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Mission Statements

HENRY COUNTY HIGH SCHOOL
MISSION STATEMENT

Our Mission at HCHS is to create an environment where our students become effective citizens through learning and building relationships in our school and community.

DISTRICT MISSION STATEMENT

Empowering leaders and life-long learners for an ever-changing world.

EQUAL EDUCATIONAL OPPORTUNITIES

No Pupil shall be discriminated against because of age, color, handicap, parental status, marital status, race, national origin, religion, sex, or veteran status. Policy 09.13.

The policy manual is available online at www.henry.kyschools.us.
Henry County High School Graduation Requirements

State Requirements
The Kentucky Department of Education has recently changed the requirements for graduation. Currently, the requirements differ depending upon the year in which the student began high school. The state requirements are linked below.

KDE: New Minimum Graduation Requirements  Graduation Requirements by High School Entry Date

Additional HCHS Requirements
In addition to state requirements HCHS also requires that students are considered Transition Ready in order to be considered for graduation. Students are also required to complete Life 101 their senior year of high school. Credit tracking sheets are linked below to assist parents and students with keeping track of requirements. In addition to graduation requirements, students can also complete two consecutive credits of Foreign Language in order to complete a pre-college curriculum.

Class of 2021  Class of 2022  Class of 2023  Class of 2024
**Transition Readiness**

All Henry County students are required to be *transition ready* in order to be considered for graduation.

**Academic Readiness**
- Benchmark on the ACT: 18 English, 19 Math, 20 Reading.
- A grade of C, or better, in two approved dual credit courses. Demonstration of Academic Readiness shall include one quantitative reasoning or natural sciences, and one written or oral communication, or visual and performing arts, or humanities, or social and behavioral sciences.
- A score of 3+ on exams in 2 AP courses. (Not currently offered at HCHS)
- A score of 5+ on 2 exams for IB courses. (Not currently offered at HCHS)
- Students may also achieve Academic Readiness by completing a combination of the above listed academic indicators.

**Career Readiness**
- Receiving an Industry Certification in an KDE Approved career pathway.
- Scoring at or above the benchmark on the Career and Technical Education End-of-Program Assessment for articulated credit.
- A grade of C or higher in each course on 6 hours of KDE-approved Career and Technical Education dual credit.
- Completing a KDE/Labor Cabinet approved apprenticeship.
- Completing a KDE-approved alternate process to verify exceptional work experience.

**English Language Readiness (only required for English Learners)**
- Meeting exit criteria for English language proficiency (Overall composite of a 4.5 on a Tier B/C for any student who received English Language services during high school.
- English Language Learners are included in academic and career readiness in addition to English Language Readiness.
Henry County High School Career Pathways

Students will be considered preparatory for a pathway when they have successfully completed 2 courses in the pathway and are enrolled in a 3rd. In order to become Career Ready students must pass the career certification that is required for their pathway. In order to track their pathway, students may use the Pathway Tracking Sheet that is linked below.

Pathway Tracking Sheet

**Agriculture - Horticulture**
Principles of Agriculture Science and Technology
Landscaping and Turf Management
Greenhouse
Ag Co-op

**Agriculture - Animal Science**
Principles of Agriculture Science and Technology
Animal Science
Animal Science Technology/Dual Credit AGR 100 or 182
Ag Co-op

**Agriculture - Ag Power and Construction**
Principles of Agriculture Science and Technology
Small Power and Equipment
Agriculture Construction Skills
Ag Co-op

**Air Force JROTC**
Air Force JROTC 1
Air Force JROTC 2
Air Force JROTC 3
Air Force JROTC 4
Air Force JROTC Aide
HCHS Pathways - Continued

**Business Admin Support** - These courses may be taken out of order, with the exception of those requiring a prerequisite.
- Digital Literacy or CIT 105
- Business and Marketing Essentials
- MOS or CIS 235
- Account and Finance Foundations

