies. Skills learned include how to plan, create, and maintain static web page through the use of HTML, CSS, and creative design/implementation. This course is part of the Penn College NOW program, a nationally accredited dual enrollment program that offers Pennsylvania students the opportunity to earn free Pennsylvania College of Technology credits.

**Introduction to Computer Science**

Grades 9-12

*(Prerequisite: 70% in Algebra)*

Periods per Cycle: 6 days

Intro to computer science will give students a solid foundation for building complex computer programs. The focus of this class is to first understand the components of a computer, how they work together, and the basis of the internet. Next students will learn how being able to interface and program a computer helps us to build things like robots, video games, sensing equipment, monitors, etc. Throughout this course student will use the following popular programming languages to understand the fundamental tools to build efficient computer programs: python, processing, and JavaScript. *(Formerly labeled Programming II)*

**Advanced Computer Science**

Grades 10-12

*(Prerequisite: Introduction to Computer Science)*

Periods per Cycle: 6 days

Students will build upon Introduction to Computer Science and focus on computational thinking skills. Abstraction while programming will be a major concept while completing the project development life-cycle. Projects created in this class will be based off the IoT(Internet of Things), a combination of digital and physical devices and the connection to the Internet. The core objective is for students to apply project development skills to complete professional programs for all aspects of life. *(Formerly labeled Programming III)*

**AP Computer Science Principles** (*Online w/ teacher facilitator*)

Grades 11-12

Periods per Cycle: 6 days

Students will use project-based lessons and materials throughout to address real-world problems and design solutions to put computational thinking into practice. The year- long course consists of seven units, structured to guide novice students through the study of computational technology. Each unit is sequenced to first establish a context for course material, then teaching the core skills for creating and using computational tools, followed by demonstrating real-world applications of digital technology.

**Personal Finance Management**

Grades 11-12

Periods per cycle: 3

Students will learn how to prepare a wide range of financial records for personal use, and they become familiar with the procedures related to personal money management. Students learn how to maintain checking and savings accounts, how to prepare personal budgets, keep track of money received and spent, and where to protect their personal ownership records. Students learn about the importance of using credit wisely, the expense of using credit, and the effective management of credit.

**Investing 101**

Grades 11-12

Periods per cycle: 3

Investing 101 is designed to introduce the student to a wide array of investment opportunities in today's world. The course will stress saving for college, managing debt, and a variety of personal investing options including savings accounts, stocks, bonds, mutual funds, real estate and IRA's – both Traditional and Roth. The course will also include a real life simulation for stock investing in a game

format from [www.marketwatch.com](http://www.marketwatch.com) or other stock market related sites. Students will learn how to evaluate stocks and use these evaluations to buy stocks in a competitive format. Planning finances for future endeavors such as Retirement will also be covered

## Arts / Humanities

### SOCIOLOGY/PSYCHOLOGY (Elective)

Periods per cycle: 6

Grade 12 ONLY

Sociology is a study of human relationships. Topics include socialization, deviance, social structure, marriage, family, divorce, social stratification, education, religion, research methods, groups, and culture. Psychology is a study of the human mind and its manifestations. The field of psychology and the methods used by psychologists will be examined. Other topics include the brain, body, and awareness, cognitive processes, human development, personality, and psychological disorders. This course is for college-preparatory students only.

### BAND

Periods per cycle: 3

Grades 9-12

This is a group of experienced instrumentalists who have been trained through preceding organizations, however, all interested musicians are encouraged to participate regardless of experience. The concert band presents concerts at Christmas and in the spring featuring musical selections displaying a well-rounded variety of musical styles. The marching band performs in football game half-time/pre-game field shows, the annual Juniata County Marching Band Festival, and many parades. The marching band's schedule includes performances during the fall, spring, and summer months. From the total year-round program have come the representatives to district, regional, and state festivals.

### CHORUS

Periods per cycle: 3

Grades 9-12

This is a group of experienced singers who have been trained throughout preceding choruses. They perform a variety of choral music and styles which include four, five, and six-part singing. Vocal techniques are taught at each rehearsal in order to improve one's singing ability and enjoyment of the art. This large ensemble performs at Christmas-In-The-Park, in the Christmas Cantata, Spring Concert, and at Baccalaureate. From this organization have come the representatives to the District, Regional, All-State, and All-Eastern Festival choruses.

### MUSIC THEORY

Periods per cycle: 3

Grades 9-12

Music Theory is the science behind the art of music. The purpose of this course is to give students an in-depth knowledge and understanding of how to read/notate music, develop aural skills, and use those tools and methodologies to compose, analyze, articulate and evaluate musical elements and philosophies. Students will attain music history instruction and how the history of music has developed over time. Students will learn basic harmony and form, melodic and rhythmic dictation, and sight singing. Students will also spend time learning how to create and compose original music using the fundamentals learned in class.

