

Carmichaels Area High School  
Course Description Booklet  
Date: 3/6/20  
School Year: 20-21

**ELA 9 Course #: 0300** Dept.: ELA Credits: 1.0 Available for Grades: 009

Course Description: This course will focus on offering students strategies and tools that amplify a desire to explore the world of writing and literature, as well as become a better reader, editor, and a self-directed critical thinker. Throughout the year, students will work with usage and structure. In usage, students will review the essential elements of grammar (why they are important and how they are used). They will then transition into the structure of writing by taking the rules of usage and developing their own sentences and paragraphs. While students are working on developing their writing skills, they will also be working to become better readers. The pieces that will be read in class are organized by genre and will focus on helping students to make connections between reading and writing. Through this, students will learn about varying prominent authors, different writing styles, and elements of both literature and grammar. The following genres that will be covered include short stories, nonfiction, poetry, drama, epic/myth, and informational documents. Typically at the beginning of each unit, students will be introduced to an author, certain strategies that the writer implores, and then a piece of their writing. Each unit will be assessed either through a summative exam or a writing prompt. Students will also be reading a few novels throughout the course and applying the skills that they have learned.

**ADV ELA 9 Course #: 0301** Dept. ELA Credits: 1.0 Available for Grades: 009

Course Description: This course will focus on sharpening a student's understanding of the English language. During the first half of the year, students will work with usage and structure. In usage, students will review the essential elements of grammar (why they are important and how they are used). They will then transition into the structure of writing by taking the rules of usage and developing their own sentences and paragraphs. During this time, students will also be introduced to a few short novels, in which they will be asked to read, think critically, and write about. At the end of the year, students will be introduced to Modern Language Association (MLA) citation and formatting style.

Students will implement their newly acquired knowledge of MLA style in order to complete a freshman research project on a teacher provided topic. Aside from this project, students will be evaluated based on the following: exams, homework, quizzes, in-class assignments, and additional writing projects. **Teacher recommendation is required.**

**USHist to CivilWr Course #: 0310** Dept.: SS Social Studies Credits: 1.0 Available for Grades: 009

Course Description: This course addresses all the components of the Pennsylvania State Academic Standards and common core standards for Social Studies/History as it applies to ninth grade per the Pennsylvania Department of Education. Throughout the school year the students will study a variety of topics relating to early American History including: geography, changes in social climate, population movement, socio-economic changes, foundations of government, and cultural diffusion. Students will also complete a research based project that includes both verbal and written components. Topics covered in this course include but are not limited to: •-Feudalism•-The Age of Exploration •-The Renaissance •-Discovery of the Americas •-Life in the 13 Colonies •-The French and Indian War •-The Revolutionary War •-The Articles of Confederation •-The US Constitution •-The Development of Political Parties•-The War of 1812 •-The Louisiana Purchase •-Westward Expansion •-The Industrial Revolution

**Integrated Sci. 9 Course #: 0320** Dept.: Science Credits: 1.0 Available for Grades: 009

Course Description: Integrated Science 9

Course Description: The purpose of this course is to provide opportunities to investigate the theories and ideas associated with life science in a way that is relevant and

usable. Students will also prepare for state-mandated assessments, including the Pennsylvania Biology

Keystone Exam. This course will focus on analysis and laboratory

investigation of the pure and applied aspects of:

•Semester One Biological Principles (Chapter 1 - Biology and You)

Laboratory Science - Measurements and Techniques

Chemistry of Life (Chapter 3)

Principles of Chemistry (Included from chemistry text, additional material)

Biochemistry

Biomolecules in Water, Properties of water

Amino Acids, Peptides, and Proteins

•Semester Two

Basic Cell Structure (Chapter 7)

Homeostatic Mechanisms & Transport (Chapter 8)

Lipids

Carbohydrates

Bioenergetics (Chapter 3)

Enzymes

Ecology Concepts (Chapters 4, 5, and 6)

Ecosystems

Populations and Communities

Environmental Science

In-class and independent work will emphasize the development and use of higher-level cognitive skills like computation, problem solving, inquiry, and decision making. The scientific method will be employed to identify problems, formulate hypotheses, plan and conduct experiments. The course will examine scientific concepts and experimental data for integrity, accuracy, skepticism, and their application to

**Algebra I Course #: 0341** Dept.:Math Credits: 1.0 Available for Grades: 009

Course Description: Compare and Order Real Numbers

Simplify Square Roots

GCF and LCM

Simplify/evaluate expressions

Estimation

Add/Subtract/Multiply Polynomial Expressions

Factor

Write and solve Linear Equations

Justifying steps to equations

Interpret solutions to linear equations

Write and Solve linear systems of equations and inequalities

Interpret solutions to system of equations and inequalities

Write and solve compound inequalities

Graph linear equations and inequalities

Analyze data

Relations and Functions

Domain and Range

Rates of Change

Draw, Write, Find an equation for the line of best fit

Range, Quartiles, and Interquartile range for data

Predictions from various graphs and equations

**Honors Geometry Course #: 0343** Dept.:Math Credits: 1.0 Available for Grades: 010

Course Description: This course will focus on deepening Algebraic concepts introduced last year in Algebra I and will be supplemented with Geometry topics such as the Pythagorean Theorem, area and perimeter, transformations, triangle congruence, similarity, and characteristics of geometric shapes are covered throughout the course, focusing on logical reasoning. The course will draw out the inherent connect between Algebra and the visual component of Geometry. Students will experiment with many geometric concepts through bell-ringers which will occur several times per week in addition to the continued spiraling of algebraic concepts not addressed in the previous Algebra I course.

Each concept will be studied in depth through examples, applications, technology, and practice problems.

Activities will be incorporated throughout to assist in instruction. This course should allow for a seamless transition into the following year's Advanced Algebra II course where the continued spiraling of algebraic and geometric concepts will continue and led into pre-calculus course in the following school year. It is the intention of the instructor to accelerate the course the next three years to provide students the possibility of taking an AP Calculus course their senior year.

**Pre-Requisites: Algebra I or teacher recommendation**

**Must pass Algebra I Keystone**

**Honors Algebra I Course #344** Dept: Math Credits 1.0 Available for Grades 09

Introduces students to families of functions, with emphasis on linear and quadratic functions. This class will move at a quicker, more in-depth pace than Algebra 1 along with having more hands on projects and applications. Algebra is a branch of mathematics that uses symbols, such as letters, to express relationships among numbers. Rules and procedures are used to manipulate the numbers and letters. An integrated approach is used to demonstrate the world around us. The areas of problem solving, reasoning, communication, connections, and technology are also emphasized. Probability, data analysis, and examples involving geometry are also included in the Algebra I course. This course is aligned with the Pennsylvania State Standards and Common Core Standards and will help to prepare students for the Keystone exam.

**Pre-Requisites: teacher recommendation**

**PE 9 Rotation Course #: 0380** Dept.: Elective Credits: 0.2500 Available for Grades: 009

Course Description: Students will participate in organized team and individual games while continuing to develop locomotive skills. Teamwork, cooperation, and sportsmanship will be demonstrated throughout the course. Students will participate in activities that will help them develop and maintain a healthy lifestyle.

**ELA 10 Course #: 0400** Dept.:ELA Credits: 1.0 Available for Grades: 010

Course Description: Students in ELA 10 are continuing to become better readers and writers. This course allows students to write in a variety of areas (persuasion, research, narration), while sharpening the skills of grammar structure previously learned and being introduced to new structure as well. ELA 10 also allows students to read and comprehend different types of literature (fiction and nonfiction) through short stories, poems, and novels. Students should then be able to make connections between reading information, taking the information to then write a reflection of some basis, and then even present this information orally.

**ADV ELA 10 Course #: 0405** Dept.:ELA Credits: 1.0 Available for Grades: 010

Course Description: 10th grade English is designed to strengthen and refine your ability to analyze and write

about literature. It will also make you grow in these key areas that are essential to succeeding in college. You will:

- o Hone your ability to look beyond the obvious and make careful observations, inferences, and conclusions
- o Gain the analytical skills necessary to succeed in future English courses and standardized tests
- o Discover new ideas and connect them to all areas of knowledge and experience
- o Gain the ability to recognize literary devices and the effect they have on the reader

Students must pass their Keystone Standardized exam with a Proficient or Advanced mark in order to be able to take Advanced Placement Language (11th Grade) or Advanced Placement Literature (12th) **Teacher recommendation is required.**

**UsHist Civ-WWII 10 Course #: 0410** Dept.: Social Studies Credits: 1.0 Available for Grades: 010

Course Description: 10th grade American History is a study of social, cultural, political, diplomatic, and historic events of the United States from the Civil War (1860) to World War II (1945). The course utilizes the following textbook: United States History published by Holt.

The course will consist of the following units and chapters and tentative time frame:

I. Unit 4: The Nation Expands (1st Nine Weeks)

a. Chapter 15: A Divided Nation

II. Unit 5: The Nation Breaks Apart

a. Chapter 16: The Civil War

b. Chapter 17: Reconstruction

III. Unit 6: A Growing America (2nd Nine Weeks)

a. Chapter 18: Americans Move West

b. Chapter 19: The Industrial Age

c. Chapter 20: Immigrants and Urban Life

IV. Unit 7: The Beginning of Modern America (3rd Nine Weeks)

a. Chapter 21: The Progressive Spirit of Reform

b. Chapter 22: America Becomes a World Power

c. Chapter 23: World War I

V. Unit 8: Boom Times and Challenges (4th Nine Weeks)

a. Chapter 24: The Roaring Twenties

b. Chapter 25: The Great Depression

c. Chapter 26: World War II

**Biology Course #: 0420** Dept.: Science Credits: 1.0 Available for Grades: 010

Course Description: COURSE OBJECTIVES

Literally, Biology means the study of life. Biology students will study what living organisms are, and the organisms' similarities and differences. Our students will investigate

how all living organisms interact with each other and their environment. A direct emphasis on structure and function will direct students and support their understanding of biology. The students will also learn how scientists work, the scientific method, so that they could look at a problem objectively, and make intelligent decisions concerning biological issues. The content and diverse methods to investigate the concepts will enable students to excel and succeed on standardized state exams such as the keystones. Ultimately, the course focuses on the Common Core Curriculum to support student learning and growth.

UNITS OF STUDY-

1. The Scientific Method

2. Fields of Biology [Potential Careers]

3. Cellular Biology

4. Cellular Transport [Diffusion & Osmosis]

- 5.Plants & Photosynthesis
- 6.Reproduction and Development
- 7.Genetics
- 8.Hereditry and Evolution
- 9.DNA
- 10.Effects of Humans On Living Organisms

**PE 10 Rotation Course #: 0480** Dept.: Elective Credits: 0.25 Available for Grades: 010

Course Description: Students will participate in organized team and individual games while continuing to develop locomotive skills. Teamwork, cooperation, and sportsmanship will be demonstrated throughout the course. Students will participate in activities that will help them develop and maintain a healthy lifestyle.

