**Senior High School Course Descriptions**

**The courses listed have been approved by the Muncy School District Board of Education. School enrollment, results from state and standardized tests, and rules and regulations from the** **Pennsylvania Department of Education determine the specific** **offerings for each school year.**

**BUSINESS/COMPUTER TECHNOLOGY**

**Computer Applications**

**(532)**

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

This course is designed to reinforce keyboarding skills and familiarize students with the following programs: Microsoft Word, Microsoft Excel, Microsoft Access, and Microsoft PowerPoint. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Introduction to Business**

**(533)**

Length: 1 Year

Grade: 9-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to introduce students to a wide variety of business aspects: economics, marketing, entrepreneurship, international business, human resources, consumer buying, banking, and personal finance. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Personal Finance**

**(540)**

Length: 1 Quarter

Grade: 10

Meeting/Cycle: Daily

Credit: .25

This course is designed to teach students about various aspects of financial decision making such as balancing a checkbook, budgeting, purchasing insurance, renting, leasing, or purchasing a car, making investments, and planning for retirement, etc. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Accounting**

**(550)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to enable students to develop the ability to analyze and record business transactions based on accepted principles of accounting. An emphasis will be placed on the systematic interpretations of recording business transactions. Automated accounting software will be introduced to give students “real world” experiences in accounting. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Accounting II**

**(560)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to give students a basic accounting review followed by an introduction to and application of the accounting principles for partnerships and corporations. Students will continue using automated accounting, including business simulations, with the purpose of completing the accounting cycle. **Prerequisite**: **The successful completion of Accounting I**. **A warning to all prospective student athletes at the NCAA level: this course is not approved by the NCAA Clearinghouse.**

**Marketing**

**(565)**

Length: 1 Year

Grade: 9-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to introduce students to how businesses use marketing to buy, sell, advertise, promote, and distribute their goods and services to customers. Students will learn about marketing institutions, marketing research, selling techniques, sales promotions, and careers in marketing. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Career Exploration Program**

**(570)**

Length: 1 Year

Grade: 12

Meeting/Cycle: By Appt.

Credit: 1

This course is uniquely planned for the development of career knowledge as an extension of training received in the high school classroom. The course is open to senior students who have a specific job interest for their futures. Students who are accepted into this course are released from school to go to an approved workplace. The job must provide a variety of experiences, which will develop workplace readiness skills, encourage attitudes and habits that meet acceptable employment standards, and enable students to investigate their career interest more fully. The employer must agree to evaluate the student on a nine-week basis and allow a school official to observe several times during the year. Transportation to the worksite is the responsibility of the student. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Law**

**(574)**

Length: 1 Year

Grade: 9-12

Meeting/Cycle: Daily

Credit: 1

This course is designed for students to learn about the legal environment in which they live in the American society: about the laws that govern human conduct in a civilized society, about avoiding legal difficulties, and about cooperating more effectively with a lawyer if and when that proves necessary. Specifically, students will learn about crimes, torts, contracts, bailment’s, sales contracts, checks, promissory notes, credit buying, personal and real property, landlord and tenant relationships, and wills. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Entrepreneurship**

**(575)**

Length: 1 Year

Grade: 9-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to familiarize students with all elements required to write a functional business plan. A store management software simulation will be completed to familiarize the students with everyday operations in business. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**ENGLISH**

**English 9**

**(130)**

Length: 1 Year

Grade: 9

Meeting/Cycle: Daily

Credit: 1

This course is designed to cover all basic areas of English. Students will study the short story, nonfiction, poetry, drama, and the novel. The study of important authors and relevant literary terms will be incorporated in the units of study. Writing assignments will include compositions based on the literature as well as longer writings, including a research paper. Students will strengthen their grammar skills with a focus on the parts of speech, centering on verbs as well as becoming more proficient with many aspects of grammar in their writing. Vocabulary will be taken from literature in addition to the vocabulary workshop series with an emphasis on the meaning of words and their correct usage, as well as context clues.

**Speech Using Computer Applications**

**(133)**

Length: 1 Quarter

Grade: 9

Meeting/Cycle: Daily

Credit: .25

This course is designed to teach students about public speaking and aid in developing skills necessary to become an effective communicator. This course exposes students to the public speaking process. Students will learn to develop self- confidence, listen carefully, organize ideas, prepare and practice presentations, and be aware of nonverbal messages. Students will actively participate in a variety of public speaking experiences: informative, persuasive, extemporaneous and impromptu speaking, drama and oral interpretation, informal and formal debate, and various communication projects. Technology applications will be explored that can enhance and strengthen students’ presentations. Students will use their Bridges Portfolio to complete a career interest inventory and research careers they would like to pursue after high school. Students will create a PowerPoint on a career of their choice and present it to the class.

**English 10**

**(140)**

Length: 1 Year

Grade:10

Meeting/Cycle: Daily

Credit: 1

This course is designed to be a thematic survey of a variety of literature and literary genres. Students will explore a variety of literature from a number of different cultures and time periods. In addition, students will develop essential reading, speaking and writing skills from vocabulary enrichment, independent reading development, communication skills improvement, note taking, and critical thinking—all of which will be incorporated throughout the course. Students can expect preparation for the Pennsylvania Literature Keystone Exam to influence every element of this class.

**English 11**

**(150)**

Length: 1 Year

Grade:11

Meeting/Cycle: Daily

Credit: 1

This course is designed to assist and challenge students to reach the proficient or advanced status required by the Common Core Standards for reading, writing, speaking and listening, as well as prepare students for post-secondary endeavors. A variety of literary genres will be addressed in a thematic structure—with a primary focus on American literature. Students will develop vocabulary, reading, writing, grammatical, and discussion skills throughout the course.

**English 12**

**(160)**

Length: 1 Year

Grade: 12

Meeting/Cycle: Daily

Credit: 1

English 12 covers British literature from Beowulf to the present and incorporates both the historical background of each literary period and the development of the English language. Writing assignments relate to the literature and develop various types of composition. A planned study of vocabulary emphasizes improving word knowledge and usage and also includes literary terms. Students complete several short research projects as well as complete MLA and APA research papers.