**Education**
- The Learning Community (EDU 101)
- The Learner Centered Classroom (EDU 204)
- The Professional Educator (EDU 304)
- Collaborative Clinical Experience

**Engineering Technology Education**
- Engineering 1
- Engineering 2
- Advanced Design Applications
- Building Construction
- Engineering Capstone

**Health Sciences - Allied Health**
- Principles of Health Sciences or HST 102
- Medical Terminology or AHS 115
- Emergency Procedures
- Medical Math
- Anatomy
- Allied Health Internship/Practicum I
HCHS Pathways - Continued

**Health Sciences - Nursing**
- Principles of Health Sciences or HST 102
- Medical Terminology or AHS 115
- Emergency Procedures
- Medical Math
- Anatomy
- HST 104 Medical Nurse Aid

**Information Support and Services**
- Computer Literacy or CIT 105
- Computer Hardware and Software Maintenance or CIT 111
- Help Desk Operations or CIT 155
- Management of Support Services or CIT 157
- Technology Internship

**Media Arts**
- Introduction to Media Arts
- Video Studio Fundamentals
- Studio Directing and Performance
- Advanced Studio Directing
HCHS students will register for courses in February. Students will meet first with their homeroom teacher to select their courses for the following year. Schedules should be completed by considering a combination of student interest (ILP), graduation requirements, and career pathway required courses.

The completed registration sheet will then be taken home to parents for approval. After the parent and student have signed the registration form it must be returned to the counseling office. Questions and comments can be directed to the counseling office at (502) 845-8677.

Parents and students wishing to have individual counseling for schedules will schedule an appointment with their student’s counselor.

**Note:** Incoming Freshman will have a dedicated scheduling night on February 10th where parents and students can ask questions and get assistance completing their schedules. Freshman Scheduling Night will be from 4:40-7:00pm.

**Registration Sheets**
- 9th Grade Registration Sheet
- 10th Grade Registration Sheet
- 11th Grade Registration Sheet
- 12th Grade Registration Sheet

**Credit Tracking Sheets**
- 9th Grade Credit Tracking Sheet
- 10th Grade Credit Tracking Sheet
- 11th Grade Credit Tracking Sheet
- 12th Grade Credit Tracking Sheet
Dual Credit

Dual credit is an excellent opportunity for the students of HCHS! Through our partnerships with multiple universities and colleges, we are able to offer a wide array of dual credit options to our students. By taking dual credit courses students can earn both college credit and high school credit for the same course.

**Dual Credit Scholarships**
Currently, the state offers dual credit scholarships to all students enrolled in dual credit classes, if they are residents of the state. Students in grades 9-12 have access to the Kentucky Work Ready Dual Credit Scholarship. These scholarships can be used for any KDE approved CTE dual credit course. Students will receive two of these scholarships each year of high school, as long as the program is in effect. Students in grades 11-12 will also receive two additional scholarships to be used on any KDE approved dual credit course. Students will only receive two of these for their lifetime. These scholarships, combined with HCPS’s commitment to cover the remainder of tuition means that students have access to up to 30 credit hours of college credit for free!

**Dual Credit Offerings and Partner Institutions**

**Dual Credit Contract**
Students and parents must familiarize themselves with the dual credit contract that is linked to the text above. This document must be signed and returned to the counseling office before the student can be enrolled in a dual credit course.
Early College - Off Campus JCTC Students

HCHS has partnered with Jefferson Community and Technical College to offer 12th grade students, who are advanced in their studies, an opportunity to attend college early on the JCTC Carrollton Campus. Students who are interested in this program must meet all enrollment requirements for JCTC. They must also enroll and remain in at least 4 courses each semester including, ENG 100, ENG 200, and a math course. In order to be considered, students must be consider Academic ready and have benchmarked on the ACT (English 18, Math 19, Reading 20, Composite 18), or an equivalent. Students enrolled in JCTC Off Campus are still required to complete all graduation requirements including, Life 101. This can be completed by the student via an online program.