**ELA 11 Course #: 0500** Dept.: ELA Credits: 1.0 Available for Grades: 011

Course Description: This class will provide a comprehensive review of English grammar and structure. It will discuss the evolution of the English language from the earliest influences to modern American English. The readings will focus on Literature of America. The first half of the Graduation Project will also be completed during this

**AP Lang ELA 11 Course #: 0505** ELA Credits: 1.0 (Weighted Class) Available for Grades: 011

Course Description:

English Language and Composition: During this course, students will focus on nonfiction text (e.g. essays, memoirs, speeches, newspaper articles, etc.), read these texts critically, and effectively write compositions relating to them. Any reading of fiction during this course will be relative to the nonfiction text being discussed. Students have several writing compositions, daily assignments, projects, and tests/quizzes based on the readings done in and out of class. These assessments will be focused on comprehension of the text, literary devices, author's purpose/claim/audience/style, vocabulary, grammar, and structure on a higher level. At the end of the year, students will have a choice to take the AP English Language and Composition College Exam. This exam is optional and the student is responsible for the exam fee. **Teacher recommendation is required.**

**Physics Course #: 0520** Dept.: Science Credits: 1.0 Available for Grades: 011,012

Course Description: Physics is the fundamental science of everyday phenomena and nature. It is the science of matter and energy and of interactions between the two, grouped in traditional fields such as acoustics, optics, mechanics, thermodynamics, and electromagnetism, as well as in modern extensions including atomic and nuclear physics, cryogenics, solid-state physics, particle physics, and plasma physics. In this course, the focus will be on mechanics (kinematics and dynamics), or how and why objects move. Students will gain an understanding of concepts such as: velocity, acceleration, force, momentum, and energy.

Course Goals:

Use information from the various representations of translation motion to solve for unknown motion quantities of objects in translational motion.

Construct a free body diagram indicating the magnitude and direction of the forces on an object and use information from the diagram to determine the motion of the object.

Pre-Requisites: Successful completion of Algebra 1, Geometry, Algebra 2, and a proficient or above score on the Keystone Algebra **Teacher recommendation is required.**

**College Physics Course #: 0522** Dept.:Science Credits: 1.0 (Weighted Course) Available for Grades: 011,012

Course Description: This is a continuation of the Physics I course. Physics is the fundamental science of everyday phenomena and nature. It is the science of matter and energy and of interactions between the two,

grouped in traditional fields such as acoustics, optics, mechanics, thermodynamics, and electromagnetism, as well as in modern extensions including atomic and nuclear physics, cryogenics, solid-state physics, particle physics, and plasma physics. In this course, the focus will be on mechanics (kinematics and dynamics), or how and why objects move. Students will gain an understanding of concepts such as: Energy, Momentum, Work, Vector Analysis, 2-dimensional Projectiles, Light, Sound, Mechanical Waves, and Thermodynamics.

Course Goals:

Calculate the torque acting on an object using the rotational inertia and angular acceleration of the object. Using conservation of angular momentum, calculate the changes in an object's angular velocity as its rotational inertia changes.

Describe the relationship between simple harmonic motion and the formation of waves and related phenomena. Use conservation of energy to calculate the kinetic energy and potential energy of an object at any time during its motion.

Calculate the work done by a drum rolling down an inclined plane.

Pre-Requisites: Successful completion of Algebra 1, Geometry, Algebra 2, a proficient or above score on the Keystone Algebra, successful completion of Physics 1. **Teacher recommendation is required.**

**Physical Science Course #: 0521** Dept.: Science Credits: 1.0 Available for Grades: 011

Course Description: Physical science is the branch of science that studies non-living systems. In this course, you will focus on the conceptual understanding of why and how things move as well as their interactions to the structure of matter.

- Solve problems of motion and forces by applying knowledge of Newton's Laws, performing direct and indirect measurements of the motion of objects and forces acting upon objects, and performing graphical analysis of this experimental data.
- Describe sources and forms of energy and explain their transformations.
- Demonstrate understanding of the transfer of energy of waves using lenses, mirrors, and simple musical instruments (string or wind).
- Science course that is focused on application of skills requiring students to complete science focused projects.
- Predict physical and chemical properties and interactions of matter using the trends of periodic table.
- Use models to demonstrate understanding of the attractive forces between atoms.
- Conduct simple and safe, inquiry-based investigations to observe endothermic and exothermic chemical reactions, measure temperature, volume, and mass, and form conclusions based on experimental evidence.

Pre-Requisites: • Successful completion of Algebra 1

**Principles of Robotics #0523** Dept.: Science Credits 0.5 Available for Grades 9,10,11,12

The majority of this course will be assessed on the BOTS IQ requirements. A course focusing on the engineering process of a combat robot. Some possible applications include: electronics/wiring, CAD and CAM, finance, fundraising, and budgeting. [Potential semester to year long course]

**Algebra II Course #: 0542** Dept.: Math Credits: 1.0 Available for Grades: 010,011,012

Course Description: Algebra 2 is based around functions. Students will study linear, quadratic, exponential, logarithmic, radical, and rational types of functions throughout this course. Students will also learn how to use these functions to represent real world models and also describe each of the types of functions listed. They will also be able to verbally describe them along with the use of equations, tables, and graphs.

Objectives:

The students will be able to take general knowledge of Algebra topics and apply them to real world situations.

The students will be able to use the knowledge gained in class to further their mathematical skills.

The students will be able to observe where algebra fits into other mathematical classes.

The students will be able to write the steps to a problem, including an explanation using complete, grammatically correct sentences.

Course Evaluation:

The course grade will consist of tests, quizzes, graded homework, checked homework, bell ringers, projects, and bonus points. Students will be graded on a percentage system.

Tests/Quizzes/Type 3 - 40%

Graded/Checked Homework/Notebook Checks- 35%

Bell Ringers - 5%

Type 1,2 Work/Projects - 20%

Homework must be ready at the time of class. This means it must be in class when the homework is checked/collected. Tests and quizzes will be taken the day a student returns from being absent, unless a student is out for an extended period of time. These rules are subject to change at the discretion of the teacher. This curriculum is aligned to the Pennsylvania State Standards and Common Core and geared toward the Keystone exam. Please read over the sections from the letter attached for more information about homework, bonuses, and materials needed for class. Please refer to the district grading policy and grading scale, which is found in the student handbook. **Teacher recommendation is required.**

**Integrated Geometry Course #: 0543** Dept.:Math Credits: 1.0 Available for Grades: 010,011,012

Course Description: Integrated Geometry is a course in which students will develop problem solving and reasoning skills as they move through lessons and activities aligned with the Core Curriculum Standards. This course will incorporate Algebra topics for review and Trigonometry topics to prepare students for future math courses. The students will be able to take general knowledge of Geometry topics and apply them to real world situations. The course is outlined in ten units, Points, Lines and Planes, Parallels and Perpendiculars, Congruent Triangles, Similar Figures, Triangles, Trigonometry of Right Triangles, Quadrilaterals, Circles, 3D Geometry, and Transformations.

**Vocational Math Course #0544** Dept.Math Credits: 1.0 Available for Grades: 010,011,012

A focus on learning math skills that enhance your specific vo-tech career track. This class would be specialized and accommodated to fit your specific vo-tech career and work on the math skills that go you would need to succeed on the job. Skills would be practiced from measuring to conversions to calculations and projects that fit each skill.

**Honors Algebra II Course #: 0545** Dept.:Math Credits: 1.0 Available for Grades: 010

Course Description: This course will focus on a further deepening of the Algebraic concepts discovered last year in Honors Geometry and will be further supplemented with the Geometry topics remaining that were not addressed last year and may include a unit on conic sections. The course will continue to expose students to the inherent connections between Algebra and Geometry. Students will experiment with many geometric concepts through bell-ringers which will occur several times per week in addition to the continued spiraling of algebraic concepts not addressed in the previous Honors Geometry course. Each concept will be studied in depth through examples, applications, technology, and practice problems. Activities will be incorporated throughout to assist in instruction. This course should allow for a seamless transition into the following year's Pre-Calculus course where the continued spiraling of algebraic, geometric, and trigonometric concepts will continue and led into Calculus course in the following school year. It is the intention of the instructor to accelerate the course the next two years to provide the possibility of student's taking an AP Calculus course their senior year.

**Pre-Requisites: Successful completion or concurrent enrollment of Honors Geometry 9 and teacher**

**recommendation.**

**PE 11/12 Rotation Course #: 0580** Dept.: Elective Credits: 0.2500 Available for Grades: 011 or 12  
Course Description: Students will participate in organized team and individual games while continuing to develop locomotive skills. Teamwork, cooperation, and sportsmanship will be demonstrated throughout the course. Students will participate in activities that will help them develop and maintain a healthy lifestyle.

**ELA 12 Course #: 0600** Dept.: ELA: Credits: 1.0 Available for Grades: 012  
Course Description: ELA 12 focuses primarily on literary works from British literary authors. In this course, students will learn to critically read and interpret literature while honing their research writing skills (specifically focusing on Modern Language Association style of citation) as well as various other styles of writing. British Literature consists of literature works such as (but not limited to) Beowulf, The Canterbury Tales, A Tale of Two Cities, Gulliver's Travels and Macbeth. There are excerpts from various other works such as Sir Gawain and the Green Knight, The Iliad, Paradise Lost, A Modest Proposal, and Shakespeare's sonnets. Students read and interpret these literary works and many more, with a precise focus on the literary devices and how they are used on a higher level. Aside from the reading, students will be utilizing both writing, speaking, and listening skills per our Pennsylvania standards.

**AP Lit ELA 12 Course #: 0602** Dept.: ELA Credits: 1.0 (Weighted Course) Available for Grades: 012  
Course Description:  
Advanced Placement English Literature and Composition is designed as the equivalent of an introductory undergraduate University Literature course. This course will provide you with the intellectual challenges and workload consistent with what you can expect in a beginning level college course. Students are afforded the opportunity to hone critical thinking and writing skills. This course is reading intensive and project oriented with a concentrated focus on writing. The course includes an intensive study of representative authors cited in the AP English Course Description. By the time the student completes English Literature and Composition, he or she will have studied during high school literature from both British and American authors, as well as works written in several genres. It is encouraged that students take both the AP English Literature and the AP English Composition exams in May; however, it is not mandatory. Students electing to take the AP English Literature and the AP English Composition exams will have to pay a fee for the exam, as it is worth credits. A student who earns a 3 or above on the exam(s) will be granted college credit at most colleges and universities throughout the United States. It is the responsibility of the student to research whether the school of your choosing accepts this credit.

**Course Goals and Outcomes**

1. To carefully read and critically analyze imaginative literature.
2. To consider a work's structure, style, and themes as well as such smaller scale elements as the use of figurative language, imagery, symbolism, and tone.
3. To consider the social and historical values a work reflects and embodies.
4. To study representative works from various genres and time periods.
5. To improve the ability to find and explain (via discussion and writing) what is of value in literature.
6. To understand a work's complexity, to absorb richness of meaning, and to analyze how meaning is embodied in literary form.
7. To become aware of, through speaking, listening, reading, and chiefly, writing, the resources of language: connotation, metaphor, irony, syntax, and tone.

**Pre-Requisites: \*Must pass Literature Keystone with at least a proficient or advanced mark and teacher recommendation is required\***

**Government Course #: 0611** Dept.: Social Studies Credits: 0.5 Level: 0 Available for Grades: 11-12

Course Description: The students will gain an understanding of their rights and responsibilities as an American citizen. The students will also view the relationship between economics and our society today as it pertains to its uses in everyday life. This class consists of one semester of U.S. and International Government and one semester of Economics. The goal of this class is to show how these two subject areas relate to what they do in everyday life.

Textbooks Used

United States Government: Principles in Practice, 2010.

**Economics Course #:0612** Dept.: Social Studies Credits: 0.5 Level: 0 Available for Grades: 11-12  
Holt Economics: Principles in Practice, 2003.

Class Goals

- 1.To teach future citizens about our cultural heritage. About where we as a world culture have come from, where we are, and where we may be going.
- 2.To teach future citizens to think and process information skillfully and intelligently.
- 3.To teach future citizens about human behavior.
- 4.To develop in future citizens a commitment to act in accordance with what they know and believe.

Performance Activities (Major Assignments, Projects, Etc.)

Review of the U.S. Constitution, states and capitals, the Presidents of the United States, information from the internet, oral presentations, current events, and term papers.