**Creative Writing**

**(163)**

Length: 1 Semester

Grade: 10-12

Meeting/Cycle: Daily

Credit: .50

This course is designed to advance student understanding of the creative writing process. By exploring several genres including nonfictional essays, short fiction, poetry, and drama, students will be able to express themselves in written forms which reflect development of plot, tone, theme, and characterization. Specific attention will be paid to creative, clear expression and the development of style through use of figurative language and the literary devices. Special consideration will be placed on sharing and evaluating writing. On a regular basis, students will explore ideas through journal writing and the analysis of their own and others’ writings. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**English Literature and Composition - Advanced Placement**

(**165**)

Length: 1 Year

Grade: 12

Credit: 1

This course is designed for the student of superior ability in the English language. The course is designed to provide such a student with a rigorous course in English literature and writing. Intense analytical and critical study of many works of different genres and literary periods is expected. Students may also prepare for an Advanced Placement examination--, which may result in earning college credit. This course requires the students to do extensive amounts of reading, writing, and discussing. Analysis essay writing techniques will be addressed and practice activities provided to allow students to improve and expand their techniques as writers. This is a dual enrollment course with Keystone College. Students may opt to receive college credit. Eligibility and pricing information can be obtained in the high school guidance office. **Prerequisites: Final average of 92% in the previous English course and teacher recommendations will be considered. Students who score a “3” or higher on their AP exam will have their test- taking fee reimbursed.**

**English Literature and Composition- Advanced Placement Lab**

**(166)**

Length: 1 Semester

Grade: 12

Meeting/ Cycle: Daily

Credit: .50

This course is designed to complement the close reading involved in the experience of literature, the interpretation of literature, and the evaluation of literature done in class. Writing to understand a literary work may involve writing response and reaction papers. Writing to explain a literary work involves analysis and interpretation, which may also include writing brief, focused analyses on aspects of language and structure. Writing to evaluate a literary work will also be addressed with emphasis on exploring the author’s underlying social and cultural values through analysis, interpretation, and argument. Writing assignments will focus on the critical analysis of literature and may include expository, analytical, and argumentative essays.

**Yearbook**

**(172)**

Length: 1 Year

Grade: 9-12

Meeting/Cycle: Daily

Credit: 1

This course is designed around the ultimate production of the *Canusarago*, Muncy High School’s annual yearbook. Students will develop skills in the following areas: brainstorming, creating layout design, gathering information, using photography techniques, and writing copy. All students are required to sell advertisements to local businesses to raise money in support of the yearbook. Students must be able to work independently and in a cooperative setting. Prerequisite: Students should be proficient in computer applications and in writing. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**WORLD LANGUAGES**

A four-year sequence of Spanish is offered. A student considering higher education is highly encouraged to take two years of foreign language during his/her high school experience. **World language courses other than Spanish, offered in an online format and taught by PDE certified instructors, are available with administrative approval. A 95% or better in the previous year’s English course is required. These online courses are only available in level one and two and only and must be taught by a PDE certified teacher. The traditional two week add/drop period does not apply to these online foreign language courses. Once a student begins the course, they must complete the course.**

**Spanish I**

**624)**

Length: 1 Year

Grade: 9

Meeting/Cycle: Daily

Credit: 1

This course is designed for students to experience and develop all four language skills – reading, writing, speaking and listening – while expanding their cultural knowledge of Spanish exploration. Students will use their knowledge to create sentences in Spanish and understand various listening passages. At the conclusion of the year, students will be able to use basic vocabulary and sentence forms to carry on a conversation in Spanish.

**Spanish II**

**(634)**

Length: 1 Year

Grade: 10

Meeting/Cycle: Daily

Credit: 1

This course is designed to build on the skills acquired in Spanish I. Students will be able to apply their knowledge of the Spanish language to everyday situations that require speaking, listening, reading, and writing. Upon completion of this course students will have the ability to carry on basic conversations in a Hispanic setting. **Prerequisite: Successful completion of Spanish I.**

**Spanish III**

**(644)**

Length: 1 Year

Grade: 11

Meeting/Cycle: Daily

Credit: 1

This course is designed to be an extension of Spanish II. Students will be able to participate in casual conversations, give simple instructions, as well as describe, report, and provide narration about present, past, and future activities. Students will increase their knowledge of the Hispanic world through the study of Spanish music, current events, and videos about the Spanish culture. **Prerequisite: Successful completion of Spanish II.**

**Spanish IV**

**(654)**

Length: 1 Year

Grade: 12

Meeting/Cycle: Daily

Credit: 1

Students will review all aspects of the Spanish language. Students will compose five-paragraph essays, participate in classroom discussions and oral presentations, as well as read excerpts from novels, short stories, and poems in Spanish. The course is taught entirely in Spanish. **Prerequisite: Completion of Spanish III.**

**Spanish V**

**(658)**

Length: 1 Year

Grade: 12

Meeting/Cycle: Daily

Credit: 1

This course is designed for students who intend to continue taking Spanish; however, do not want to take the Advanced Placement exam. This course requires the student to do an extensive amount of reading, writing, listening, and speaking in Spanish. **Prerequisite: Completion of Spanish IV.**

**Advanced Placement Spanish**

**(659)**

Length: 1 Year

Grade: 12

Meeting/Cycle: Daily

Credit: 1

This course is designed for students who intend to take the AP Spanish exam. This course requires the student to do an extensive amount of reading, writing, listening, and speaking in Spanish. Students will also complete assignments in the summer prior to the beginning of the course. This is a dual enrollment course with Keystone College. Students may opt to receive college credit. Eligibility and pricing information can be obtained in the high school guidance office. **Prerequisite: Completion of Spanish IV with 92% or above OR teacher approval. Students who score a “3” or higher on their AP exam will have their test- taking fee reimbursed**.

**Advanced Placement Spanish Lab**

**(661)**

Length: 1 Semester

Grade: 12

Meeting/Cycle: 1 Semester

Credit: .50

This course is designed to function collectively with Advanced Placement Spanish. This lab will prepare students for taking the Advanced Placement Spanish examination. The lab will consist of the development and practice of test taking skills in the seven major areas of the test: short dialogues, long narratives, reading selections, impersonal writing, formal writing, conversational dialogues, and presentational speaking.

**MATHEMATICS**

**Accelerated Algebra I**

**(432)**

Length: 1 Year

Grade: 9

Meeting/Cycle: Daily

Credit: 1

This course involves the study of the basic structure of algebra from real numbers through algebraic functions to prepare students for the Keystone Algebra I Exam. This course involves exploration of such math concepts as operations with real numbers, variables, solutions and graphs of equations and inequalities, real-world problems, and operations with polynomial functions and rational expressions. This mathematics course connects algebra to the real world and to other subjects. **Prerequisite: 8th Grade Pretest and teacher recommendation**

**Algebra I**

**(431)**

Length: 1 Year

Grade: 9

Meeting/Cycle: Daily

Credit: 1

This course involves the study of the basic structure of algebra from real numbers though algebraic functions to prepare students for the Keystone Algebra I Exam. This course involves exploration of such math concepts as operations with real numbers, variables, solutions and graphs of equations and inequalities, real-world problems, and operations with polynomial functions and rational expressions. This mathematics course connects algebra to the real world and to other subjects.