JCTC Off Campus Information and Contract
iLEAD Academy

iLEAD Academy is a collaborative project of the Henry, Carroll, Gallatin, Owen, and Trimble County Schools. This regional high school, located in Carroll Co., offers a completely personalized high school experience for students from each of these districts.

iLEAD Academy prepares students for high-demand, high-wage careers in Advanced Manufacturing, Engineering, and Technology. Each student develops a personalized pathway of study based on career interests and goals, choosing among courses at iLEAD, the Carroll County Area Technical Center, and in iLEAD’s digital curriculum. Teachers at iLEAD provide coaching and instruction to students whether in class, working on projects, or taking courses online. All students are enrolled in a Project Lead the Way (PLTW) pathway in which they apply concepts of engineering, science, math, and technology to solve complex problems in a real-world context. Students choose to earn work certifications aligned to their career goals - including PLTW, electrical, health, and informatics.

Each student works at his or her own pace but with the common goal of being "College Ready" by the end of the sophomore year. When students demonstrate mastery of a subject they move on to the next level. No student waits to advance into the next grade to progress in their coursework or toward college readiness.

Students meeting Kentucky’s College Readiness benchmarks enroll full-time at Jefferson Community and Technical College in Carrollton. Students can graduate from iLEAD with a high school diploma and an Associate’s Degree.

iLEAD's flexible learning environment is designed to facilitate development of essential workplace skills such as self-direction, goal setting and monitoring one's own progress, group work and collaboration. Each student is assigned a laptop and may use this and personal devices to learn and work anywhere and at any time.

Students may apply to attend iLEAD Academy in the spring of their 8th grade year. For more information, please contact the middle school or high school counselors or principals.
The Center for Educational Options is the district’s alternative school; a program of choice with an emphasis on self-growth/work and reflection. CEO provides an alternative education setting for behaviorally or socially at-risk students who, for a variety of reasons, are not successful in a traditional school setting.

The Center for Educational Options is a place that recognizes the necessity to minister to the whole person. It’s a place where students who haven’t been successful at traditional school, receive the supports necessary for them to complete their high school requirements. CEO specializes in using varied and creative ways to teach the material, and their teaching methods are often much more tailored to each student’s learning preferences. CEO tailors a program that is both individualized to the needs of each student, and focused on developing a community that is accountable to one another. The purpose of CEO is to provide students opportunities for success by helping each person identify and build upon their own personal strengths. We work together to create unique ways to motivate and encourage each other to do quality work in the classroom and into the community beyond.

CEO offers students a more therapeutic environment as well. They have access to their very own certified school counselor to help with their needs on an individual or group basis. In CEO, students receive instruction in social, emotional, and life skills through the Discovery program—a SKILLS-based curriculum that creates positive change in students. Through the Discovery Program, students can develop many of the social skills necessary to be successful in school and in life, as well as promoting academic success.

More than anything, CEO and the Discovery Program is student driven, teaching the interpersonal and intrapersonal skills necessary to be a contributing and self-sufficient citizen of a community (emotion management, communication skills, assertiveness training, problem solving, and conflict resolution). Discovery teaches students to be successful in and out of school by teaching them how to communicate effectively, develop time management skills, resolve conflicts, and set life goals, manage their emotions.

For more information on who might be a good candidate or our referral process. Click here
In addition to all courses listed in the HCHS program of studies CEO students will also have available to them the following courses:

**Course**

**Life Skills/Practical Living I – II (grades 9-12)** Discovery curriculum: Students will learn (and be expected to use) a set of life skills designed to promote effective social interactions: communication skills (Transactional Analysis), emotion management, group skills, assertiveness, problem-solving, and conflict resolution. Additionally, students will use this class to develop and refine their Individual Learning Plan. **Credit: 1**