**AP History 11-12 Course #: 0613** Dept.:Social Studies Credits: 1.0 (Weighted Course) Available for Grades: 011,012

Course Description: AP U.S. History and AP European History will be offered on a rotational basis to allow Jr/Sr students to have the opportunity to take both subjects before graduation.

AP U.S. History: The AP U.S. History course is designed to provide students with the analytical skills and factual knowledge necessary to deal critically with the problems and materials in U.S. History. The program prepares students for intermediate and advanced college courses by making demands upon them equivalent to those made by full-year introductory college courses. Students should learn to assess historical materials - their relevance to a given interpretive problem, reliability, and importance - and to weigh evidence and interpretations presented in historical scholarship. An AP U.S. History course should thus develop the skills necessary to arrive at conclusions on the basis of an informed judgment and to present reasons and evidence clearly and persuasively in essay format. The course is divided into periods of time and emphasizes themes throughout American history. These themes include American identity, economic evolution, and American foreign policy. AP European History. The study of European History since 1450 introduces students to cultural, economic, political and social developments that played a fundamental role in shaping the world in which they live. Without this knowledge, we would lack the context for understanding the development of contemporary institutions, the role of continuity and change in present-day society and politics, and the evolution of current forms of artistic expression and intellectual discourse. In addition to providing a basic narrative of events and movements, the goals of AP European History are to develop (a) an understanding of some of the principle themes in modern European history, (b) an ability to analyze historical evidence and historical interpretation, and (c) an ability to express historical understanding in writing. In short, students can work toward completing the Advanced Placement Test and receiving college credit. Even students who choose not attempt the AP Test will be familiarized with the level of work needed to succeed at the college level.

**Pre-Requisites: Teacher Recommendation**

**Medical Ethics:0614** Dept.:Social Studies Credits: 0.50 Available for Grades: 011,012

This course will explore the major ethical issues confronting the practices of medicine and biomedical science both throughout history and in our modern world. We will become familiar with legal and institutional positions, consider and debate opposing arguments on the various topics, and examine relevant case studies.

The objectives of the course are to:

1. Achieve familiarity with some basic ethical frameworks and understand how these ethical frameworks can help us think through historical and contemporary questions in medical ethics.
2. Think clearly and carefully through your own positions on important issues in contemporary medical ethics and the compatibility of these positions with others opinions and ideas.
3. Express your own views clearly in class discussion and engage the views of your classmates.
4. Craft well researched arguments to explain and justify your stance on medical topics being debated today.

Some topics that will be discussed include but are not limited to:

1. Confidentiality and consent
2. Genetic research
3. End of life care
4. Organ transplantation
5. Compulsory vaccination and quarantine
6. Refusal of treatment
7. Cloning
8. Stem Cell research
9. Abortion
10. The use of bioethics in medical research

**The History of Disease and Evolution of Medical Technology 0615**: Dept. Social Studies Credits: 0.50 Available for Grades: 011,012

Students will examine the most significant epidemics and pandemics in human history. They will discuss the epidemiology of each disease and how its outbreak and spread impacted human development, the movement of populations, human interactions, and nations' economies. Students will analyze the impact that each pandemic had on the advancement of medical technology throughout history and what improvements were made in the field of medicine as a response to each. Topics that will be discussed include but are not limited to:

1. The Black Death
2. Smallpox
3. Syphilis
4. Leprosy
5. Cholera
6. Dysentery
7. Polio

8. HIV/Aids
9. Ebola
10. SARS/MERS/Coronavirus
11. Parasite infestations

**Chemistry Course #: 0620** Dept.: Science Credits: 1.0 Available for Grades:010, 011,012

Course Description: Chemistry is the study of matter and the changes it undergoes.

- a. Everything can be classified as matter, energy, and the changes it undergoes.
- b. Elements and compounds are identified as pure substances according to the law of definite composition.
- c. Different compounds can be formed from different combinations of the same elements according to the law of multiple proportions.
- d. Observations of matter can be qualitative, quantitative, direct, or indirect.
- e. The use of significant figures assures that quantitative observations are both accurate and precise.
- f. Mixtures can be separated by physical means because the different components have different properties.
- g. Properties of matter can be explained by its atomic or molecular structure.
- h. formula writing and naming of compounds follows a systematic set of rules.

Atomic theory is the foundation for the study of chemistry.

- a. All matter is made up of atoms.
- b. Atoms are the smallest pieces of an element that still retain the properties of that element.
- c. Atoms are made up of smaller particles including protons, neutrons, electrons, quarks, etc.
- d. Isotopes are atoms of the same element with different numbers of neutrons.
- e. Average atomic masses of the elements are reported on the periodic table.
- f. The theory of the atom has changed over time because of improvements in technology.

Changes in matter are accompanied by changes in energy.

- a. Changes in matter can be chemical, physical, or nuclear.
- b. Energy is absorbed or emitted when electrons move from one energy level to another within the atom.
- c. Mathematical relationships can be used to predict changes in temperature and pressure of gaseous systems.

Chemical bonding occurs as a result of attractive forces between particles.

- a. Electrons are found in quantized energy levels within the atom.
  - b. The electronic structure within atoms is predicted by the Aufbau Principle, the Pauli Exclusion Principle, and Hund's Rule, giving the atom its most stable arrangement.
  - c. The type of bonding that occurs between atoms is related to the valence electrons of those atoms.
  - d. Chemical bonding can be covalent, polar covalent, or ionic.
  - e. Lewis dot diagrams are useful for studying the structure and bonding nature atoms. Periodic trends in the properties of atoms allow for the prediction of physical and chemical properties.
- a. Chemical periodicity is the basis for the arrangement of the periodic table.
  - b. Physical properties of matter can be classified as intensive (like density) or extensive (like mass).
  - c. Trends in the periodic table can predict the properties and behaviour of elements.

- d. The polarity of a molecule can be determined by the distribution of electrons around the molecule.
- e. The type of bonding which holds the substance together determines its physical properties such as melting point, boiling point, electrical conductivity, and water solubility, and vapor pressure.

Chemical reactions are predictable.

- a. A chemical reaction will proceed until equilibrium is reached or until a limiting reactant is exhausted.
- b. According to the law of conservation of matter, the mass of the products in a chemical reaction is equal to the mass of the reactants.
- c. The amounts of reactants and products involved in a chemical reaction can be predicted using mole relationships.
- d. Dimensional analysis is a mathematical technique that can be used to express stoichiometric relationships.
- e. Common chemical reactions can be categorized as syntheses, decomposition, single replacement, double replacement, or combustion.

Pre-Requisites: Science 9, Biology (concurrent)

**College Algebra Course #: 0642** Dept.:Math Credits: 1.0 (Weighted Course) Available for Grades: 011, 012  
Course Description: Course Philosophy The goal of the course is to provide our youth with a deeper understanding of mathematics and its connections to the world around us. Through a challenging yet comprehensible curriculum, students will recognize themes across mathematics and be able to apply core concepts to novel situations. The student who enrolls in this course will find an appreciation for the logical reasoning skills that develop through the study of higher level mathematics.

Course Description This course is intended to ease the transition for the study of college mathematics. The curriculum will extend an understanding of general concepts of relations, polynomial, exponential, and logarithmic functions. Numerical operations and algebraic skills will be emphasized in order to prepare students for the college placement exams. The incorporation of technology through the use of graphing calculators will be emphasized to facilitate a deeper understanding of higher level mathematics. This will also serve to prepare students for a college level curriculum in which the ability to manipulate technology is an essential component to success. In addition, students will be challenged to increase their ability to perform mental math calculations by solving many problems without the aid of a calculator. Through the use of differentiated instruction, College Algebra will appeal to the diverse learning styles of students to ensure an understanding of the concepts behind the content of the course.

\*STUDENTS MAY PURCHASE COLLEGE CREDITS THROUGH WCCC FOR THIS COURSE.

**Pre-Requisites: Must complete Algebra II, pass Keystone Algebra exam, and teacher recommendation**

**PreCalculus Course #: 0643** Dept.:Math Credits: 1.0 (Weighted Course) Available for Grades: 012  
Course Description: Trigonometry deals with the relationships between the sides and the angles of triangles and the calculations based on them, particularly the trigonometric functions.

Trigonometry builds on the first two years of algebra and is essential for the study of higher level mathematics. Initially, we will review algebraic functions focusing on visualizing the graphical solutions to build or reinforce a foundation of algebra knowledge that will be drawn on during the Calculus course.

Assessment Technique

Tests and quizzes will comprise sixty-five percent (65%) of each quarter's grade.

Homework (including graded bell-ringers) will comprise the remaining thirty-five percent (35%) of each quarter's grade. The school district grading scale is used.

Course Syllabus

(1st Semester)

Solving Linear and Absolute Value Equations

Solving Quadratic and Square Root Equations

Solving Radical and Rational Exponent Equations

Solving Rational Equations

Evaluating Functions

Combinations and Composition of Functions

Inverse Functions - Algebraically and Graphically

(2nd Semester)

Trigonometry

1.1 Vocabulary of Angles - Coterminal Angles; Radian and Degree Measure; Arc Length Applications

1.2 Definitions of Sine, Cosine and Tangent

1.3 Right Triangle Trigonometry - Right Triangle Applications

1.4 Reference Angles - Function Values for Special Angles

1.5 Graphs of Sine and Cosine - Determining Period, Amplitude and Endpoints

1.6 Characteristics of Trig Function Graphs - Recognizing Trigonometric Graphs

1.7 Inverse Trig Functions

1.8 Math Models Using Trigonometry

Analytic Trigonometry (Time Permitting)

2.1,2.2 Using Trigonometric Identities

2.3 Solving Trigonometric Equations

Various Methods, General & Restricted Solutions

2.4 Sum and Difference Formulas

2.5 Multiple Angle and Product to Sum Formulas

3.1 Law of Sines - AAS, ASA and SSA Cases

Finding Area - Applications using Law of Sines

3.2 Law of Cosines - SSS and SAS Cases

Applications using Law of Cosines

3.3 Vectors in the Plane -

Vocabulary of Vectors; Component Form; Operations Using Vectors;

The Unit Vector - Direction Angles; Applications of Vectors

**\*STUDENTS MAY PURCHASE COLLEGE CREDITS THROUGH CARLOW UNIVERSITY FOR THIS COURSE**

**Pre-Requisites: Must complete Algebra II, pass Keystone Algebra exam, and teacher recommendation**

**Calculus Course #: 0644 Dept.:** Math Credits: 1.0 (Weighted Credit) Available for Grades: 012

Course Description: This course emphasizes understanding of calculus concepts, concentrating on the relationships between their symbolic, graphic, and real world representations; the focus will consist of the concepts of limit, derivative, definite and indefinite integrals; the applications of derivatives and integrals will be discussed (time permitting). Initially, we will finish any trigonometry topics that did not get covered from the previous year due to the deep review of algebra skills addressed during the first half of the trigonometry course.

Assessment Technique

Tests and quizzes will comprise sixty-five percent (65%) of each quarter's grade.

Homework (including graded bell-ringers) will comprise the remaining thirty-five percent (35%) of each quarter's grade. The school district grading scale is used.