**General Math**

**(435)**

Length: 1 year

Grade: 10-11

Meeting/Cycle: Daily

Credit: 1

This course is designed for students that need additional preparation before enrolling in Algebra II. Topics covered will include operations with real numbers, exponents, radicals, linear equations, linear inequalities, polynomial expressions, systems of linear equations, functions, coordinate geometry, probability, and data analysis. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Introduction to College Algebra**

**(436)**

Length: 1 year

Grade: 10-12

Meeting/Cycle: Daily

Credit:1

Introduction to College Algebra is designed to strengthen math foundations in pre-algebra, elementary, and some intermediate algebra topics. Enrichment in these topics will prepare students for future placement exams for college. This course will focus on a conceptual understanding of the material so that the students can adapt and apply their knowledge to new but related scenarios. It will also focus on mathematical literacy with the goal to get students to become critical thinkers. TI-84 Plus CE graphing calculators and Chrome Books will be integrated into the curriculum. Students will be issued the textbook: Beginning Algebra and receive an account for Aleks 360 with e-book integration. Aleks 360 will be used as a supplemental online component to enrich learning and mastery. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course. Pre-requisite: Algebra II.**

**Pre-Algebra**

**(422)**

Length: 1 Year

Grade: 9

Meeting/Cycle: Daily

Credit: 2

This course is intended to lay the foundation for Algebra I. Topics include: (1) algebraic expressions and integers; (2) solving equations (one-, two- and multi-step) with integers, decimals and fractions; (3) solving inequalities; (4) rules for exponents; (5) ratios, proportions and percent’s; (6) greatest common factor and least common multiples, including with variable expressions; (7) data analysis; (8) counting principles; (9) introduction to linear functions and graphing; and, (10) areas and volumes, (11) introduction to systems of linear equations. This course is only for students in 9th Grade. This course is only for students in 9th grade and those students will be placed in this section during the 23-24 school year.

**Algebra II**

**(442)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to make mathematics accessible and applicable to students who have successfully completed Algebra I. Students will focus on expanding the following concepts and skills from Algebra I: solving linear functions, exponential functions, and systems of equations and inequalities. Content also covered includes matrices, polynomials, irrational numbers, and complex numbers. Algebra II develops real-world applications: building understanding of the concepts that provide a strong foundation for future courses and careers; connecting Algebra to the real world; involving students in exploring and discovering math concepts; and assessing students’ progress in ways that support learning. **Prerequisite: Algebra I or General Math**

**Accelerated Algebra II**

**(444)**

Length: 1 Year

Grade: 10

Meeting/Cycle: Daily

Credit: 1

This course is designed to make mathematics accessible and applicable to students who have successfully completed Algebra I and to address content necessary for success on the SAT as well as prepare students for Pre- Calculus without taking Algebra III. This course will be taught at an accelerated pace to allow students to be adequately prepared for both requirements. Students will expand their understanding of concepts learned in Algebra I, such as Systems of Equations and Quadratics. Students will focus on the following concepts and skills: polynomial functions, radical functions and rational exponents, exponential and logarithmic functions, and matrices. Additional content will include complex numbers, statistics, sequences, and series. This course develops real-world applications: building understanding of the concepts that provide a strong foundation for future courses and careers; connecting Algebra to the real world; involving students in exploring and discovering math concepts; and assessing students’ progress in ways that support learning. **Prerequisite: Accelerated Algebra I with a 92% or higher and teacher recommendation.**

**Algebra III/Trigonometry**

**(445)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to provide conceptual understanding and contemporary problem solving primarily using the language, symbols, and algorithms of algebra. Algebra III is designed for all students desiring a thorough pre-calculus algebra background with an introduction to trigonometry, but not at the rigorous, intensive level required for taking Advanced Placement Calculus in the future. Problem-solving and applications are emphasized throughout the course. Problems will be represented using the “Rule of Four” − algebraically, graphically, numerically, and verbally. Graphing calculator technology use is integrated throughout the course to facilitate these representations. Students will also be introduced to computer programming. The Algebra III course is offered to 11th graders as a prerequisite to Pre-Calculus and to 12th graders as an enrichment before taking a pre-calculus in college. **Prerequisite: Algebra II and teacher recommendation.**

**Pre-Calculus**

**(454)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to prepare students for the study of calculus and is the prerequisite course for Advanced Placement Calculus AB. Emphasis is placed on the study of functions: polynomial, exponential, logarithmic, rational, and trigonometric. Other topics include sequences, series, analytic geometry, limits, and continuity. Problems will be examined verbally, analytically, graphically, and numerically. **Prerequisite: Accelerated Algebra II or Algebra III/Trig with a 92% or higher and teacher recommendation.**

**Statistics**

**(460)**

Length: 1 Year

Grade: 11- 12

Meeting/Cycle: Daily

Credit: 1

This course is designed to introduce students to topics in descriptive and inferential statistics. A major emphasis will be placed on interpreting the statistical results rather than on the calculations. Technology will play an important role in the course. Major topics include organization of data, descriptive measures, probability, the normal distribution, the Central Limit Theorem, sampling distributions, confidence intervals, hypothesis testing, regression, correlation, chi-square procedures, and analysis of variance (ANOVA). **Prerequisite: Algebra III or Pre-Calculus.**

**Statistics- Advanced Placement**

**(461)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

The AP Statistics course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. There are four themes evident in the content, skills, and assessment in the AP Statistics course: exploring data, sampling and experimentation, probability and simulation, and statistical inference. Students use technology, investigations, problem solving, and writing to build conceptual understanding. The AP Statistics course is equivalent to a one-semester, introductory, non-calculus-based college course in statistics. **Prerequisite:  Enrolled in, or have completed, AP Calculus AB or have completed Statistics with a grade of 92% or higher.  Teacher recommendation will also be considered.  Students who score a “3” or higher on their AP exam will have their test-taking fee reimbursed.**

**Calculus - Advanced Placement (AB)**

**(462)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to enable students to study concepts of differential and integral calculus. (This course is an equivalent to more than a one-semester calculus course at most colleges and universities.) Topics from the syllabus of the College Entrance Examination Board’s Calculus AB Examination will be covered: (1) limits, continuity and rates of change; (2) derivatives; (3) applications of derivatives; (4) integrals (definite and indefinite); and, (5) applications of integrals. All students enrolled in this course are expected to take the Advanced Placement Exam at their own expense. Students who score a 3, 4 or 5 on the AP Calculus AB exam will have their test- taking fee reimbursed by the district. After the AP Exam is completed, that year’s free response questions will be examined in detail and the remainder of the semester will consist of a study of topics that will be covered in the AP Calculus BC course. This is a dual enrollment course with Keystone College. Students may opt to receive college credit. Eligibility and pricing information can be obtained in the high school guidance office. **Prerequisite: Pre-Calculus or Calculus I with a grade of 92% or higher in the most-recently taken of those courses. Teacher recommendation will also be considered. Students who score a “3” or higher on their AP exam will have their test- taking fee reimbursed.**

**Calculus- Advanced Placement (AB) - Lab**

**(466)**

Length: 1 Year

Grade: 10-12

Meeting/ Cycle: Daily

Credit: 1.0

This course is designed to complement the AP Calculus AB course. This course will provide students enrolled in AP Calculus AB with the opportunity to practice and master the graphing calculator procedures required on the AP Exam as well as the opportunity to practice AP Exam-style multiple choice and free response questions. Emphasis will be placed on exam preparation until the AP Exam is taken in early May. Practice exams will be administered over four-day periods. After the AP Exam is completed, that year’s free response questions will be examined in detail and the remainder of the semester will consist of any of the following: (1) additional topics in calculus (e.g., integration by parts, integration by partial fractions, etc.); (2) projects (e.g., constructing models of solids of revolution and solids of known cross-section, research projects, etc.); (3) student presentations of topics of personal interest in mathematics-- not limited to calculus. After the AP Exam is completed, that year’s free response questions will be examined in detail and the remainder of the semester will consist of a study of topics that will be covered in the AP Calculus BC course. Requisite course: Advanced Placement Calculus AB.