### SPEECH

Periods per cycle: 6

Grade 12

This course is designed to introduce students to the art of public speaking. Students will focus not only on public speaking but also on writing, organizing, and preparing different types of speeches for their peers. There is an emphasis upon speech, thinking, and listening skills and any student, whether planning to attend college or not, can benefit from the organizational skills emphasized in this course. Students are also responsible for the news program in the morning.

**FOUNDATIONS OF ART**

Grade 9

Periods per cycle: 3

This course offers an introduction to art studio and art history. Students will use a variety of materials and methods to create art work. Students will be introduced to drawing, painting, and clay, while studying about artists and art movements.

**ART**

Grades 10-12

Periods per cycle: 6

Students will learn techniques of various media as they relate to art history, criticism, aesthetics, and both historical and contemporary studio practices. Students will also be involved in both discussion and writing about the meanings of works of art as they are found in various cultures and time frames. Information is provided through lectures, use of reproductions, and a textbook. Mediums such as drawing, painting, printmaking, and sculpture will be discussed.

**PAINTING**

Grades 10-12

Periods per cycle: 3

This course provides an introduction to the various media and subject possibilities of painting. Student artists build strong foundations in art history, art criticism, aesthetics, and production. The emphasis is on composition and the handling of paint and color.

**SCULPTURE**

Grades 10-12

Periods per cycle: 3

This course offers half-year studies of both art forms under one selection:

**Printmaking:** An introduction to the basics of printmaking and how printed images are created. The course examines the use of tools and techniques used in printmaking.

**Sculpture:** Students are introduced to ideas and materials that stimulate a response to three-dimensional forms. Modeling, carving, and constructing methods will be explored.

**INDUSTRIAL ARTS**

Grade 9-12

Periods per cycle: 6

This course provides an introduction to various areas of industrial arts materials including wood, metals, glass, and plastics, as well as construction techniques used in the implementation of these materials to produce a useful product. Proper power tool set-up, operation, and safety are emphasized throughout the course. Mass production is also introduced for the students to experience. As this is a very product-oriented course, strong emphasis is placed on each student producing an individual project. **Senior high industrial arts students will be responsible for purchasing their wood and other supplies outside of school.**

**EARLY CHILDHOOD EDUCATION**

Grades 10-12

Periods per cycle: 3

This course focuses entirely on the physical, intellectual, emotional and social development of children from birth until age 5. Many theories and current issues affecting child development will be explored at each stage of development. This course is ideal for anyone interested in working with children in the fields of education, nursing, and social work or just loves children.

**CAREER AND CONSUMER SCIENCE**

Grades 11-12

Periods per cycle: 6

This course will address the knowledge, skills, and behaviors students need to be prepared for success in college, career and life. The focus is on topics necessary for 21<sup>st</sup> century life, college and career skills such as interest and skill surveys, career, college and post-secondary options, employability skills and financial literacy.

**INDIVIDUAL & FAMILY STUDIES**

Grades 9-12

Periods per cycle: 3

This course is a comprehensive program open to grades 9-12 that will explore a variety of skills and topics necessary for real life. Content areas include human development topics, the family and relationships, money management, independent living skills, nutrition, and food preparation.

**PROFESSIONAL GROWTH**

Grade 9

Periods per cycle: 2

Students will be given instruction on how to begin thinking about their transition from school to work, as well as their transition from teenager to adult. This includes the many health aspects that are important as one grows up and the methods of opportunity and responsibility one must incur as they become an adult. Part of this course, which meets two days per cycle, incorporates material from the text *The 7 Habits of Highly Effective Teens*.

Note: The “health aspects” of this class are covered by the health curriculum at E.J. They are not included as part of Professional Growth at E.J.

**Vocational****INTRO TO CADD (COMPUTER AIDED DRAFTING & DESIGN)**

Grades 9-12

Periods per cycle: 3

Focuses on exposing students to the design process, research and development, team projects, global and human impacts on technology, problem solving skills, and engineering technical documentation. This course provides students with opportunities to learn about the history, systems, and processes of invention and innovation using numerous group and individual hands-on-projects. The class is intended to help students understand the field of engineering and engineering technology and its career possibilities.

**Computer Aided Drafting and Design I**

Grades 10-12

Periods per cycle: 18

**Computer Aided Drafting and Design (CADD)** is the use of computers to assist draftspersons and engineers to create objects. CADD is an industrial art used in various applications, including automotive, roadway, bridges, aerospace, architectural design, and many more.