Course Syllabus

(1st Semester)

Chapter 2: Analytic Trigonometry

2.1,2.2 Using Trigonometric Identities

2.3 Sum and Difference Formulas

2.4 Multiple Angle & Product to Sum Formulas

2.5 Solving Trig Equations

Chapter 3: Additional Topics in Trigonometry

3.1 Law of Sines - AAS, ASA and SSA Cases  
 Finding Area - Applications using Law of Sines  
 3.2 Law of Cosines - SSS and SAS Cases  
 Applications using Law of Cosines  
 1 Rational Functions  
 2 Exponential Functions  
 3 Logarithmic Functions  
 4 Exponential & Logarithmic Applications  
 Limits and Their Properties  
 3.1 A Preview of Calculus  
 3.2 Finding Limits Graphically and Numerically  
 3.3 Evaluating Limits Analytically  
 3.4 Continuity and One-Sided Limits  
 3.5 Infinite Limits  
 (2nd Semester)  
 Differentiation  
 4.1 The Derivative and tangent line problems  
 4.2 Basic Differentiation Rules and Rates of Change  
 4.3 Product & Quotient Rules and Higher-Order Derivatives  
 4.4 Chain Rule  
 4.5 Implicit Differentiation  
 4.6 Related Rates  
 Chapter 5: Applications of Differentiation  
 5.1 Extrema on an interval  
 5.2 Rolle's Theorem and the Mean Value Theorem  
 5.3 Increasing & Decreasing Functions and First Derivative Test  
 5.4 Concavity and the Second Derivative Test  
 5.5 Limits of Infinity  
 5.6 Summary of Curve Stretching  
 5.7 Optimization Problems  
 5.8 Differentials  
 Chapter 6: Integration  
 6.1 Anti-derivatives and Indefinite Integration  
 6.2 Area  
 6.3 Riemann Sums and Definite Integrals  
 6.4 Fundamental Theorem of Calculus  
 6.5 Integration by Substitution  
 6.6 Numeral Integration

\*STUDENTS MAY PURCHASE COLLEGE CREDITS THROUGH CARLOW UNIVERSITY FOR THIS  
**Pre-Requisites: Must complete Algebra II, pass Keystone Algebra exam, and teacher recommendation**

**Consumer Math Course #: 0646** Dept.: Math Credits: 1.0 Available for Grades: 012

**Course Description:** Financial literacy curriculum for 11-12 graders features engaging design, student-centered activities, research projects, discussion points, and tools and resources-all designed to engage students in learning the personal finance skills they need to succeed in life after high school. Real World Math topics.

**Pre-Requisites: Teacher Recommendation**

**Other Notes: This class should not be taken by students who are preparing to attend college.**

**Consumer Math II Course #: 0647** Dept.:Math Credits: 1.0 Available for Grades: 012

A deeper understanding and application of Consumer Math topics (Real World Math).

**Pre-Requisites: Teacher Recommendation**

**Other Notes: This class should not be taken by students who are preparing to attend college.**

**Introduction to Statistics #0648** Credits: 1.0 (Weighted Credit) Available for Grades:011, 012

**Course Description:** The Introduction to Statistics Course is an introduction to statistics with an emphasis on application rather than theoretical development. Topics covered include: frequency distributions, measures of central tendency and measures of dispersion, statistical inference, testing of hypothesis, correlation, linear regression, and analysis of variance. Business applications are included. Any student who is planning on entering the business world, medical field, or the area of Arts and Sciences should have an acquaintance with statistics.

**Course Objective:** The objective of this course is to provide learning experiences designed to enable the student to master vocabulary, principles, concepts, methods, and mathematical skills necessary for a practical knowledge of statistics with the ability to identify, determine, and calculate the technical terms of statistics.

\*STUDENTS MAY PURCHASE COLLEGE CREDITS THROUGH WCCC FOR THIS COURSE.

**Pre-Requisites: Must complete Algebra II and have teacher recommendation**

**Project Based Math #0649** Credits: 1.0 Available for Grades:011, 012

Applied math skills that are used in real-world situations. Students will work on multiple projects throughout the school year.

**Drama Productions 0701** Dept.:Electives Credits: 1.0 Available for Grades: 09, 010, 011, 012

**Course Overview:** This course will focus on the standards set forth by the state of Pennsylvania for Arts and Humanities. Students will be exposed to the vocabulary and techniques of a dramatic production both in lecture and hands-on class sessions. Students will assist the Drama Club with the annual spring production as members of the stage and tech crews. And as a culminating activity, the students will produce and perform their own dramatic presentation using the knowledge they gained from the course.

**Concepts Studied :**

- History and Varieties of Drama
- Play vs. Musical – Comparison of the basic characteristics of each.
- Script/Libretto study and analysis
- The Audition and Character Selection Process
- Theatrical Costuming
- Theater Make-up
- Production Personnel
- Choreography
- Music for the Theater
- Set design and Set building techniques
- Theater Tech – Training on Sound Board, Light Board, Spot Light, and Stagehand
- Writing for the Stage – Students will write a short, original script.

**Goal:** To provide students with the opportunity to learn about every facet of theatrical production and to instill a greater appreciation for this form of the Arts.

**Sr High Band Course #: 0702** Dept.: Electives Credits: 1.0 Available for Grades: 009,010,011,012

Course Description: This course provides students with the opportunity to progress on their instrument of choice by participating in several performance opportunities. Opportunities such as

marching band, concert band, jazz band, and small ensembles of like-instruments are provided throughout the year. Students in this course are required to attend and participate in all marching band & concert rehearsals and performances. While it is highly suggested that you have had prior experience playing your instrument of choice before joining the band, exceptions can be made after a one-on-one interview lesson with the band director. Following the interview, you will have the opportunity to be "caught up" with those at your grade level.

**Sr. High Chorus Course #: 0712** Dept. Electives Credits: 1.0 Available for Grades: 009,010,011,012

Course Description: This course provides students with the opportunity to continue to develop their singing voice both individually and within the choral setting. While the class meets daily, other small, more advanced ensemble performance opportunities are available to those wishing to advance their vocal studies further. These opportunities are provided after the regular school day and are voluntary. Students in this course however, are required to attend and participate in all rehearsal and concert performances. While it is suggested that students have been in choir prior to joining this class, all voices of all abilities are welcome!

**Sr. High Art 9-12 Course #: 0723** Dept.:Electives Credits: 1.0 Available for Grades: 009,010,011,012

Course Description: This course will focus on Art History, Aesthetics, Art Criticism, Elements of Art, and Principles of Design. The students will use prior knowledge of materials and equipment and to gain expertise of media such as acrylic paint, ink, colored pencil, charcoal, pastels, clay, and found objects. The student will use Elements of Art such as line, shape, color, texture, and form as fundamental components. They will organize the elements using Principles of Design such as Balance, Movement, and Unity. They will further gain observation skills in several life study drawings, and focused down or close up drawings. The students will also gain an understanding of Aesthetics and Art Criticism by having class discussions of finished projects as well as other artwork. The students will demonstrate achievement of this outcome by creating artwork such as but not limited to:

Creating one point and two point perspective drawings.

Charcoal life study drawings.

Figure study drawings, picture files, sketches of the human figure.

Human proportions, 8 heads high.

Mixed media using paint, photographs, and found objects.

Creating and using a grid as a graphic drawing/drafting illustration method. Also working as a group to create a collaborative drawing focusing on contemporary artist Chuck Close.

A series of clay projects using techniques such as pinch pot, slab, and coil. Also learning several hand building techniques to create functional ceramics and non-functional sculpture.

Thrown pottery using the wheel, learning several wheel throwing techniques and methods.

**Art II Course #: 0724** Dept. Elective Credits: 1.0 Available for Grades: 010,011,012

Course Description: This is a more advanced course designed for students who have a sincere desire to further the study of art beyond the introductory level. Students will think beyond the assignment to enrich creativity. This course will focus on Art History, Aesthetics, Art Criticism, Elements of Art, and Principles of Design. The students will use prior knowledge of materials and equipment to gain expertise of media such as acrylic paint, oil paint, ink, colored pencil, charcoal, pastels, clay, and found objects. The student will use Elements of Art such as line, shape, color, texture, and form as fundamental components. They will organize the elements using Principles of Design such as Balance, Movement, and Unity. Students will study Art History eras including Prehistoric, Renaissance, Realism, Cubism, Photorealism, Surrealism, Abstract Expressionism, and Op Art along with significant artists in those eras. The students will also gain an understanding of Aesthetics and Art Criticism by having class discussions of finished projects as well as other artwork.

**Pre-Requisites: At least one year of Sr. High Art, teacher recommendation required**

**Adv. Art Course #: 0725** Dept.:Electives Credits: 1.0 Available for Grades: 011,012

Course Description: Advanced Art: Course Description: This is an advanced course designed for students who have a sincere desire to further the study of art. Students will think beyond the assignment to enrich creativity. This course will focus on Art History, Aesthetics, Art Criticism, Elements of Art, and Principles of Design. The students will use prior knowledge of materials and equipment to gain expertise of media such as acrylic paint, oil paint, ink, colored pencil, charcoal, pastels, clay, and found objects. The student will use Elements of Art such as line, shape, color, texture, and form as fundamental components. They will organize the elements using Principles of Design such as Balance, Movement, and Unity. Students will study Art History eras including Prehistoric, Renaissance, Realism, Cubism, Photorealism, Surrealism, Abstract Expressionism, and Op Art along with significant artists in those eras. The students will also gain an understanding of Aesthetics and Art Criticism by having class discussions of finished projects as well as other artwork.

Pre-Requisites: **Available to grades 11 and 12 who have completed Sr. High Art and Art II, teacher recommendation required**

**Fitness Course #: 0726** Dept.:Electives Credit: 0.5 Available for Grades: 010,011,012

Course Description: This course focuses on the five components of fitness (muscular strength, muscular endurance, flexibility, cardiovascular endurance, and body composition) and why exercise is important. Emphasis is placed on lifelong physical activities that can be performed throughout an individual's lifetime. The student will participate in exercises including weight training, yoga, running, and plyometrics. Instruction for this course takes place in the gymnasium, weight room, and at the track.

**Women's Wellness Course #0727** Dept: Elective Credit 0.5 Available for Grades: 011,012

Throughout this course a focus will be given on the physical wellbeing, incorporating activities geared to improve women's health. Students will participate in activities such as group exercise involving yoga and pilates practices and lifetime physical activities. Students will also have classroom content where various issues concerning women's health will be discussed with preventative measures. Topics covered include nutritional health, mental health, cancer prevention, reproductive health, and physical health. Semester course.

**History of Math #0728** Dept: Math Credits: 0.5 Available for Grades:10,11,12 \_This course is a historical summary of the development of mathematics. Emphasis is placed on relating mathematics to the development of world culture and its relationship with all aspects of our world today. The lives and discoveries of many mathematicians are discussed. Students will also look at how the number system has evolved along with discovering how many theories and formulas that we use today were created.

**Graphic(yrbk)10-12 Course #: 0731** Dept.:Elective Credits: 1.0 Available for Grades: 010,011,012

Course Description: A graphics course for 10th through 12th grade students using Adobe Indesign and Adobe Photoshop CS6 for the sole purpose of producing our school's yearbook.

Goals for Students in Class:

Students will learn how to design professional looking documents and print layouts using Indesign.

Students will learn the basics of operating a digital camera.

Students will be proficient in photo editing using Photoshop CS6

Students will work together to create the school's yearbook.

**Micro CPU Concept Course#:0735** Dept.:Elective Credits: 1.0 (Weighted Course) Available for Grades: 011,012

Course Description: \*HONORS COURSE\* This course introduces students to the microcomputer and various software applications; word processing (Word), spreadsheet (Excel), database (Access), and presentation (Power Point). The overall goal of the course is to guide the student into becoming a proficient microcomputer user in college and the workplace. Students will have the option to purchase WCCC College Credits. This class uses online simulations and course work. No prerequisites required.