**Calculus- Advanced Placement BC**

**(468)**

Length: 1 Year

Grade: 11-12

Meeting/ Cycle: Daily

Credit: 1

Advanced Placement Calculus BC is an extension of Advanced Placement Calculus AB. The topical outline for BC contains all topics in the AB course as well as parametric, polar and vector functions; Euler’s Method; length of a curve; integration by parts; integration by simple partial fractions; logistical differential equations; and, polynomial approximations and series. All students enrolled in Calculus BC are expected to take the Advanced Placement Calculus BC Exam at their own expense. Students will receive both an AB sub-score and a BC score on this exam. Any student scoring a 3, 4 or 5 as their BC score will have their test-taking fee reimbursed by the district. This is a dual enrollment course with Keystone College. Students may opt to receive college credit. Eligibility and pricing information can be obtained in the high school guidance office. **Prerequisite: AP Calculus AB. Students who score a “3” or higher on their AP exam will have their test- taking fee reimbursed.**

**Introduction to Computer Science**

**(770)**

Length: 1 Year

Grade 10-12

Meeting/Cycle: Daily

Credit: 1

Introduction to Computer Programming is designed to give students an introductory experience into the world of computer programming languages. Students will learn elements of computer and tablet technology, internet and networking systems and troubleshooting. Computer languages of Swift, HTML, Python and Java will be explored in order to form a solid foundation of computer programming logic and skills**. Prerequisites: Algebra I.**

**AP Computer Science Principles - Independent Study**

**(475)**

Length: 1 Year

Grade 11-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to be an independent study of AP Computer Science Principles. This is an on-line, independent study course. Individuals taking this course will need to be self-motivated, as the content will be completed independently, without direct in-person instruction. AP Computer Science Principles is an introductory college-level computing course that introduces students to the breadth of the field of computer science. Students learn to design and evaluate solutions and to apply computer science to solve problems through the development of algorithms and programs. They incorporate abstraction into programs and use data to discover new knowledge. Students also explain how computing innovations and computing systems—including the internet—work, explore their potential impacts, and contribute to a computing culture that is collaborative and ethical. **Prerequisites: Introduction to Computer Science and Pre-Calculus.**

**PHYSICAL/HEALTH/& SAFETY EDUCATION**

**Adaptive Physical Education**

**(900)**

Length: Varied

Grade: 7-12

Meeting/Cycle: Varied

Credit: .50

This course is designed to be an adaptive physical education program with the purpose of providing special services for those students who cannot participate in the regular physical education program. This course is divided into three specific areas: adaptive, remedial, and rehabilitative physical education. **Prerequisite: Physician's certification and/or faculty referral.**

**PE/Health 9**

**(930) or (931)**

Length: 1 Quarter

Grade: 9

Meeting/Cycle: Daily

Credit: .25

This course is designed to focus on locker room etiquette, teamwork, sportsmanship, and individual fitness levels. Students will develop skills in a variety of sport activities. Students are expected to exhibit the appropriate behavioral skills, demonstrate fine and gross motor skill development, as well as demonstrate knowledge and confidence needed to adopt and maintain an active lifestyle. The emphasis will be on active participation, promoting good sportsmanship, and working with other students in a variety of activities.

**Driver Education**/ **PE 10**

**(946)**

Length: 1 Quarter

Grade: 10

Meeting/Cycle: Daily

Credit: .25

This course is designed to provide classroom instruction and practice driving a car. The classroom instruction is mandatory and is scheduled during the sophomore year. Students will become familiar with the laws of the Motor Vehicle Code of the Commonwealth of Pennsylvania; take a personal inventory of the physical, mental, and emotional factors which determine efficiency in driving; and develop a realization that attitudes, habits, and emotional reactions affect driving efficiency. The behind-the-wheel driving component is optional. This element of the course is scheduled by appointment with the instructor after students have received their driving permit. Classroom instruction is a prerequisite for practice driving.

**PE/Health 11-12**

**(950) or (951)**

Length: 1 Semester

Grade: 11-12

Meeting/Cycle: Daily

Credit: .50

This course is designed to promote an active lifestyle with an emphasis on life-long activities. Students will review skills and concepts taught in previous years. The curriculum will include activities to promote individual fitness levels and prepare students for life-long activities following graduation.

**SCIENCE**

**Integrated Science**

**(334)**

Length: 1 year

Grade: 10-11

Meeting/Cycle: Daily

Credit: 1

This course is designed to provide students with remediation for the Biology Keystone.  All students who are not proficient on the Biology Keystone will take this course.  The first portion of the course will be spent reviewing key biology keystone anchors.  Students will retest during the first semester.  The second semester will be spent learning topics focusing mainly on applied physical sciences.   Students may take this concurrently with chemistry or accelerated chemistry.**A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Biology**

**(340)**

Length: 1 Year

Grade: 9

Meeting/Cycle: Daily

Credit: 1

This course is designed to teach students the unifying principles that consume the study of life focusing on common life processes. The course gives students a solid understanding of the common themes associated with the many fields within the biological sciences including the nine keystone benchmarks: biological principles, chemistry of life, cells, bioenergetics, cell reproduction, genetics, biotechnology, ecology, and evolution. Students will use a variety of resources including laboratory investigations, computer applications, and research projects to enhance their understanding biology. **All ninth graders will take Biology.**

**Applied Chemistry**

**(349)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to provide students the opportunity to learn, develop and use important chemistry concepts.