The first and second marking periods will be on the drawing board and focus on the fundamentals of engineered drawings such as sketching, orthographic projections, dimensioning, tolerances, and working drawings. During the third and fourth marking periods students will be introduced to a computer software program, AutoCAD, which will enable them to create 2D and 3D drawings. This course is designed for students who are pursuing a career in the drafting or engineering field.

**Computer Aided Drafting and Design II**

Grades 11-12

Periods per cycle: 18

PREREQUISITE: CADD I

Using the knowledge obtained from CADD I, students will have an overview of architecture, civil, and mechanical drafting fields. Using advanced AutoCAD commands, students will create a residential building plan and a land development site. Working as a team, students will research and develop a design for a mechanical project. They will produce a working drawing set and a solid assembled model.

**Computer Aided Drafting and Design III**

Grades 12

Periods per cycle: 18

PREREQUISITE: CADD II

Student will do an advanced architectural and mechanical drafting project. Using a specified budget, students will use Architectural Revit to create a complete set of house plans, landscaping plan, a computerized virtual fly-thru, and construct a 3D model of the home. During the mechanical phase students will use Inventor to create a set of working drawings and a 3D model of an object.

**Health Professions I (10-12)**

Periods per cycle: 18

This course includes general knowledge and skills that are important to a wide variety of health care careers. All first year students must take this course regardless of grade level. Topics covered in this course include: safety, health care career opportunities, qualities of a health care professional, legal and ethical issues in health care, medical terminology (language of health professionals), anatomy and physiology (science of the human body), infection control practices, first aid and CPR, vital signs, cultural diversity, human growth and development, and communications. Skills and knowledge for the NOCTI examination are introduced during this course.

**Health Professions II/III Rotation A (11-12)**

Periods per cycle: 18

PREREQUISITE: Health Professions I

This course continues to build upon the general knowledge and skills learned in Health Professions I. Topics covered in this course include: personal care of the aging client, basic clinical skills (including dressing changes, physical assessment), nutrition and hydration, moving and lifting patients, rehabilitation and restorative care, and death and dying. Knowledge and skills for the NOCTI examination are practiced and mastered at this level.

**Health Professions II/III Rotation B (11-12)**

Periods per cycle: 18

PREREQUISITE: Health Professions I

This course continues to build upon the general knowledge and skills learned in Health Professions I. This course provides higher level knowledge and skills for specific career areas. These career areas include: medical assisting, nursing (including obstetrics and pediatrics), surgical technology, respiratory care, pharmaceutical care, physical/occupation therapy, emergency care, and mental health. Knowledge and skills for the NOCTI examination are practiced and mastered at this level.

**AGRICULTURAL EDUCATION I**

Periods per cycle: 6

Grade 9 – 12

This is a course for students interested in exploring basic scientific aspects in agriculture. Classroom topics include exploring agricultural careers, animal science, animal nutrition, large animal management, small animal management, nutrient cycles, record keeping, plant science and international agriculture. A brief history of the National FFA organization is also part of this course. This is a preliminary course in agriculture and is intended for students who will be taking agriculture in 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> grade. There will NOT be a shop component to this course due to the scientific content. Students taking this course will also be eligible to participate in FFA activities.

**LARGE ANIMAL SCIENCE I**

Periods per cycle: 6

Grades 9 – 12

This course is designed for students who plan on post-secondary education in Animal Science or related field. To fulfill the science requirement for this course, students will study the fundamentals of biology of nutrition, animal digestion, genetics, and reproduction of most large animal species. Students will also learn about the milk and meat industries and management of all major large animal species. An introduction to veterinary science will also be part of this course. This course will fulfill a science credit. Students taking this course will also be eligible to participate in FFA activities.

**VETERINARY SCIENCE I**

Grades 10 – 12

Periods per cycle: 6

PREREQUISITE: Large Animal Science I or Biology

This course is designed for students who plan on post-secondary education in the animal science or related field. Topics to be covered in this course will be the identification of the organs and functions of the pulmonary, circulatory, and immune systems; discussion of environmental factors of disease, description of the epidemiology triangle; explanation of external contacts, internal fractures, and malpositions that may cause disease; descriptions and explanations of the diseases of the digestive, respiratory, tissue types, reproductive, musculoskeletal system. This course is offered to fulfill a general science requirement. Students taking this course will also be eligible to participate in FFA activities.