**Introduction to Computer Science #: 0736** Dept.:Elective Credits: 1.0 Available for Grades:09, 010, 011,012  
Course Description: CS Academy CS1 is a high school computer science course designed to introduce students to basic programming. This is done with text-based coding in the language Python using a graphics package specifically designed to be a great entry point for students, CMU Graphics. Our goal is to introduce students to programming in a captivating manner while simultaneously building problem-solving skills and an understanding of the thinking methods used by programmers.

There are 12 Units to the course, split up into two parts, CS1a (units 1-7) and CS1b (units 8-12) so that it can be taught as a year long course or two semester based courses. We believe the best way to learn this material is to do it, so each Unit provides content for the topic to be investigated, a worked problem(s) to illustrate and let students explore the topic, a set of exercises to hone their mastery of the topic, some end-of-unit exercises that require students to use and synthesize all the topics found in that Unit, and a creative task that lets them further explore the topics in the Unit in a manner driven by their interests.

**Business/Entrepreneurship #0737** Dept.: Elective Credit: 0.5 Available for Grades:09, 010, 011,012

This course will introduce students to the concept of entrepreneurship. Students will acquire the knowledge of the nature and scope of entrepreneurship. Students will examine and develop the personal traits and behaviors fundamental to becoming a successful entrepreneur, and will be exposed to the first steps of the entrepreneurial process.

**Digital Fabrication # 0738** Dept: Elective Credit: 0.5 Available for Grades: 09, 010, 011, 012

This is a hands-on course for students who are interested in creating and making projects using the machinery in the Maker Space. Think of it as an art class that also uses technology. This includes the use of the 3D printer, the vinyl cutter, t-shirt press, and the sublimation printer. Students will be asked to create their own projects, in addition to other projects assigned by the teacher, all of which will be used towards a school business or to promote school spirit

**Personal Finance #0739** Dept: Elective Credit: 0.5 Available for Grades: 010, 011,012

This course is designed to help students understand the impact of individual choices on occupational goals and future earnings potential. Topics covered will include income, money management, spending and credit, as well as saving and investing. Students will design personal and household budgets, simulate use of checking and savings accounts, demonstrate knowledge of finance, debt, and credit management, and evaluate and understand insurance and taxes. This course will provide a foundational understanding for making informed personal financial decisions.

Topics covered: SAVINGS, INVESTING, CREDIT, DEBT, FINANCIAL RESPONSIBILITY, MONEY MANAGEMENT, INSURANCE, RISK MANAGEMENT, INCOME, and CAREERS.

**Pathology Course: #0740** Dept: Science Credits: 0.5 Available for Grades: 011,012

**Course Description:** Introduces the basic concepts, terminology, etiology, and characteristics of pathological processes.

**General Course Purpose:** This course is designed to provide the student with an understanding of the consequences of pathologic processes on the structure and function of the human body. Emphasis is directed on selected disorders/diseases common to acute care in the community hospital environment.

**Course Objectives:** Upon completion of this course, the student will be able to utilize medical knowledge acquired in Pathology to:

- Delineate pathophysiologic mechanisms and manifestations of selected disease entities to include:
  - Identification of relevant risk factors and epidemiology
  - Pathophysiological descriptions
  - Identification and explanation of the bases of clinical manifestations
  - Identification and explanation of diagnostic and laboratory procedures o recognition of frequent complications o explanation of current treatments
- Participate in individual and group projects and presentations which promote learning of the course content
- Complete written assignments which demonstrate an awareness of current trends in medical practice

**Medical Terminology Course #: 0741** Dept.: Science Credits:1.0 (Weighted Course) Available for Grades: 011,012

Course Description: COURSE: MEDICAL TERMINOLOGY-HONORS COURSE  
[DUAL ENROLLMENT OPTION COLLEGE CREDIT WCCC

•TEXTBOOK:The Language of Medicine, 10th Ed.; Author: Chabner; ISBN: 9781455745241. Copyright: 2014

Course Description:

Medical Terminology is being offered at Carmichaels Area High School as a dual enrollment course through Westmoreland Community College [WCC]. Participants will be offered 3 college credits at the rate of \$98.00 a credit. (This price is subject to change and students will be notified at the start of the course.) Students have the option to take this course without registering for college credits.

This is a great opportunity for students to gain medical knowledge and college credit at the high school level. This course does NOT require passing an end of the year examination like many other AP courses rather, the student must receive a passing grade overall to receive credit! This course is the study of medical terminology, the language of medicine, focusing on prefixes, suffixes, word roots and their combining forms by review of each body system and specialty area. It also emphasizes word construction, spelling, usage, comprehension, and pronunciation. In addition, students gain information regarding anatomy and physiology, pathology, diagnostic/surgical procedures, pharmacology, and medical abbreviations. Multiple Research projects will focus on patient history and evaluations along with case studies to provide real life medical scenarios for students to study and use knowledge to determine possible diagnosis. It is highly recommended that a student wishing to take this course received a B average in Biology and/or Human Anatomy to support their understanding of higher level vocabulary and content.

General Course Objectives:

- Analyze and discuss the structure of medical terms.
- Define medical terms based knowledge of word roots, prefixes, and suffixes.
- Demonstrate a basic knowledge of anatomy and physiology as it relates to the understanding of medical and surgical terminology.
- Correctly identify abbreviations and medications used in health professions.

Learning Outcomes:

- 1.List and define four word parts used in composition of medical terms.
- 2.Analyze and define suffixes commonly used in medical terminology.
- 3.Recognize common anatomical, physiological, and pathological terms.
- 4.Construct, analyze, define, and spell anatomical terms related to specific body systems, physiology, microbiology, disease processes, and medical and surgical specialties.
- 5.identify names of equipment commonly associated with medicine.
- 6.Differentiate terms relating to their appropriate specialties.
- 7.identify the major categories of drugs and list side effects commonly associated with each category.
- 8.Recognize the meaning of commonly used medical abbreviations.
- 9.Use a medical dictionary to identify the correct definition, spelling, and correct use of unfamiliar medical terms.

Pre-Requisites: Completion of Biology with a B or Better and teacher

**Anatomy & Physiology I #0742** Dept.:Science Credits: 1.0 (Weighted Credits) Available for Grades: 011,012

Course Description: COURSE: HUMAN ANATOMY (11TH & 12TH GRADE)

TEXTBOOK: HUMAN ANATOMY & PHYSIOLOGY", MARIEB & HOEHN, 9TH ED. 2013

Course Description: This is a course in systemic human biology for students whom are interested in learning about the human body in pursuit of a potential career in the health field, Biological Sciences, and other fields requiring a background in Anatomy. This is a great opportunity for students which, includes two potential field trips to observe Open Heart Surgery at Allegheny General Hospital and to participate in a Cadaver Lab Experience at California University of Pennsylvania. The focus of this course is normal anatomy concepts with reference to pathological and medical applications as they pertain to each chapter/situation. This course will include overview of multiple human systems in which the student will learn how the human body functions and why the form of cells, organs, and organ systems is essential. Dissection and two field trips are included within the course and multiple labs online. It is highly recommended that a student wishing to take this complete Biology with a grade of B or better and have teacher recommendation to support their understanding of higher level vocabulary and content.

Learning Outcomes:

Upon successful completion of this course, the student will be able to,

1. Explain the various cells, tissues, and physiological actions that support muscles, bones, and organs.
2. Describe the Gross Anatomical terminology, regions, and various medical terminology as they apply.
3. Detail the integumentary systems and describe the epidermis and dermis.
4. Recite types and functions of the muscular system.
5. Briefly state an overview of the various joints in the human body and how they operate.
6. Comprehend the axial and appendicular skeleton.
7. Explain the blood and cardiovascular system with special reference to physiological features.
8. Describe the Respiratory system, detailing the process of respiration and ventilation.
9. Explain the fundamentals of the Nervous system & the special senses.
10. Describe the gross and anatomical features of the Digestive System and detail the process of absorption of nutrients in the body and how waste is excreted.

11. An overview of the Reproductive System and Human Development.
12. A brief insight into the Urinary System with reference into electrolyte balance, pH in the body, and regulation of fluid.

Pre-Requisites: Completion of Biology with a B or Better and teacher

**Anatomy & Physiology II #0743** Credits: 1.0 (Weighted Credit) Available for Grades: 012

Dept. Science- A continuation of Human Anatomy I. This course includes current in-depth information of the structure and function of the endocrine, digestive, respiratory, blood, cardiovascular, lymphatic, urinary, and reproductive systems.

**EMT Course #: 0744** Dept.: Electives Credits: 1.0 (Weighted Credits) Available for Grades: 012

Course Description: This course addresses the standards of emergency medical technician training as per the United States Department of Transportation National Standard Curriculum for EMT- Basic. The Course provides the fundamentals in prehospital emergency medical service care. Furthermore, it aligns with the Pennsylvania State Basic Life Support Protocols (updated in 2015). The curriculum for this course fulfills all the requirements for certification testing at the National Registry Emergency Medical Technician -Basic (NREMT-B) level. Upon successful completion of this program, in its entirety, students will be eligible to take the tests which will certify them as EMT's. As a part of this programs curriculum the students will also obtain the following additional certifications:

-AHA-CPR-HCP

-NIMS 700

-ICS 100

-Hazwoper awareness

Subjects that will be covered in this course include but are not limited to:

- CPR
- Lifting and moving patients
- Human anatomy/physiology
- Medical terminology
- Communications and documentation
- Airway management
- Shock
- Patient assessment
- Pharmacology
- Assisted medication administration
- Traumatic incidents/injuries
- Geriatrics
- infants/children
- Behavioral/ psychological emergencies
- OBGYN/ Childbirth
- Vehicle Extrication

Note: As a portion of this courses curriculum, the students will participate in practical skills sessions which will involve strenuous physical activity as well as physical contact between students.

Course requirements include:

- Students must be at least 16 years of age.
- Students are expected to observe the rules for conduct and the academic integrity policy as outlined for both Carmichaels Area School District, as well as our course training center.
- Students are required to attend AT LEAST 100 hours of instructional time prior to taking the National Registry

Examination. Students who do not meet this requirement will NOT be eligible to participate in certification examinations.

-The hour requirement for this course only applies to those students who are seeking National Registry certification. Students' class attendance is based on hours that they are IN THE CLASS and NOT hours in which they were in the school. If the student is participating in a school sponsored activity they will be allowed to make up course work as outlined in Carmichaels Area School District Policy. This make up work will count towards their district grade, it will NOT count as making up instructional hours for the state. THERE IS NO WAY TO MAKE UP INSTRUCTIONAL TIME.

-The majority of course instruction will take place during the regularly scheduled school day with a few topics being addressed after hours or on weekends. The components of the class that take place beyond the school day are open to all students but only a requirement for those who are seeking certification.

- Students are required to maintain a 70% MINIMUM grade throughout the course to be eligible to take the state examination. This score is based only on chapter exams and will differ from the grade that appears on their report cards.

- Students must attend and complete the Mandatory American Heart Association CPR for Healthcare Providers course, which will be offered as part of this program.

- Students are required to complete an additional 3 online courses (ICS 100, NIMS 700, and HAZWOPER Awareness) prior to national testing. Please note there is an additional fee associated with the HAZWOPER course which the students are responsible to pay.

- Students must show competency in each of the skills outlined in the skills verification form prior to taking the state examination. Proof of competency will be demonstrated by the student during the scheduled medical and trauma exit examinations as well as chapter based skill reviews.

- Cost of the course is \$150.00, which should be made payable to Carmichaels Area School District

- This fee helps cover the cost of the book, course registration, and paperwork processing fees.

- Please submit payment to the high school office prior to the first week of school.