The course will provide basic chemical skills to help students in future endeavors including additional coursework and/or employment opportunities. Students will develop skills to enhance their understanding of the chemistry behind issues and problems that students may encounter within the community. This course will have a laboratory component designed to explore chemistry related concerns that occur in people’s lives and communities. Students will propose solutions to such problems and do risk-benefit analysis of chemistry related issues. It is not intended for students that are going to pursue a 4-year college degree in science, math, engineering, or health care related fields. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Chemistry**

**(350)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to give students a background in the field of chemistry and an appreciation of the importance of chemistry in today’s technological society. In the laboratory setting, students will learn how to apply chemistry concepts. The students will explore various experimental designs, utilize technology, and develop conclusions based on experimental information which will be expressed in a lab report format. Topics include the nature of matter, atoms, periodicity, bonding, formulas, equations, states of matter, solutions, acids and bases, and stoichiometry. This course will have a strong math component and students will be expected to perform calculations to support the concepts of a general chemistry class. **Prerequisites: Students must have passed Algebra I and concurrently enrolled in Algebra II or higher.**

**Accelerated Chemistry**

**(352)**

Length:1 Year

Grade:10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to give students a background in the field of chemistry and an appreciation of the importance of chemistry in today’s technological society. In the laboratory setting, students will learn how to apply chemistry concepts. The students will explore various experimental designs, utilize technology, and develop conclusions based on experimental information which will be expressed in a lab report format. Topics include the nature of matter, atoms, periodicity, bonding, formulas, equations, states of matter, solutions, acids and bases, and stoichiometry. This course will have a strong math component and students will be expected to perform calculations to support the concepts of a general chemistry class. Because this is an accelerated class, students should expect supplemental assignments and lab work to challenge students beyond the Chemistry requirements. **Prerequisites: Students must have passed Algebra I with a 92% or higher and concurrently enrolled in Algebra II or higher**.

**Applied Physics**

**(359)**

Length: 1 Year

Grade: 11-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to emphasize the major concepts of Physics while relating them to everyday applications. Topics for this course will include major concepts of forces, motion, energy, power, and simple machines. Heat, sound, magnetism, electricity, and atomic phenomena will be covered is time allows. Physics will provide the knowledge, prerequisite skills, and habits of mind needed for problem solving and ethical decision making about matters of scientific and technological concern, as well as provide a foundation for personal career choices. It is NOT intended for students that are going to pursue a 4-year college degree in science, math, engineering, or health care related fields. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Physics**

**(360)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

Physics is the study of the physical phenomena that we encounter in our daily lives. Students work in teams to learn Physics through a method of engagement, exploration, explanation, elaboration, and evaluation. Physics emphasizes the application of mathematics as a tool to describe the physical universe that surrounds us. The course includes the traditional study of Newtonian mechanics, kinematics, and circular motion. The concepts are presented at a level that requires an understanding of algebra, plane geometry, graphing techniques, and the trigonometry of the right triangle. Students work in teams to learn physics through a method of engagement and exploration. This course is intended for students that are going to pursue a 4-year college degree in science, math, engineering, or health care related fields**. Prerequisites: Successful completion of Algebra II and concurrently enrolled in Pre-Calculus or Algebra III.**

**Accelerated Physics**

**(361)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

Physics is the study of the physical phenomena that we encounter in our daily lives. Students work in teams to learn Physics through a method of engagement, exploration, explanation, elaboration, and evaluation. Physics emphasizes the application of mathematics as a tool to describe the physical universe that surrounds us. The course includes the traditional study of Newtonian mechanics, kinematics, and circular motion. The concepts are presented at a level that requires an understanding of algebra, plane geometry, graphing techniques, and the trigonometry of the right triangle. Students work in teams to learn physics through a method of engagement and exploration. This course is intended for students that are going to pursue a 4-year college degree in science, math, engineering, or health care related fields. Because this is an accelerated class, students should expect challenging supplemental assignments and lab work beyond the Physics requirements. **Prerequisites: Successful completion of Algebra II or Algebra III with at least 92% and concurrently enrolled in Pre-Calculus.**

**Environmental Science**

**(366)**

Length: 1 Year

Grade: 11-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to provide an examination of ecology and environmental issues, with laboratory investigations as a major component. Topics investigated include terrestrial ecology with emphasis on forests, aquatic ecology, and wetland ecology**. Prerequisites: Successful completion of Biology or Integrated Science. It is required students have one Chemistry class prior to this course.**

**Biology - Advanced Placement**

**(368)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to provide interested students with an opportunity to participate in a challenging experience of a college-level course, with the possibility of advanced placement and/or credits as they enter a college or university. Over 30% of the course is laboratory based including all twelve AP recommended laboratories and many additional labs. The course reinforces the themes as listed in the AP Biology Course Description. The themes are arranged in three general areas of biology to include molecules and cells, heredity and evolution, and organisms and populations. This is a dual enrollment course with Keystone College. Students may opt to receive college credit. Eligibility and pricing information can be obtained in the high school guidance office. **Prerequisites: Minimum of 92% in Biology, successful completion of Accelerated Chemistry or concurrently enrolled, and instructor approval. Students who score a “3” or higher on their AP exam will have their test- taking fee reimbursed.**

**Biology – Advanced Placement Lab**

**(370)**

Length: 1 Semester

Grades: 10-12

Meeting/Cycle: Daily

Credit: .50

This course is designed to give students the equivalent laboratory experiences that would be experienced in a two- semester college introductory biology course. The laboratory components of this course will require the time and effort expected of college freshmen. Descriptive and experimental laboratory exercises will be completed to provide the student with the opportunity to learn a number of skills and to apply concepts learned in lectures to the laboratory experience.

**Chemistry - Advanced Placement**

**(364)**

Length: 1 Year

Grade: 10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to prepare students for college-level general chemistry. The content of the course builds on the knowledge acquired in general Chemistry. Advanced Placement Chemistry challenges the student to refine and extend his/her knowledge of the subject manner of chemistry and to improve his/her skills in the experimental work in the laboratory. Students who are taking this course are required to take the advanced placement examination for the subject of chemistry. This is a dual enrollment course with Keystone College. Students may opt to receive college credit. Eligibility and pricing information can be obtained in the high school guidance office. **Prerequisites: Chemistry minimum average of 92%, successful completion of Algebra II or above, and instructor approval. Students who score a “3” or higher on their AP exam will have their test- taking fee reimbursed.**

**Chemistry – Advanced Placement Lab**

**(369)**

Length: 1 Semester

Grade 10-12

Meeting/ Cycle: Daily

Credit: .50

This course is designed to complement the AP Chemistry course and will introduce students to the principles and techniques of experimental chemistry with emphasis on the application of course material to problem solving in the laboratory. Students enrolled in AP Chemistry will also practice and master the chemistry concepts and quantitative analysis required on the AP Exam. In addition, students will practice AP exam-style multiple choice and free response questions. Emphasis will be placed on exam preparation until the AP Exam is taken in early May, with “practice exams” being administered over four-day periods.