**PLANT AND SOIL SCIENCE**

Grades 9-12

Periods per cycle: 6

This course is designed for students who plan on post-secondary education in the horticulture, agronomy, or other plant sciences field. Topics to be covered in this course will be plant reproduction, plant nutrition, managing agricultural soils, environmental factors that affect plant growth, plant identification, integrated pest management, field crop and specialty crop production, fruit and vegetable production, greenhouse management, and nursery management and production. This course is offered to fulfill a general science requirement. Students taking this course will also be eligible to participate in FFA activities.

**WILDLIFE and FISHERIES SCIENCE I**

Grades 10 – 12

Periods per cycle: 6

This course is designed for students who plan on post-secondary education in wildlife and fisheries (or a related field) or who have a general interest in exploring an in-depth look at the management, identification, and ecology of wildlife and fish species. This course will fill a science requirement, and students will be involved in labs to identify various animals and evaluate habitat. Areas that will be covered are hoofed, gnawing, and predatory animals, predatory, game and water birds as well as fish, amphibian and reptiles will be the focus of the course. Students will be required to identify tracks, pelts and calls of various species. Students taking this course will also be eligible to participate in FFA activities.

**AG MECHANICS I**

Grades 10 – 12

Periods per week: 6

PREREQUISITE: Ag Education I

This is a full year course with time divided into four different skill areas in the Ag Mechanics laboratory: advanced wood working, electrical wiring, introduction to welding (arc, MIG, and Oxy-Acetylene), and introduction to metal fabrication. Projects will be assigned that emphasize proficiency in these areas. Participation during class time to meet all required skills is mandatory for this class. **Shop safety is always emphasized, and students are expected to act in a responsible manner at all times to prevent unnecessary injuries.** Students taking this course will also be eligible to participate in FFA activities.

**AG MECHANICS II**

Grades 11-12

Periods per cycle: 6

PREREQUISITE: Ag. Education I &amp; Ag Mechanics I

To enter this course, you would be required to have taken agricultural mechanics I or ONE year of agriculture mechanics. For Ag Mechanics II students, this is a full year course with time divided into five different skill areas in the Ag Mechanics laboratory: plumbing & watering systems, advanced welding (arc, MIG, and Oxy-Acetylene), sheet metal working, small gas engine repair, and truss/rafter design. Once students complete all of the skill areas, students may work on individual projects with instructor's permission. **Shop safety is always emphasized, and students are expected to act in a responsible manner at all times to prevent unnecessary injuries.** Students taking this course will also be eligible to participate in FFA activities.

**AG MECHANICS III**

Grade 12

Periods per cycle: 6

PREREQUISITE: Ag. Education I &amp; Ag Mechanics I, II

To enter this course, you would be **required** to have taken agricultural mechanics I and II or TWO years of agriculture mechanics. In Ag Mechanics III/IV, students further explore selected skill areas in the Ag Mechanics laboratory. Once students show mastery in all areas of the previous agricultural mechanics courses in the areas of welding (arc, MIG, and Oxy-Acetylene), plumbing and watering systems, small gas engine repair, truss/rafter design, metal fabrication, and electrical systems students may work on individual projects **with the instructor's permission**. Participation in class time to meet all required skills is mandatory for this class. **Shop safety is always emphasized, and students are expected to act in a responsible manner at all times to prevent unnecessary injuries.** Students taking this course will also be eligible to participate in FFA activities.

**FORESTRY**

Grade 11-12

Periods per cycle: 3

This course is designed for students who have an interest in forestry or plan to attend a post-secondary field in forest management. Students will cover topics in forest management, dendrology, forestry tools and their uses, silviculture, forest insects and diseases and tree identification. Students will also examine geographical distribution, ecological requirements, and economic importance of forests in the United States. The course will also include information on the education and career opportunities for foresters.

**FFA & Leadership**

Grades 10 – 12

Periods per cycle: 3

PREREQUISITE: Any previous agricultural class

This course is designed for FFA members who want to further develop their leadership and employability skills. Students will explore the differences in personalities and leadership styles, the barriers of communication, characteristics present during effective interpersonal communication, factors that will affect the presentation of a speech, parliamentary procedure, goal setting, and career choice and preparation. Students will be involved in writing grants, scholarships, and awards through the National FFA Organization. Students taking this course will also be eligible to participate in FFA activities.