### **Nutritional Health- Medical Knowledge for the future Medical Practitioner #0745** Dept: Science

Credits: 0.5 Level: 0 Available for Grades: 011, 012

This is a basic course of nutrition, intended to provide each student the foundation for understanding the science of nutrition, and the application of nutrition principles in daily dietary practice. Also, to provide knowledge and terminology in the medical field and potential career as a nutritionist. [Semester Course]

### **College Chemistry#: 0746** Dept.: Science Credits: 1.0 (Weighted Credit) Available for Grades: 012

Course Description: This course involves an examination of the basic definitions and theories of chemistry. The first semester topics include stoichiometry, atomic structure, thermochemistry, molecular bonding, physical states of matter, solutions, and kinetics. This course is an approved Natural Science Liberal Arts Inquiry (LAI) course.

Course Objectives/Learning Outcomes:

Upon completion of this course, the student should be able to:

1. Examine the philosophy of modern chemistry, its ambitions as a central science and its limitations
2. Predict the properties of elements from their electronic structures and positions in the periodic table
3. Explain the bonding in compounds and be able to evaluate the strength of bonds and the reactivity of compounds
4. Master techniques in qualitative and quantitative analysis
5. Describe compounds and classify them according to accepted practices
6. Predict the products and the mechanism of a reaction
7. Explore the rates of both chemical and nuclear reactions quantitatively with appropriate instrumentation
8. Explore the quantitative aspects of energies in chemical reactions

9. Demonstrate understanding of nuclear structures, stability and radioactivity
10. Identify the historical perspectives in the development of chemical principles
11. Demonstrate the ability to apply chemical principles in modern problems of the environment, health and present day technology

Evaluation/Grading Policy:

Exams: There will be a total of 4 exams, 1 given approx every 3 weeks. Exam questions may be taken from the lecture notes, manual readings, in class demonstrations or the labs, although the primary source will be the material covered in the lectures.

Quizzes: There will be a total of 6 quizzes taken during the semester. The quizzes will cover the material since the previous quiz.

Labs: There are a total of 10 labs throughout the semester as well as additional activities that will be performed by the students or demonstrated to the students by the instructor. 3 of the 10 labs will be long reports. The remaining 7 labs will be short reports. \*\*The final lab will take place at the Carlow University Science lab facilities.

See "other notes":

Other

Below is the tentative schedule of the topics to be covered throughout the course.

Topic

Introduction to Course: Types of Matter

Physical and Chemical Changes and Properties; Measurement Uncertainty; Metric System Unites and Prefixes  
Dimensional Analysis; Density and Temperature Atoms,

Molecules, and Ions; Atomic Structure; Periodic Table; Introduction to Nomenclature

QUIZ #1

Nomenclature

Nomenclature (IUPAC System)

Nomenclature; History of Atomic Structure

QUIZ #2

Rutherford's Gold Foul Expt

Bohr Model of the Atom; Quantum mechanical Model of the Atom

Quantum Numbers and Electron Configurations

Periodic Trends, Lewis Dot Symbols, Valence Electrons and Bonding

EXAM 1

Covalent Bonding; Lewis Structures (5 Step Process)

Lewis Structures (exceptions, formal charge, and resonance forms)

VSEPR Theory; AB<sub>n</sub> Molecular Geometries

QUIZ #3

AB<sub>n</sub>Em Molecular Geometries and Molecule Polarity

Hybridization and Hybrid Orbitals

EXAM II

Atomic Mass; Molecular and Formula Mass

Reaction Types; Balancing Chemical Reactions

Predicting Products; Mole Concept; Celebrate MOLE DAY

Stoichiometry; Mole Calculations

Calculations with Chemical Reactions (Empirical/Molecular Formula)

QUIZ #4

Calculations with Chemical Reactions (Limiting Reagent)

More Calculations with Chemical Reactions (Percent Yield)

Aqueous Reactions written as ionic Equations

ionic Equations and Net ionic Equations; Spectator ions  
Solution Calculations using Molarity and Dilution Equations  
Solution Stoichiometry

EXAM III

Energy Relationships in Chemistry; Hess's Law

Enthalpies of Reactions

Gases; Pressure Units

QUIZ #5

Gas Laws; Van der Waals Equation

Chemical Kinetics

EXAM IV

Time and Temperature Dependence

Activation Energy

Review on Kinetics

QUIZ #6

The Final Exam will be comprehensive

**Cons Bio I Course #: 0747** Dept. Science Credits: 1.0 Available for Grades: 09,010,011,012

Course Description: If sitting in a classroom isn't for you, then try Environmental Science! Students will learn about Forestry, Wildlife, Aquatics, Soils, and Current Issues in an outdoor setting- even in the middle of winter! Environmental Science is an elective course available in each of 10th, 11th, and 12th grades which rotates every three years through Introduction to Environmental Science, Environmental Science I and Environmental

Science Course of Study

AQUATIC ECOLOGY

Essential Topics

I. Aquatic Ecology

a. Abiotic

1. Influence of water's chemical properties on aquatic organisms
2. Influence of water's physical properties on aquatic organisms
3. Influence of the surrounding land on a stream
4. Influence of the water cycle on the aquatic ecosystem
5. Identification of watersheds and river systems in Pennsylvania
6. Identification and comparison of stream order within a watershed

b. Biotic

1. Identification of aquatic organisms
2. Life cycles of aquatic organisms
3. Adaptations of aquatic organisms
4. Habitat needs of aquatic organisms

c. Community

1. Identification of aquatic and wetland environments
2. Functions and values of wetlands
3. Physical, chemical, and biological changes in the stream continuum
4. Functional feeding groups of aquatic organisms and their niche in the stream continuum
5. Energy flow in aquatic food chains

II. Aquatic Resource Issues

- a. Human effects on the aquatic ecosystem
- b. Impact of water pollution on aquatic communities
- c. Threatened and endangered species and their impact on biodiversity

d. Introduced and invasive species and their effects on the aquatic ecosystem

### III. Aquatic Resource Management and Protection

a. Commission roles in management, conservation, and protection of aquatic resources

b. Regulations and how they protect aquatic animals and aquatic habitats

c. Water quality assessment

d. Water quality improvement

e. Aquatic habitat enhancement

f. Restoration of aquatic organisms

g. Aquatic resource protection at home and school

## FORESTRY

### Essential Topics

#### I. Woody Plants

a. Identification of Pennsylvania trees and shrub species

b. Growth and life cycles of woody plants

c. Habitat relationships of plants.

#### II. Forest Ecology

a. Forest types

b. Vertical structure

c. Succession

d. Plant communities as wildlife habitat

e. Biodiversity

#### III. Forest Resource Management and Protection

a. Forest conditions

b. Forest land ownership

c. Benefits of recreation, wildlife, watershed quality and forest products

d. Resource evaluation and management practices

e. Regulations

f. Pests and disease

g. Fire

#### IV. Community Forestry

a. Benefits of trees in urban and suburban

b. Planting and maintenance of community trees

c. Municipal tree programs

## WILDLIFE

### Essential Topics

#### I. Knowledge of Birds and Mammals

a. Bird and mammal identification

b. Natural history of birds and mammals

c. Habitat/ecosystem types and associated wildlife

#### II. Understanding Wildlife Ecology

a. Survival requirements of wildlife and how they are met

b. Ecosystem dynamics:

- Predator-prey relationships

- Energy flow-food chain, food web, food pyramid

- Succession

c. Adaptations

d. Population dynamics

#### III. Conservation and Management of Wildlife

- a. Pennsylvania Game Commission
  - b. Hunting and Trapping regulations
  - d. Pennsylvania Game and Wildlife code
  - e. Wildlife Management
  - f. Improving/managing habitat for wildlife
- IV. Issues Involving Wildlife and Society
- a. Biodiversity
    - Levels of biodiversity
    - Importance of biodiversity ecologically and in our everyday life
    - Loss of biodiversity causes and implications
  - b. Endangered and threatened species
    - What makes a species more prone to becoming endangered than other species?
    - Responsibility for upholding endangered species act
    - Terminology: for example: reintroduction, endangered, threatened, extirpated, and extinct
    - Endangered and threatened birds and mammals of PA
  - c. Habitat loss and fragmentation
  - d. Managing/planning for people and wildlife
  - e. Non-native species; invasive species; introduced species
  - f. Reintroduction of native species

#### SOIL / LAND USE

##### Essential Topics

- I. Basic Soils Knowledge
  - a. Formation
  - b. Drainage
  - c. Soil horizons
  - d. Hands-on investigations
  - e. Soil quality and fertility
  - f. Soil biology and diversity
- II. Understanding Maps, Surveys and Landforms
  - a. Soil survey maps and data tables: Websoilsurvey
  - b. Topographic maps
  - c. Landforms and geologic terms
- III. Land Use
  - a. Agriculture and conservation practices
  - b. Current environmental concerns and land use issues
  - c. Soils and history
  - d. Pollution remediation
  - e. Identification and benefits of
  - f. Carbon sequestration
- IV. Decision-Making and Protection of Soils
  - a. Scenarios
  - b. Actions at home and at school

**Cons Bio II Course #: 0748** Dept.:Science Credits: 1.0 Available for Grades: 010,011,012

Course Description: If sitting in a classroom isn't for you, then try Environmental Science! Students will learn about Forestry, Wildlife, Aquatics, Soils, and Current Issues in an outdoor setting- even in the middle of winter! Environmental Science is an elective course available in each of 10th, 11th, and 12th grades which rotates every three years through Introduction to Environmental Science, Environmental Science I and II. Environmental

Science Course of Study

AQUATIC ECOLOGY

Essential Topics

I. Aquatic Ecology

a. Abiotic

1. Influence of water's chemical properties on aquatic organisms
2. Influence of water's physical properties on aquatic organisms
3. Influence of the surrounding land on a stream
4. Influence of the water cycle on the aquatic ecosystem
5. Identification of watersheds and river systems in Pennsylvania
6. Identification and comparison of stream order within a watershed

b. Biotic

1. Identification of aquatic organisms
2. Life cycles of aquatic organisms
3. Adaptations of aquatic organisms
4. Habitat needs of aquatic organisms

c. Community

1. Identification of aquatic and wetland environments
2. Functions and values of wetlands
3. Physical, chemical, and biological changes in the stream continuum
4. Functional feeding groups of aquatic organisms and their niche in the stream continuum
5. Energy flow in aquatic food chains

II. Aquatic Resource Issues

- a. Human effects on the aquatic ecosystem
- b. Impact of water pollution on aquatic communities
- c. Threatened and endangered species and their impact on biodiversity
- d. Introduced and invasive species and their effects on the aquatic ecosystem

III. Aquatic Resource Management and Protection

- a. Commission roles in management, conservation, and protection of aquatic resources
- b. Regulations and how they protect aquatic animals and aquatic habitats
- c. Water quality assessment
- d. Water quality improvement
- e. Aquatic habitat enhancement
- f. Restoration of aquatic organisms
- g. Aquatic resource protection at home and school

FORESTRY

Essential Topics

I. Woody Plants

- a. Identification of Pennsylvania trees and shrub species
- b. Growth and life cycles of woody plants
- c. Habitat relationships of plants.

II. Forest Ecology

- a. Forest types
- b. Vertical structure
- c. Succession
- d. Plant communities as wildlife habitat
- e.