**Anatomy & Physiology**

**(372)**

Length: 1 Year

Grade: 11-12

Meeting/Cycle: Daily

Credit: 1

This course is essential for anyone who plans to pursue a career in the health sciences, psychology, or physical education. Students will study the structural and functional relationships within the human body. This knowledge makes it possible to predict how a cell, organ, or organ system will respond to various stimuli, and how this response affects the person. In addition, the student's ability to evaluate her/his own physiological activities, understand recommended treatments, critically evaluate advertisements and reports in popular literature, and interact with health professionals is improved with this background. Students can expect to study the major body systems with emphasis on cytology, system dissections, nutrition, and genetics. Dissection will be a part of this course. **Prerequisites: Successful completion of Biology with at least one year of Chemistry is required.**

**Marine Ecology- Independent Study**

**(374)**

Length: No more than one school year

Grade: 11-12

Meeting/Cycle: Teacher’s discretion

Credit: 1

This course is designed to be an independent study of marine ecology. This is an on-line, independent study course with exams proctored by the instructor. Individuals taking this course will need to be self-motivated, as the content will be completed independently, without direct instruction. Deadlines for units will be established by the instructor and these will be expected to be met. The instructor will communicate with students via e-mail and personal contacts outside of the traditional class. Activities will include hands-on, independent labs, written reports, and papers. Topics will include the marine environment, plankton, nekton, benthos, deep sea ecology, coral reef ecology and intertidal ecology. Students will need high speed Internet access (DSL or better), Microsoft Word and Excel, a free six-month trial download of Mini tab is also suggested. All on-line readings, activities and labs are required for successful completion of this course. Unit exams will be proctored. Students should expect to spend a minimum of 120 hours through the course.  **Prerequisite: Successful completion of Biology and Chemistry, or Accelerated Chemistry and instructor approval.**

**Physics - Advanced Placement**

**(380)**

Length: 1 Year

Grade 11-12

Meeting/Cycle: Daily

Credit: 1

AP Physics is intended for those students who plan to major in the physical sciences, mathematics, engineering, and medicine and who plan on taking the AP Physics C – Mechanics Exam. This class is intended to be representative of a common college or university level calculus-based physics course (mechanics and dynamics). Students who are taking this course are required to take the advanced placement examination for the subject of AP Physics C Mechanics exam. The main emphasis of AP Physics at Muncy Junior Senior High School is to develop the students’ abilities to use mathematical reasoning in problem solving and physical situations ant to preform experiments and interpret the results of observations.

This is a dual enrollment course with Keystone College. Students may opt to receive college credit. Eligibility and pricing information can be obtained in the high school guidance office. **Prerequisites: Successful credit and completion of Pre-Calculus with a final grade of 92% or better; taking Calculus or AP Calculus concurrently. Students who score a “3” or higher on their AP exam will have their test- taking fee reimbursed.**

**Physics – Advanced Placement Lab**

**(381)**

Length: 1 Year

Grade 11-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to complement the AP Physics Course. This course will provide additional emphasis on the application of course material to problem solving strategies and laboratory investigations. Students enrolled in AP Physics will also have the opportunity to sharpen their problem-solving skills and deepen their understanding of physics principles required for the AP Physics C – Mechanics Exam. Much of the time in lab will be spent in laboratory activities or improving problem solving skills.

**SOCIAL STUDIES**

**American Civics**

**(231)**

Length: 1 Year

Grade: 9

Meeting/Cycle: Daily

Credit: 1

This course is designed to focus on citizenship rights and responsibilities. Students will examine immigration, naturalization, voter rights and governmental functions. The structure of the federal, state, and local governments will be examined, with major emphasis placed on the national and local governments. This course will enhance students’ abilities to understand government in everyday life and take an active role in all levels of government. Students are required to take a state mandated final exam in this course.

**World Cultures II**

**(241)**

Length: 1 Year

Grade: 10

Meeting/Cycle: Daily

Credit: 1

This course is a blend of ancient and contemporary resources designed to increase students’ knowledge of the effects of history and geography on various cultures. The course emphasizes world history and geography from the Enlightenment to the twentieth century.

**American Cultures II**

**(252)**

Length: 1 Year

Grade: 11

Meeting/Cycle: Daily

Credit: 1

This course is designed to provide a study of American history and culture from 1865 until the present, emphasizing the economic, social, and political development of the United States over the last century and a half of American history. This course focuses on why political movements have taken place, what effects they have had, and what are the dynamics of the United States currently.

**Principles of Democracy/Economics**

**(260)**

Length: 1 Year

Grade: 12

Meeting/Cycle: Daily

Credit: 1

This courseis a survey course of American government and economic systems. By concentrating on how the government affects our contemporary society, students will become acquainted with the political, economic, and social problems that face our nation today. It prepares students for responsible citizenship thorough the understanding of present-day ideas, institutions, achievements, and problems that currently exist in our society. The purpose of the Economics section is to introduce both micro and macroeconomics by examining how individuals and nations make choices and how those choices affect our government and society.

**Contemporary History**

**(264)**

Length: 1 Semester

Grade: 10-12

Meeting/Cycle: Daily

Credit: .50

This course focuses on major foreign and domestic problems facing the United States today. The class will examine the impact of any current issue facing the country or the world.  Students will analyze and evaluate the alternatives the United States government has in handling problems and the possible impact of carrying out those potential alternatives.

**Sociology**

**(265)**

Length:1 Semester

Grade:10-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to be an interdisciplinary approach to the study of human behavior and relationships. It provides students with a comprehensive study of basic concepts principles and practices of sociology, while incorporating examples from psychology, world cultures, geography, and anthropology. Major emphasis is placed on critical thinking and writing in the social sciences.

**U.S. History - Advanced Placement**

**(266)**

Length: 1 Year

Grade: 11-12

Meeting/Cycle: Daily

Credit: 1

This course is a survey of United States History from 1491-to present. One of their major goals is to provide students with a rich, balanced, and thought-provoking treatment of the American past. The course is designed to provide a comprehensive overview of U.S. history and provide students with the analytical skills and factual knowledge necessary to deal critically with the problems and materials in U.S. history. This course develops the skills necessary to arrive at conclusions based on an informed judgment, and to present reasons and evidence clearly and persuasively in essay format. The goal is for students to be prepared to take the college-level examination, which could earn college credit in U.S. History. Preparation for this exam, as well as course requirements will include striking a balance between learning factual knowledge and increasing critical thinking skills of analysis, interpretation, synthesis, and evaluation. The course is designed for students with a very solid history background who have a desire to study United States history in detail. All students enrolling in this course are required to take the Advanced Placement Examination offered in May. This is a dual enrollment course with Keystone College. Students may opt to receive college credit. Eligibility and pricing information can be obtained in the high school guidance office. **Prerequisites: Final average of 92% in the previous course and teacher recommendations will be considered. Students who score a “3” or higher on their AP exam will have their test- taking fee reimbursed.**

**U.S. History- Advanced Placement Lab**

**(267)**

Length: 1 Year

Grade 11-12

Meeting/ Cycle: Daily

Credit: .50

This course is designed to provide students with the analytic skills and factual knowledge necessary to deal critically with problems and issues in United States history. Students will use the AP Lab to develop the skills necessary to assess, evaluate and make the interpretations necessary in preparing for the AP exam.