**Life Skills/Practical Living III-IV (grades 9-12)** Building on the social skills learned in Life Skills I & II and the ILP they developed in that course, students will learn practical life skills that will allow them to make better decisions regarding financial planning, career planning and employment, accessing community resources, healthy lifestyle choices, intimate relationships and other topics relevant to productive and successful independent living. **Credit: 1**

**Literacy (grades 9-12)** This class is designed to enhance reading and writing skills. Based on assessment results, students will receive specific instruction to improve their individual skill levels. This may be foundational reading comprehension and writing organization strategies for some students. Others may work on an advanced research topic of their choice, demonstrating an ability to critically interpret a variety of print materials in their career cluster in order to synthesize a written and visual presentation. **Credit: 1**
Agriculture- Horticulture (Plant Science) Pathway

**Principles of Agriculture Science and Technology** - (grades 9-11) A foundational course for each of the agriculture pathways describing the principles, theories and science of the agricultural food, fiber, natural resources industries. It is a science-based course that provides instruction in the foundations of the various segments of the agricultural industry. Agricultural career opportunities will be emphasized. Environmental technology, animal science, and plant and land science will be the focus of the curriculum. Laboratory experiences will be used to emphasize concepts. The selection, planning and implementation of a supervised agricultural experience program and related record keeping will be a major component of the class. Leadership development will be provided through FFA. **This course must be taken before any other agriculture course or with another agriculture course for agriculture career cluster.** (1 credit) (Semester class)

**Landscaping and Turf Management** – (grades 10-12) A course that describes theories, principles and the science of Landscaping and Turf Management. Students will seek industry certification in pesticide application. Includes design and drawing, choosing plant materials, maintenance, marketing, etc. Content may be enhanced by utilizing appropriate technology. Leadership development will be provided through FFA. Each student will be expected to have a supervised agricultural experience program. **Prerequisite: Principles of Agriculture Science and Technology** (1 credit) (Semester class) **NOT OFFERED EVERY YEAR**

**Greenhouse Technology** - (grades 10-12) A course that describes theories, principles and the science of producing plants and crops within the greenhouse environment. All students will have the opportunity to work in the greenhouse both during and outside of class hours. Leadership development will be provided through FFA. Each student will be expected to have an supervised agricultural experience program. **Prerequisite: Principles of Agriculture Science and Technology** (1 credit) (Semester class)

**Ag Co-Op** - (Grade 12) Students enrolled in Ag Co-Op will have the opportunity to learn career related skills on paid and non-paid job sites. Each site will be monitored by teacher and assistance will be given to make the placement successful. Students are required to seek a placement in a career pathway in which they have completed a pathway (or are enrolled in classes that would complete that pathway). They should have Cs or above in each class in that career pathway. Students must have a driver’s license. Students will have the option of a 1 period co-op where they work 6 hours per week or a 2 period co-op where they work 12 hours per week. **Student must be transition ready in order to be considered.** (1 credit per class per semester)
Agriculture- Animal Science Pathway

**Principles of Agriculture Science and Technology** - (grades 9-11) A foundational course for each of the agriculture pathways describing the principles, theories and science of the Agricultural food, fiber, natural resources industries. It is a science-based course that provides instruction in the foundations of the various segments of the agricultural industry. Agricultural career opportunities will be emphasized. Environmental technology, animal science, and plant and land science will be the focus of the curriculum. Laboratory experiences will be used to emphasize concepts. Content may be enhanced by utilizing current industry accepted technology. The selection, planning and implementation of a supervised agricultural experience program and related record keeping will be a major component of the class. Leadership development will be provided through FFA. **This course must be taken before any other agriculture course or with another agriculture course for agriculture career cluster.** (1 credit) (Semester class)

**Animal Science** - (grades 10-11) A course that describes the theories, principles and science of animals and animal products, etc. Students will have experiences in various animal science concepts with exciting “hands-on” activities, projects, and problems. Units emphasized include animal anatomy, physiology, behavior, nutrition, and reproduction. Laboratory experiences will be used to emphasize concepts. Content may be enhanced by utilizing current industry accepted technology. Leadership development will be provided through FFA. Each student will be expected to have an agricultural experience program. **Prerequisite: Principles of Agriculture Science and Technology** (1 credit) (Semester class)