**AG SAE I, II, III, IV**

Grade 9-12

Independent Study

**PREREQUISITE: MUST BE ENROLLED IN CONCURRENT AGRICULTURE CLASS AND A FFA MEMBER**  
**THIS COURSE IS ONLY FOR STUDENTS WHO ARE ENROLLED IN ANOTHER AGRICULTURE CLASS AND WHO**  
**ANTICIPATE ON CONTINUING IN FUTURE AGRICULTURAL CLASSES.**

This course will focus on the process of recordkeeping through the students' Supervised Agricultural Experience project or SAE. Students will develop a plan of action with their parents and advisor for their SAE. An agreement will be signed and the student will begin the project(s). A quarterly evaluation will be given on record book progress. Visits will be made to the students' home to evaluate implementation of skills learned in the classroom regarding the chosen project area. As students progress into SAE III and IV, they will be encouraged to participate in local, regional and state SAE record book contests and award programs.

**BUILDING/CONSTRUCTION TRADES**

Grades 10-12

Periods per cycle: 18

This program teaches the fundamentals of residential construction with carpentry, electric and masonry. The first year is geared more to carpentry skills in house construction. The second and third years involve more detailed carpentry with the addition of masonry and electric skills. Students will be involved in wood framing; exterior finishes; building layout, installation of circuits, breakers, switches, and other electrical devices; laying brick and block masonry and concrete. In addition to classroom projects, students will apply their skills and creativity to outside, live jobs, and they will get free time to build projects of their choice.

**OTHER VOCATIONAL PROGRAMS OFFERED AT THE  
MIFFLIN COUNTY ACADEMY OF SCIENCE & TECHNOLOGY**

Grades 10-12

Periods per cycle: 18

The following courses are offered at the Mifflin County Academy of Science & Technology in Lewistown:

Automotive Mechanics  
Collision Repair  
Cosmetology  
Culinary Arts

Electromechanical Technology  
Early Childhood Childcare  
Electrical Installation  
Precision Machining

**\*\*\* Juniata High School may offer other AP Courses through Connections Learning by Pearson. These courses will be done online. If a student is interested, there are prerequisites. Students need to meet with the school counselors and discuss possibilities prior to scheduling.**

## **GRADUATION REQUIREMENTS**

Each student is required to complete a graduation project, which will be due for completion at the end of the third (3<sup>rd</sup>) marking period of the senior year.

<u><b>Subjects</b></u>	<u><b>Credits</b></u>
English	4.0
Social Studies*	4.0
Mathematics	3.0
Science	3.0
Physical Education	1.6
Technology	1.0
Health	0.4
<u>Electives</u>	<u>6.0</u>
<b>TOTAL</b>	<b>23</b>

*\*If a student attends the Mifflin County Academy in 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> grade credit totals may differ.*

## RECOMMENDED COURSES OF STUDY

### General Studies

#### Grade 9

English 9 or CP English 9  
Civics  
Algebra 1  
Physical Science  
Professional Growth & Health  
Technology Elective

#### Grade 11

English 11 or CP English 11  
U.S. History  
Geometry  
General Science  
Technology Elective

#### Grade 10

English 10 or CP English 10  
World History  
Algebra 2  
Biology  
Technology Elective

#### Grade 12

English 12 or CP English 12  
Problems of Democracy  
Business Math or Science  
Technology Elective

### College Preparatory

#### Grade 9

CP English 9  
Civics  
Algebra I or II  
Physical Science  
Spanish I  
Professional Growth & Health  
Technology Elective

#### Grade 11

CP English 11  
U.S. History or AP U.S History  
Algebra, Geometry, or Trigonometry  
Chemistry

#### Grade 10

CP English 10  
World History  
Algebra or Geometry  
Biology  
Spanish II

#### Grade 12

CP English 12, AP English 12  
Problems of Democracy  
Trigonometry, AP Calculus or AP Stats  
Physics, Adv. Chem., or Adv. Biology

### Mifflin Co Academy of Science & Technology

#### Grade 9

English 9 or CP English 9  
Civics  
Physical Science  
Algebra 1

#### Grade 10

English 10 or CP English 10  
Algebra 2  
General Science or Biology or Agri. Science  
Mifflin Co Academy

#### Grade 11

English 11 or CP English 11  
Social Studies  
Geometry  
Mifflin Co. Academy

#### Grade 12

English 12 or CP English 12  
Mifflin Co Academy

**\*\*NOCTI Examination: This examination is given to all senior Vocational Education students who have completed a minimum of 50% of the three year program. This exam includes both written knowledge and skill competence. Certificates will be awarded to those who earn a competent or advanced level on this national exam.**

### NCAA Eligibility

**Any student-athlete who will potentially be participating in a Division I or Division II sport should visit the following NCAA Eligibility website to learn more about college athletic eligibility requirements and core high school courses that need to be taken to be eligible:**

**<https://web1.ncaa.org/eligibilitycenter/common/>**