**Advanced Placement Psychology**

**(270)**

Length: 1 Year

Grade 11-12

Meeting/Cycle: Daily

Credit: 1

Advanced Placement Psychology is designed to provide students with a systematic and scientific study of behavior and mental processes of humans and other animals. Students will be introduced to the core concepts of Psychology in both traditional and contemporary viewpoints. Other subfields and associated material provide students with a broad spectrum of understanding in the field of human studies and social understanding. This course is designed as an equivalent to a university course of 101 Introduction to Psychology. Students will be expected to handle moderate amounts of reading and understanding of scientific theory, replication of historical and modern psychological research. All students enrolling in this course are required to take the Advanced Placement Examination offered in May. This is a dual enrollment course with Keystone College. Students may opt to receive college credit. Eligibility and pricing information can be obtained in the high school guidance office**. Prerequisites: Final average of 92% in the previous course and teacher recommendations will be considered. Students who score a “3” or higher on their AP exam will have their test- taking fee reimbursed.**

**Advanced Placement Psychology Lab**

**(271)**

Length; 1 Year

Grade 11-12

Meeting/Cycle: Yearly

Credit: .50

This complimentary course is designed to enhance and reinforce the ideas and instruction in AP Psychology. In this course students will commonly use scientific data or methods to validate or refute historical and contemporary psychological experiments and methods of research. Lab work is meant to be equivalent to that of a college freshman course level.

**UNIFIED ARTS**

**Fine Arts/Art**

**Ceramics**

**(781)**

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

This course is designed for students to develop different techniques with clay and glass. Exposing students to the aesthetics relevant to various media and techniques of the cultures from which they evolved is part of the process. Students will create original clay art using the Principles & Elements of Art in projects such as tiles, mosaics, hand-built construction, and drape ware. Students will spend the second half of the year exploring the possibilities of art with glass. Students will again create original art using the Principles & Elements of Art in glass projects such as fused glass, glass slumping, dichroic glass, and stained glass. Students will learn to evaluate, analyze, and critique their own work and that of others in a productive way using art specific vocabulary. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course**

**Drawing and Painting**

**(782**)

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

This course is designed for students to delve into the mechanics of drawing/ painting. Students will be exposed to the aesthetics relevant to various media and techniques from which they evolved. Students will demonstrate knowledge and use of the Principles & Elements of each art form in production of specific drawing and painting projects and verbal articulation of explanations and critiques. Projects will encompass still-life drawing, landscape, human form, three-dimensional art, color theory, and computer-generated art. Students will learn to evaluate, analyze, and critique their own work and that of others in a productive way using art specific vocabulary. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Textiles and Design**

**(783)**

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

This course is designed for the student to explore different materials techniques and design aspects within each media. Students will be exposed to the aesthetics relevant to various media and techniques of the cultures from which they evolved. Students will create original textile art using the Principles & Elements of Art in projects such as fabric dying, batik, gutta resist, weaving, paper making, book art, printmaking, quilting and embellishing. Students will learn to evaluate, analyze, and critique their own work and that of others in a productive way using art specific vocabulary. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course**.

**Graphic Arts**

**(786)**

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

The Graphic Arts course covers a broad range of art forms. Graphic art is typically two-dimensional and includes calligraphy, photography, drawing, painting, printmaking, lithography, typography, silk-screen printing, and bindery. This course is designed to also have a computer-generated component to the art class. Students will be using Photoshop type applications along with other desktop programs to enhance graphic art projects. Students will learn to evaluate, analyze, and critique his/her own artwork and that of others in a productive way using art specific vocabulary. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Fine Arts/Music**

# Band 9 - 12

**(701- Full Year) or (702- One Semester)**

Length: 1 Semester or 1 Year

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50 or 1

This course is designed for the student who wishes to further his/her knowledge of music and their instrument through performances. This class rehearses in school as well as after school to prepare for the various concerts and home football games throughout the year. Any junior high student enrolled in this class will have the opportunity to audition to perform in the Lycoming County Band Directors Association Junior County Band Festival. Additionally, any senior high student enrolled in this class will have the opportunity to audition to perform in other ensembles outside of Muncy Jr./Sr. High School. (A student may take band and chorus simultaneously during a semester.) **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Chorus 9-12**

**(711- Full Year) or (712- One Semester)**

Length: 1 Semester or 1 Year

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50 or 1

This course is designed for the student to further his/her knowledge of music and vocal music through performance. This class rehearses in school to prepare to perform in concerts throughout the school year. Any seventh and eighth grade student enrolled in this class will have the opportunity to audition to perform in the Lycoming Junior High County Chorus Festival. Any Senior High student enrolled in this class will have the opportunity to audition to perform in PMEA Festivals. (A student may take chorus and band simultaneously during a semester.) **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Music Theory**

**(709)**

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

This course is designed for the student who wishes to further his/her knowledge of music through learning the fundamentals of music theory. This class will delve into basic reading of notation, understanding intervallic and chordal structure, scale fundamentals, and roman numeral chordal analysis. Students will need to have performed with the band or chorus to take this course.  **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Music Technology**

**(730)**

Length: 1 Semester

Grade: 9-10

Meeting/Cycle: Daily

Credit: .5

This course is designed to educate students on how to create, edit, and record music. Music technology will use computer technology and music recording software and hardware. Students will develop their musical communication, collaboration, and editing skills during class. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Practical Arts/Industrial Arts/Technology Education**

**CAD I**

**(735)**

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

This course is designed to an introductory course in which students will learn basics of technical drawing, as well as rendering and rapid prototyping. Students will learn basic board drafting techniques as well as geometric constructions. Instruction in the use and function of the computer aided drafting (CAD) programs and accepted drafting techniques and conventions will be demonstrated. Students will explore 2D CAD and 3D solids modeling programs as well as integration of vector and raster image programs into the engineering design process. This course is recommended for students interested in entering the fields of engineering (civil or mechanical), drafting/design and/or architecture. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Technology I**

**(736)**

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

This course is designed to be a direct application of current technical topics in manufacturing, construction, communications, energy, power, and biotechnology. The main goal of this course is to provide instruction in the use of technology for identifying and collecting data, making, and validating hypotheses, and problem solving. Mathematical reasoning and mathematical concepts such as charting and graphing will also be part of the course content. This course is for any student with a strong desire to learn how technology applies to a wide variety of industrial and experimental applications. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course**.