**Animal Technology/Dual Credit AGR 100 or 182** - (grades 11-12) Students are encouraged to enroll in Animal Technology first. Students could receive a college credit in addition to a high school credit if they meet Murray’s requirement of a 3.0 OR top half of their class. Course will cover science and management and will result in a change to receive an industry certification. **Prerequisite: Principles of Agriculture Science and Technology and Animal Science** (1 credit) (Semester class)

**Ag Co-Op** - (Grade 12) Students enrolled in Ag Co-Op will have the opportunity to learn career related skills on paid and non-paid job sites. Each site will be monitored by teacher and assistance will be given to make the placement successful. Students are required to seek a placement in a career pathway in which they have completed a pathway (or are enrolled in classes that would complete that pathway). They should have Cs or above in each class in that career pathway. Students must have a driver’s license. Students will have the option of a 1 period co-op where they work 6 hours per week or a 2 period co-op where they work 12 hours per week. **Student must be transition ready in order to be considered.** (1 credit per class per semester)
Agriculture- Ag Power and Construction

**Principles of Agriculture Science and Technology** - (grades 9-11) A foundational course for each of the agriculture pathways describing the principles, theories and science of the Agricultural food, fiber, natural resources industries. It is a science-based course that provides instruction in the foundations of the various segments of the agricultural industry. Agricultural career opportunities will be emphasized. Environmental technology, animal science, and plant and land science will be the focus of the curriculum. Laboratory experiences will be used to emphasize concepts. Content may be enhanced by utilizing current industry accepted technology. The selection, planning and implementation of a supervised agricultural experience program and related record keeping will be a major component of the class. Leadership development will be provided through FFA. **This course must be taken before any other agriculture course or with another agriculture course for agriculture career cluster.** (1 credit) (Semester class)

**Small Power Equipment** - (grades 10-12) A course that describes theories, principles, and the application of operating, repairing, maintaining of power equipment and small engines. Includes welding, sales, marketing and safety. Laboratory experiences will be used to emphasize concepts. Content may be enhanced by utilizing current industry accepted technology. Leadership development will be provided through FFA. Each student will be expected to have an agricultural experience program. **Prerequisite: Principles of Agriculture Science and Technology** (1 credit) (Semester class) **NOT OFFERED EVERY YEAR**

**Agricultural Construction Skills** - (grades 10-12) A course that describes theories, principles, and the application of construction in agriculture related industries. Includes principles of GPS and GIS, welding, electricity, plumbing, material selection, use and care of tools, safety, carpentry, masonry, fencing etc. Safety will be taught and emphasized in each unit. Leadership development will be provided through FFA. Each student will be expected to have a supervised agricultural experience program. **Prerequisite: Principles of Agriculture and Technology** (1 credit) (Semester class)

**Ag Co-Op** - (Grade 12) Students enrolled in Ag Co-Op will have the opportunity to learn career related skills on paid and non-paid job sites. Each site will be monitored by teacher and assistance will be given to make the placement successful. Students are required to seek a placement in a career pathway in which they have completed a pathway (or are enrolled in classes that would complete that pathway). They should have Cs or above in each class in that career pathway. Students must have a driver’s license. Students will have the option of a 1 period co-op where they work 6 hours per week or a 2 period co-op where they work 12 hours per week. **Student must be transition ready in order to be considered.** (1 credit per class per semester)
Air Force JROTC

The military science program or Reserve Officers Training Corps (ROTC) provides students with opportunities to become productive citizens in a democratic society. At the high school level, students in Junior ROTC programs develop leadership and management skills as they gain an understanding of national security requirements. Career counseling and communication skills are combined with problem solving and logical thinking to aid students in pursuing career paths or choices. The Junior ROTC program offers training for students' all-around development in citizenship, self-discipline, character, team-building skills, and respect for authority in a democratic society. Hygiene, physical fitness and wellness, first-aid and survival skills, and health also are stressed. Field experiences, close order drill, uniform inspections, and ceremonies are core parts of the curriculum along with an introduction to the organization of specific military branches.