III. Forest Resource Management and Protection

- a. Forest conditions
- b. Forest land ownership
- c. Benefits of recreation, wildlife, watershed quality and forest products
- d. Resource evaluation and management practices
- e. Regulations
- f. Pests and disease
- g. Fire

#### IV. Community Forestry

- a. Benefits of trees in urban and suburban communities
- b. Planting and maintenance of community trees
- c. Municipal tree programs

#### WILDLIFE

##### Essential Topics

#### I. Knowledge of Birds and Mammals

- a. Bird and mammal identification
- b. Natural history of birds and mammals
- c. Habitat/ecosystem types and associated wildlife

#### II. Understanding Wildlife Ecology

- a. Survival requirements of wildlife and how they are met
- b. Ecosystem dynamics:
  - Predator-prey relationships
  - Energy flow-food chain, food web, food pyramid
  - Succession
- c. Adaptations
- d. Population dynamics

#### III. Conservation and Management of Wildlife

- a. Pennsylvania Game Commission
- b. Hunting and Trapping regulations
- d. Pennsylvania Game and Wildlife code
- e. Wildlife Management
- f. Improving/managing habitat for wildlife

#### IV. Issues Involving Wildlife and Society

- a. Biodiversity
  - Levels of biodiversity
  - Importance of biodiversity ecologically and in our everyday life
  - Loss of biodiversity causes and implications
- b. Endangered and threatened species
  - What makes a species more prone to becoming endangered than other species?
  - Responsibility for upholding endangered species act
  - Terminology: for example: reintroduction, endangered, threatened, extirpated, and extinct
  - Endangered and threatened birds and mammals of PA
- c. Habitat loss and fragmentation
- d. Managing/planning for people and wildlife
- e. Non-native species; invasive species; introduced species
- f. Reintroduction of native species

#### SOIL / LAND USE

##### Essential Topics

#### I. Basic Soils Knowledge

- a. Formation
- b. Drainage
- c. Soil horizons
- d. Hands-on investigations
- e. Soil quality and fertility
- f. Soil biology and
- II. Understanding Maps, Surveys and Landforms
  - a. Soil survey maps and data tables: Websoilsurvey
  - b. Topographic maps
  - c. Landforms and geologic terms
- III. Land Use
  - a. Agriculture and conservation practices
  - b. Current environmental concerns and land use issues
  - c. Soils and history
  - d. Pollution remediation
  - e. Identification and benefits of wetlands
  - f. Carbon sequestration
- IV. Decision-Making and Protection of Soils
  - a. Scenarios
  - b. Actions at home and at school

**Real World Applications of Chemistry #0749** Dept.: Science Credits:1 Must be taken concurrently with Chemistry or after Chemistry I Available for Grades 10, 11, 12

Chemistry is a big part of your everyday life. You find chemistry in the foods you eat, the air you breathe, the vehicles you drive, and more! Understanding of Chemistry is vital to our modern technological advances in medicine, engineering, and industry.

This course is designed to make clearer connections between Chemistry and the real world through increasing student engagement in hands-on, learning-by-doing laboratory activities and meaningful projects to improve the students' scientific literacy.

**Renewable Energy and Its Applications: #0750** Dept.: Science Credits:0.5 Available for Grades 10, 11, 12

The majority of this course will be assessed through a project or projects. Students will use the engineering design process to design, budget, test, and build uses of renewable energy sources for around the school district. Some possible applications include: solar charging stations for electronic devices, solar cells for the field house/athletic fields. [Potential Semester Course]

**Science Today #0751** Dept.: Science Credits: .5 Available for Grades: 010, 011, 012 Students will research news from journals, websites, television, radio, and social media and learn how to differentiate between real science and “junk” science by analyzing the legitimacy of news sources and discussing the science behind the news. Covered topics could include (but are not limited to): relevant current events, climate change, cancer/cancer treatments, and viruses/diseases. The class will offer opportunities for the students to become well informed, avid news readers.

**Creative Writing Course #: 0752** Dept.: Electives Credits: .5 Available for Grades: 010, 011, 012

Course Description:Throughout this course, students will work to develop a portfolio of both fiction and

non-fiction writing. Through fiction, students will use their imagination to express themselves, and through creative non-fiction, students will work to focus and build upon their own experiences. For the end product, students will select their best work from their portfolio to workshop and improve. These polished pieces will then be compiled into a class literary magazine.

**Public Speaking Course #0753** Dept:ELA Credits:0.5 Available for Grades 10, 11, 12

A semester course. Depending on how you scheduled it would determine the types of speeches and activities I would incorporate. Glossophobia is the fear of public speaking, and according to Nick Morgan, contributor of an article on public speaking in *Forbes Magazine*, “10 percent of the population loves public speaking... 10 percent are genuinely terrified... and roughly the 80 percent in the middle – get butterflies, get anxious, don’t sleep much the night before – but we know that we’re going to live through it. It’s just not much fun” (Morgan). Public speaking is a course that would benefit the masses by improving communication, boosting confidence in students, instilling the ability to take on leadership roles, and strengthening deductive reasoning, critical thinking and creativity skills.

The layout for the speeches/ activities will depend on whether this course is a 9 weeks rotation or a semester:

1. Introduction Speech (2 minutes).
2. Informative Speech (5 minutes).
3. Persuasive Speech (5 minutes).
4. Impromptu Speech (2-3 minutes).
5. Final Speech (8-10 minutes).

**Accelerated Writing Course #: 0759** Dept. ELA Credits: 1.0 (Weighted Credit) Available for Grades: 011,012

Course Description: This course is a challenging, yet rewarding elective offered to 11th and 12th grade students. It is a writing class, therefore, students will be writing frequently. Because the content and requirements are demanding, it is recommended that students who choose this class should have previously demonstrated strengths in writing and will be expected to have high standards for their own work and academic achievement. Accelerated Writing is offered as a dual enrollment course with Westmoreland Community College and participants will be offered 3 college credits at the rate of \$98.00 a credit. (This price is from the 2015-2016 school year and is subject to change.)

\*Students have the option to take this course without registering for college credits.

Schedules will be provided in advance for units of learning. Students will explore many aspects of writing such as the following methods:

Expository  
Compare/Contrast  
Narrative  
Persuasive/Argumentative  
Research  
Literary Theory/Criticism  
Etc.

The primary objective for this course is to prepare college-bound students for the upcoming expectations they will face when completing writing assignments at the post- secondary level. Specifically, we will work on the areas of structure, research, content, MLA formatting, and mechanics.

**Broadcast Theory course #: 0765** Dept.:Electives Credits: 1.0 Available for Grades: 009,010,011,012

Course Description: This course will cover the history of journalism, expressing the basics of its start and how it

has evolved. Students will gain an understanding of how media communication can have a drastic effect on society. The course will then transition into news writing. Students will learn and utilize the basic writing style that is required in broadcast news stories, such as finding out the who, what, where, when, why and how details that are required to inform the audience. Students will learn about the inverted pyramid, which is the style that news is written in, as well as learn AP Style formatting. The different types of news stories that will be explored include news, feature, sports, and editorial writing. Students will also be introduced to interviewing skills. Utilizing the various techniques being taught, students will produce articles\* covering events going on throughout the district.

\*Articles written in this class can be handed off to students in either Video Production or News Reporting in order to be turned into a segment for the morning announcements.

**Video Production course #: 0766** Dept.:Electives Credits: 0.5 Level: 0 Available for Grades: 09, 010,011,012  
Course Description: In this course, students will learn how to develop and produce a sound piece of digital media. In order to be successful at this task, students will be given an overview of media equipment, job responsibilities, and techniques involved in both traditional studio production and remote location work. Students will be able to identify and utilize all studio equipment. Students will be taught the different elements of filming (storyboarding, shot types, sound quality, lighting, etc.) and the elements of video editing, which will be taught through Adobe Premiere Pro and Adobe After Effects. Through utilizing what they previously learned in Broadcast Theory and Video Production, students will be able to plan, film, edit and produce pertinent videos that showcase things going on in and around our district.

**Pre-Requisites: Broadcast Theory**

**News Reporting course #: 0767** Dept.: Electives Credits: 1.0 Available for Grades: 011,012  
Course Description: In this advanced course, students will be fully immersed in the news process. Students will seek out news stories in the district or surrounding community. They will storyboard and script their ideas, schedule and conduct interviews, film clips, and edit their footage in order to produce sound video spots that will be aired on the morning announcements. These students will also serve as the staff of Mikes Nation Live and be given the opportunity to explore different positions needed to run a broadcasting station on a rotation basis, as well as be given the opportunity to anchor the news show, which will teach them to speak and read clearly in order to get their message across.

**Pre-Requisites: Broadcast Theory, Video Production, and Teacher Recommendation**

**Multimedia Course #: 0768** Dept.: Electives Credits: 0.5 Available for Grades: 009,010,011,012  
Course Description: Multimedia is the combined use of text, graphics, sound, animation, and video. This particular class will focus on Photoshop, Flash, Javascript, HTML and CSS. Through a case-based, problem-solving approach, students will learn how to create graphics, animations, and movies for Web sites using Adobe Flash. Students will also learn how to use the JavaScript language and the Processing JS library to create fun drawings and animations. In addition, they will learn how to use HTML and CSS to make webpages. HTML is the markup language that you surround content with and it tells the browser about the parts of your page like headings, lists, and tables. CSS is the stylesheet language that you style the page with, which tells the browser to change the color, font, layout, and more.

**Drafting/Mechanical Drawing #0769 Dept: Elective** Credits: 0.5 Level: 0 Available for Grades: 010,011,012  
Basic course outlining the principles of mechanical drafting i.e. isometric and orthographic drawings, and dimensioning.

**Model Rocketry/Structural Analysis #0770** Dept.: Elective Credits: 0.5 Available for Grades: 010,011,012  
The majority of this course will be assessed through a project or projects. A course focusing on the science and

the engineering of model rockets. The majority of this course will be assessed through a project or projects. A course focusing on the science and engineering of structures. Some possible topics include bridge and truss design, forces in equilibrium.

Pre-Requisites: A good understanding of Algebra 1 and Geometry. [Potential nine weeks to semester course]

**French I Course #: 0771** Dept.: World Language Credits: 1.0 Available for Grades: 009,010,011

**Course Description: ONLINE COURSE ONLY!**

STUDENTS WILL BE REGISTERED WITH THE ONLINE CLASS THROUGH EDMENTUM.. THERE WILL NOT BE A CASD CERTIFIED FRENCH TEACHER ALL EDUCATION WILL OCCUR WITH AN ONLINE

**French II Course #: 0772** Dept.: World Language Credits: 1.0 Available for Grades: 010,011,012

Course Description: ONLINE COURSE ONLY!

STUDENTS WILL BE REGISTERED WITH THROUGH EDMENTUM.. THERE WILL NOT BE A CASD CERTIFIED FRENCH TEACHER ALL EDUCATION WILL OCCUR WITH AN ONLINE INSTRUCTOR.

Pre-Requisites: Completion of French I.

**Spanish I Course #: 0774** Dept.: World Language Credits: 1.0 Available for Grades: 009,010,011

Course Description: Students enrolled in Spanish one will participate in a learning environment that focuses on the four basic skills of learning a language, reading, writing, listening and speaking. The main focus will be on speaking and writing. Topics studied in Spanish I are as follows:

- Basic greetings, salutations
- Various topics of vocabulary including school subjects, adjectives, clothing, family members, foods and sports
- Conjugation of ar, er and ir verbs
- How to express likes and dislikes
- Contractions al and del
- Comparison and contrast of the verbs ser and estar
- The present progressive tense
- The verbs to have and to go
- Dar and Estar
- The verb estar with emotions

**Spanish II Course #: 0775** Dept.: World Language Credits: 1.0 Available for Grades: 010,011,012

**Course Description: Spanish II** is a continued studied of materials previously learned in Spanish I with more of a focus on the four skills of reading, writing, listening and speaking. Students are also introduced to various cultural Hispanic topics. Grammar studied in Spanish II is as follows:

- Review of present tense verbs in all forms
- Regular preterite tense
- Irregular preterite tense
- Future tense
- Imperfect tense
- Legends of Spain and Mexico
- La quinceanera
- Travel Brochure Project
- Vocabulary topics including a trip to the museum, beach resort, ski trip, hobbies, activities and list of the 100 most common verbs

**Spanish III/IV Course #: 0776** Dept.: World Language Credits: 1.0 Available for Grades: 011,012

Course Description: Spanish  $\frac{3}{4}$  is an extended course. Students that have interest and desire to further study the Hispanic language and culture should enroll in this course. It is highly recommended that students have at least a "B" average to enroll in this course. Emphasis on this class is placed on advancing the written and oral communication skills of the students in the target language. Various materials covered in Spanish  $\frac{3}{4}$  are as follows:

- Preterite tense irregular forms
- Imperfect tense
- Present Perfect tense
- Future tense
- Demonstrative Adjectives
- Cultural study of various legends
- Create a piñata
- Quien soy yo en realidad project
- Various vocabulary lessons
- Read novel *Casi se Muere* and *Pobre Ana*

**World Cultures #0777** Dept: World Language Credit 0.5 Available for Grades 10, 11, 12

Course Description: Learn about the different cultures throughout the world.