**Methods and Material of Woodworking I**

**(745)**

Length: 1 Semester

Grade 9-12

Meeting/Cycle: Daily

Credit: .50

This course is designed to be an introductory course where students will learn the science of various materials and gain experience in working with various building materials. This course is designed to teach students basic scientific properties of materials as well as proper tools and techniques for cutting, shaping, and finishing each medium. Students will work individually to complete projects that incorporate woods, plastics metals, ceramics, concrete and engineered materials. In a culminating experience, students will employ skills learned throughout the course to design and fabricate a project of their choice with the permission of the instructor. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Technology II**

**(748)**

Length: 1 Year

Grade: 9-12

Meeting/Cycle: Daily

Credit: 1

This course is designed to be a study of advanced applications in manufacturing, construction, communications, energy, power, and biotechnology. The main goal of this course is to provide instruction in the use of technology for identifying and collecting data, making, and validating hypotheses and problem solving. Mathematical reasoning and mathematical concepts such as charting and graphing will also be part of the course content. Advanced applications in digital electronics, robotics, CAD/CAM, and graphical design technology will be explored. Students will be expected to develop prototype solutions to real- world problems and communicate design solutions to their peers. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Methods and Material of Woodworking II**

**(755)**

Length: 1 Semester

Grade 9-12

Meeting/Cycle: Daily

Credit: .50

This course is designed to be an intermediate course where students will learn the science of various materials and gain experience in working with various building materials. This course is designed to teach students in-depth scientific properties of materials as well as proper tools and techniques for cutting, shaping, and finishing each medium. Students will work individually to complete projects that incorporate wood, plastics, metals, ceramics, concrete and engineered materials. In a culminating experience, students will employ skills learned thought the course to design and fabricate a project of their choice with the permission of the instructor. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Methods and Materials of Woodworking III**

**(765)**

Length: 1 Semester

Grade 10-12

Meeting/Cycle: Daily

Credit: .50

This course is designed to be an advanced course in which students will learn advancements in material science. Students will gain experience in material processing techniques as well as tool care and maintenance. Students will explore concepts and techniques in bending wood, forming plastics, casting ceramics, and employing advanced finishing techniques. Students will complete projects to gain experience in each medium. In a culminating experience, students will employ skills learned thought the course to design and fabricate a project of their choice with the permission of the instructor. **A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**CAD II-Independent Study**

**(766)**

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

Architecture is an advanced course where students will learn advanced elements of technical drawing, rendering and rapid prototyping. Instruction in the use and function of the computer aided drafting (CAD) programs and accepted drafting techniques and conventions will be demonstrated. Elements of house design from planning to design consideration will be addressed. Students will learn about house designs from the aspects of structure, interior, exterior, roofs, plumbing, electrical, HVAC and engineering design. Exercises are designed for students to learn about aspects and codes involved in each element of house design from foundation planning to kitchen design. Students will explore Building Information Modeling (BIM) which allows for structural analysis as well as cost analysis. This course is recommended for students interested in entering the fields of Architecture, drafting/design and/or Architectural Engineering and is for students who are self-motivated to learn independently, in an online environment. **Prerequisites: Successful completion of CAD I and teacher recommendation. A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**CAD III-Independent Study**

**(769)**

Length: 1 Semester

Grade 10-12

Meeting/Cycle: Daily

Credit: .50

Solid Modeling is an advanced course where students will learn advanced elements of technical drawing, rendering and rapid prototyping. Instruction in the use and function of the computer aided drafting (CAD) programs and accepted drafting techniques and conventions will be demonstrated. Elements of Engineering Design will be addressed from part creation to assembly to engineering drawing creation. Students will study on-screen testing analysis and well as rendering and animation of mechanical drawings using SolidWorks. Units in mechanics such as power transmission, pneumatics and hydraulics will be studied. Students will also gain insight into the world of automation through the study of LASER, CNC, and rapid prototyping activities. This course is designed to be for students who are interested in the field of Mechanical Engineering and who have a desire to learn in an independent, online environment and experiment with 3D drawing software. **Prerequisites: Successful completion of CAD I and teacher recommendation. A warning to all prospective student athletes at the NCAA level: the NCAA Clearinghouse does not approve this course.**

**Practical Arts/Family and Consumer Science**

**Family and Consumer Science I**

**(744)**

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

This course is designed around activity-based mini-units. The topics of this course include using the muffin and biscuit mixing methods, understanding the principles of baking and the function of ingredients, as well as the chemistry of baking. Attention will be given to using ingredients to promote healthy eating and prevention and treatment of diseases, as well as gaining an understanding of current fad diets and eating disorders. **A warning to all prospective student athletes at the NCAA level: this course is not approved by the NCAA Clearinghouse.**

**Tastes of Culture**

**(754)**

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

Tastes of Culture course explores the connections between what we eat and cultures around us. As we move around the globe, this course will cover the history and topography as it relates to each region’s dietary customs, cuisines, and cooking methods. By investigating cultural, spiritual, and social influences on food choices, you can gain an awareness and understanding of diverse populations within our society. **A warning to all prospective student athletes at the NCAA level: this course is not approved by the NCAA Clearinghouse.**

**Family and Consumer Science II**

**(756)**

Length: 1 Semester

Grade: 9-12

Meeting/Cycle: Daily

Credit: .50

This course is designed to provide students with the basic food preparation methods, such as roasting, baking, steaming, sautéing, and slow cooking. It includes freezing, canning, and drying of local, seasonal food, to preserve for future use. The baking unit will emphasize yeast breads. Students will also explore ethnic foods and dishes. **A warning to all prospective student athletes at the NCAA level: this course is not approved by the NCAA Clearinghouse.**

**Special Education**

**Academic Instructional Support**

**(090 -092)**

Length: 1 Year

Grade: 9-12

Meeting/Cycle: Daily

Credit: 1

This course is designed for identified students. The class is designed to facilitate and develop independent work ethic and study habits that will provide students with skills to be successful beyond high school. Additionally, this course focuses on progress monitoring of individualized education plan (IEP) goals. This course is a requirement for all identified students during both semesters of the school year. **A warning to all prospective student athletes at the NCAA level: this course is not approved by the NCAA Clearinghouse.**

**LYCOMING CAREER AND TECHNOLOGY CENTER**

Students may enroll in a vocational-technical system offering program clusters through the Lycoming Career Center. The program clusters are three year/levels; a student may enroll for one to three years in grades 10, 11, or 12. If you are seeking entry level technology skills, not sure of a career choice; desiring specialized technical training relating to a college major - contact your guidance counselor. Admittance into LCTC is at the discretion of the sending school. There are several factors which determine if a Muncy High School student will be eligible to attend LCTC. The three main factors are attendance history (including tardies), prior discipline referrals, and academic standing. All three of these factors will be examined for each student who requests to attend LCTC prior to their enrollment. The following coursed descriptions were written by LCTC instructors and were approved by their local governing body.

**LycoCTC Career Pathways – Program Offerings for 2024-2025**

**See LCTC Course Catalog**