The Air Force Jr. ROTC Aerospace Science and Leadership Education curriculum integrates six themes: Aviation, National Defense, Careers, Space, Wellness and Leadership. Each of these themes is interwoven throughout the three or four-year high school program. Generally, a typical class week is broken down as follows: 40% (2 days) of Leadership, 40% (2 days) of Aerospace Science, and 20% (1 day) of Wellness and Physical Training.

Note: By Federal regulation, JROTC requires that the student wear a military uniform once per week and meet all grooming standards. Failure to maintain Air Force dress and appearance standards will result in removal from program.
**COURSE**

**Air Force JROTC1** – (grades 9 - 12)

*A Journey into Aviation History* – This is the mandatory first AS component for all new cadets. It is an aviation history course focusing on the development of flight throughout the centuries. It starts with ancient civilizations, then progresses through time to modern day. The emphasis is on civilian and military contributions to aviation; the development, modernization, and transformation of the Air Force; and a brief astronomical and space exploration history. It is interspersed with concise overviews of the principles of flight to include basic aeronautics, aircraft motion and control, flight power, and rockets. Throughout the course, there are readings, videos, hands-on activities, and in-text and student workbook exercises to guide in the reinforcement of the materials.

*Citizenship, Character, and Air Force Tradition* – A study of Air Force customs and courtesies, including US flag etiquette, the hand salute, respect for authority, and allegiance to our country. The student is given an appreciation of the need for discipline in military activities and instruction on the proper wear and care of the uniform. Study habits, time management, drug and alcohol abuse, and first aid are introduced during this portion of the curriculum.

*Wellness* – Addresses the mental, spiritual and physical training aspects of the cadets. It consists of health-related topics and discussions, as well as “The Presidential Physical Fitness” Program designed to improve cadet fitness and lifestyles.

(1 credit) (Semester class)

Uniforms are provided; maintenance and return of ROTC uniform in the original condition will be the responsibility of the student/parent. Cleaner’s receipt should be attached.
Air Force JROTC2 – (grades 10 - 12)

**Cultural Studies: An Introduction to Global Awareness** -- This is a customized course about the world’s cultures. The course is specifically created for all four military services’ JROTC programs. It introduced students to the world’s cultures through the study of world affairs, regional studies, and cultural awareness. The course delves into history, geography, religions, languages, cultures, political systems, economics, social issues, environmental concerns, and human rights. It looks at major events and significant figures that have shaped each region.

**Communication, Awareness, and Leadership** -- focuses on the JROTC mission to “develop citizens of character dedicated to serving their nation and community.” This is accomplished through better communication, increased awareness of self and others, and improved leadership. Woven throughout the course is the underlying theme of developing personal integrity while emphasizing leadership and other values, such as service and excellence.

**Wellness** -- Addresses the mental, spiritual and physical training aspects of the cadets. It consists of health-related topics and discussions, as well as “The Presidential Physical Fitness” Program designed to improve cadet fitness and lifestyles.

(1 credit) (Semester class)

Uniforms are provided; maintenance and return of ROTC uniform in the original condition will be the responsibility of the student/parent. Cleaner’s receipt should be attached.
**Air Force JROTC3** – (grades 10 - 12)

**Exploring Space: The High Frontier** -- This course also examines the Moon and planets, the latest advances in space technology, and the continuing challenges of space and manned flight. Issues critical to travel in the upper atmosphere, such as orbits and trajectories, satellites, and guidance and control systems are also explained. The manned spaceflight section covers major milestones in the endeavor to land on the Moon, and also covers the development of space stations, the Space Shuttle and its future, and international laws for the use of (and travel in) space.