**Leadership Essentials #0778** Dept: Elective Credits 0.5 Available for Grades 11, 12

Course Description: Students will learn the skills of an effective leader and apply them to their career aspirations.

**Psychology #: 0781** Dept.: Social Studies Credits: 0.50 (Weighted Credit) Available for Grades:011- 012

Course Description: Introduction to Psychology is designed to acquaint students with the many aspects of human behavior that fall under the broad heading of "psychology". Students learn the terminology of the discipline and are introduced to findings in such areas as developmental, abnormal, social, and physiological psychology, as well as sensation, perception, conditioning, learning, personality, and psychotherapy. Emphasis is placed on the scientific method and research methods used to acquire knowledge in these different areas. The role of the psychologist in these different areas of study is also explored. This course is intended to provide the student who wishes to major in psychology with a foundation for intensive study in the areas reviewed. It also provides the student whose career interests lie elsewhere with a general knowledge and overview of psychology. course:

1. Recognize the difference between the scientific and pre-scientific study of behavior.
2. Demonstrate a general understanding of the broad discipline of psychology.
3. Appreciate the various roles that psychologists play in their different areas of endeavor.
4. Recognize a reaction to stress and frustration, and deal with those reactions in a beneficial manner.
5. Discuss intelligibly, behavior disorders and the forms of therapy available to treat them.
6. Recognize and understand the psychological tests that are encountered with increasing

frequency in today's world.

7. Gather and synthesize information that is pertinent to the study of psychology and present it in either written or oral form.

8. Appreciate psychology's contribution to the remediation of human problems such as mental health disorders, violence and prejudice.

9. Gain an appreciation for how the discipline of psychology explores various aspects of the human condition.

Textbook Used

Psychology: Principles in Practice, 2010.

Performance Activities (Major Assignments, Projects, Etc.)

1. Review the mental and physical aspects of the human body

2. Analyze why people do the things they do.

3. Review information from the internet, oral presentations, and experiments. Course Description

**Sociology #: 0782** Dept.: Social Studies Credits: 0.50 (Weighted Credit) Available for Grades: 011- 012

Introduction to Sociology is designed to acquaint students with the many aspects of human behavior that fall under the broad heading of "sociology". Students learn the terminology of the discipline and are introduced to findings in such areas as cultural diversity, conformity, social structure, personality development, social stratification, deviance, collective behavior, and social change. Emphasis is placed on the scientific method and research methods used to acquire knowledge in these different areas.

The role of the sociologist in these different areas of study is also explored. This course is intended to provide the student who wishes to major in sociology with a foundation for intensive study in the areas reviewed. It also provides the student whose career interests lie elsewhere with a general knowledge and overview of sociology.

Course Objectives

1. Recognize the difference between the scientific and pre-scientific study of behavior and interaction of groups.

2. Demonstrate a general understanding of the broad discipline of sociology.

3. Appreciate the various roles that sociologists play in their different areas of endeavor.

4. Recognize the effects of collective behavior and social change. Review different types of social movements.

5. Discuss intelligibly, the effects of education and religion on society today.

6. Recognize and understand the sociological perspective on the economy and politics in our country today.

7. Gather and synthesize information that is pertinent to the study of sociology and present it in either written or oral form.

8. Appreciate sociology's contribution to the remediation of human problems such as deviance, violence, and prejudice.

9. Gain an appreciation for how the discipline of sociology explores various aspects of the human race.

Performance Activities (Major Assignments, Projects, Etc.)

1. Review personality development and the social self.

2. Analyze why people do the things they do.

3. Review information from the internet, oral presentations, and experiments.

4. Review the social structure of society today.

5. Discuss and research the topics of cultural diversity and conformity.

6. Discuss issues of gender, age, and health in the United States.

7.Review why social movements matter. Research examples of collective behavior and social change.  
Pre-Requisites: Psychology 12 and Sociology 12 are offered for college credit through Carlow

**Child Development Course #: 0790** Dept.:Electives Credits: .5 Available for Grades: 010,011,012

Course Description: Everyone is a developer of children whether you plan on having children or not. Children are our future and we will depend on them to continue the functioning of society. If we lose our children we lose our future. We will focus on how to develop children into the best that they can be and how to develop you into the best caregiver you can be. We will focus on making a difference in the life of a child.

During the year the students in Child Development I will work closely with the students in the Pre-K class at the elementary.The students will prepare activities and work with small groups of children. They will treat this class like a job. They are responsible for turning in their lesson plans by the due dates.They are also responsible for being present on the days that they are scheduled to teach in the Pre-K classroom.

During class time students will focus on the development of children from birth through 6 years old. They will also be given time to prepare their lessons. Entrance to this class will depend on pre approval from administration and teachers.

**Child Dev II Course #: 0791** Dept.: Electives Credits: .5 Available for Grades: 011,012

Course Description: Everyone is a developer of children whether you plan on having children or not. Children are our future and we will depend on them to continue the functioning of society.

We will focus on how to develop children into the best that they can be and how to develop you into the best caregiver you can be. We will focus on making a difference in the life of a child. During the year the students in Child Development II will work closely with the students in the Elementary, Middle and High Schools learning support classrooms. The students will prepare activities and work with small groups of children. They will treat this class like a job. They are responsible for turning in their lesson plans by the due dates.They are also responsible for being present on the days that they are scheduled to teach in the Pre-K classroom. During class time students will focus on the theories behind the different stages of development. They will also be given time to prepare their lessons. Entrance to this class will depend on completion of Child Development I and pre approval from administration and teachers.

### **Online Courses 900s from edmentum**

#### **Online Sports Marketing #0902**

Credit 0.5 Available for Grades 12

#### **Online Introduction to Veterinary Science #0903**

Credit 0.5 Available for Grades 12

#### **Online Accounting A/B #0904**

Credit 1 Available for Grades 12

#### **Online Entrepreneurship #0906**

Credit 0.5 Available for Grades 12

#### **Online Game Development #0907**

Credit 0.5 Available for Grades 12

#### **Online International Business #0908**

Credit 0.5 Available for Grades 12

**Online Introduction to Criminology #0909**

Credit 0.5 Available for Grades 12

**Online Introduction to Cybersecurity #0910**

Credit 0.5 Available for Grades 12

**Online Introduction to Fashion Design #0911**

Credit 0.5 Available for Grades 12

**Online Introduction to Forensic Science #0912**

Credit 0.5 Available for Grades 12

**Online Introduction to Marine Biology #0913**

Credit 0.5 Available for Grades 12

**Online Introduction to Military Careers #0914**

Credit 0.5 Available for Grades 12

**Online Introduction to Philosophy #0915**

Credit 0.5 Available for Grades 12

**Online Principles of Health Science A #0916**

Credit 0.5 Available for Grades 12

**Online Principles of Health Science B #0917**

Credit 0.5 Available for Grades 12

**Online Anthropology 1 #0918**

Credit 0.5 Available for Grades 12

**Online Fashion and Interior Design #0919**

Credit 0.5 Available for Grades 12

**Online Hospitality and Tourism**

Credit 0.5 Available for Grades 12

**Auto Collis&Rep Course #: 1000/1100** Dept.: Career Center Credits: 4.0 Available for Grades: 010, 011, 012  
Course Description: Repair damaged automotive vehicles and learn mig welding, brazing, and mild steel oxyacetylene welding. Gain knowledge of sheet metal work, insurance adjusting, estimating, and specialty painting.

**Automotive Tech Course #: 1001/1101** Dept.: Career Center Credits: 4.0 Available for Grades: 010, 011, 012  
Course Description: Learn to diagnose and repair all phrases of automotive mechanics for automotive dealers and/or independent garages.

**Bldg.Const.Occ. Course #: 1002/1102** Dept.: Career Center Credits: 4.0 Available for Grades: 010, 011, 012  
Course Description: Master the carpentry, masonry, electrical, drywall, painting, and plumbing skills considered essential for entry level employment in the construction industry.

**Computer Network Course #: 1003/1103** Dept.:Career Center Credits:4.0 Available for Grades: 010, 011, 012  
Course Description: Design, implement, and manage linked systems of computers, peripherals, and associated software. Learn technical skills required to support networks/network users and gain knowledge of network technologies and standards: system design, operating systems, security, client support, network management, troubleshooting, and server optimization.

**Cosmetology Course #: 1004 /1104** Dept.: Career Center Credits: 4.0 Available for Grades: 010, 011, 012  
Course Description: Train in the school salon and gain experience in hair styles, nail art, sales and reception duties, and more. This 1250 hour curriculum prepares students for the State Board of Cosmetology exam to work as licensed hair stylists. Additional programs include: Nail Technology - 315 hours and Esthetics (Skin Care) - 300 hours.

**Culinary Arts Course #: 1005/1105** Dept.: Career Center Credits: 4.0 Available for Grades: 010, 011, 012  
Course Description: Work in a state-of-the-art kitchen facility and restaurant and gain food preparation and serving skills. Additional training enables students to work as chefs in hotels, restaurants, and resorts. Obtain a ServSafe

**Electrical Occ. Course #: 1006/1106** Dept.: CC Career Center Credits: 4.0000 Available for Grades: 010, 011, 012  
Course Description: Prepare for a career as an electrician's helper, network technician, electrical maintenance and repair person, or internet cabling installer. Learn basic electricity working with switches, conduit, circuit breakers, fiber optic, category #5 cable router, and cabling meters.

**Emerg & Protect Serv Course #: 1007/1107** Dept.:Career Center Credits: 4.0000 Available for Grades: 010, 011, 012  
Course Description: Perform entry-level duties as a police officer, fire fighter, paramedic, and other safety services. Receive training in vehicle and equipment operations, pre-hospital emergency medical care, treatment, and communication.

**Health Asst. Course #: 1008/1108** Dept.: Career Center Credits: 4.0000 Available for Grades: 010, 011, 012

**Prec. Machining Course #: 1009/1109** Dept.:Career Center Credits: 4.0000 Available for Grades: 010, 011, 012  
Course Description: Train to use drawings, hand tools, precision measuring tools, drilling machines, grinders, lathes, milling machines, and other specialized machine tools to shape and finish metal and nonmetal parts. Obtain a sound understanding of basic and advanced machining practices, which include: proficiency in safely operating machine tools of various types-manual, automatic, and computer controlled. Obtain NIMS (National Institute for Metalworking Skills) certifications.

**WeldingFabrication Course #: 1011/1111** Dept.: Career Center  
Credits: 4.0000 Available for Grades: 010, 011, 012

**Heavy Equipment Operations #1013/1113** Dept Career Center Credits: 4.0000 Available for Grades: 010,

011, 012