**Life Skills and Career Opportunities** -- focuses on the JROTC mission to “develop citizens of character dedicated to serving their nation and community.” This is accomplished through excellence in citizenship and through teaching the values of community service, responsibility, character, and self-discipline. The course is designed to equip students with essential life skills, focusing on educational and career paths. The underlying theme of the course emphasizes that responsibility in life skills supports good citizenship.

**Wellness** -- Addresses the mental, spiritual and physical training aspects of the cadets. It consists of health-related topics and discussions, as well as “The Presidential Physical Fitness” Program designed to improve cadet fitness and lifestyles.

(1 credit) (Semester class)

Uniforms are provided; maintenance and return of ROTC uniform in the original condition will be the responsibility of the student/parent. Cleaner’s receipt should be attached.
Air Force JROTC Leadership – (grades 10 - 12) JROTC offers several upper-level electives, most of which can be taken in any sequence.

Management of the Cadet Corps (grades 10-12) -- This is a capstone, upper-level course designed for experienced cadets who are (generally) hand-selected for this class. The cadets manage the entire corps during this fourth year. This hands-on experience affords the cadets the opportunity to put the theories of previous leadership courses into practice. All the planning, organizing, coordinating, directing, controlling, and decision-making will be done by cadets. They will practice their communication, decision-making, personal-interaction, managerial, and organizational skills. The text is organized into four units: Unit 1, Management Techniques; Unit 2, Management Decisions; Unit 3, Management Functions; and Unit 4, Managing Self and Others. The text discusses the evolution of management as well as its principles and functions; how to manage conflict; Delegation skills; problem solving and decision-making; mentoring; and self-management of time, information, and in dealing with other. The class will also study the National Endowment for Financial Education (NEFE) handbook, designed to help the cadets understand finances and money management.

Wellness – Addresses the mental, spiritual and physical training aspects of the cadets. It consists of health-related topics and discussions, as well as “The Presidential Physical Fitness” Program designed to improve cadet fitness and lifestyles.

Survival -- The Survival text is a synthesis of the basic survival information found in Air Force Regulation 64-4, Survival Training. The text will provide training in the skills, knowledge and attitudes necessary to successfully perform fundamental survival tasks. NOT OFFERED EVERY YEAR

The Science of Flight -- This textbook is divided into four units. Unit 1, "The Aerospace Environment," studies the changes in the atmospheric environment (weather) including the nature of this part of aerospace. Unit 2, "Human Requirements of Flight," studies the basic principles of flight physiology including the contributions of aerospace medicine and human engineering. Protective equipment and simulators are examined, along with surviving and living in space. Unit 3, "Principles of Aircraft Flight," studies aerodynamic forces and their relationship to atmospheric properties, and examination of the structure of the aircraft, its central mechanisms, and its flight characteristics. Unit 4, "Principles of Navigation," introduces the student to aircraft instruments, and flight and navigational procedures. NOT OFFERED EVERY YEAR

(1 credit) (Year-long class, or taken as JROTC Leadership A and/or JROTC Leadership B)

Uniforms are provided; maintenance and return of ROTC uniform in the original condition will be the responsibility of the student/parent. Cleaner’s receipt should be attached.
Arts & Humanities - Humanities

COURSE

Humanities - (grades 9 - 12) This course will include visual art, music, drama and dance appreciation. The students will show an understanding of the influence of time, place, personality, and society on the arts and humanities. Students will learn to recognize differences and commonalities in the human experience by analyzing the arts produced in their own and other cultures. Students will develop their abilities to apply core concepts and principles from the arts and humanities to what they will encounter throughout their lives. (1 credit) (Semester class)

Understanding Visual Arts (ART*160) – (grade 10 - 12) An examination of visual art from various cultures. It includes a study of materials, techniques, subjects, styles, issues, functions, and meanings related to visual art from many different cultures and periods around the globe. This course satisfies the HUM I requirement for general education. This class is offered for college credit as well as high school credit. Prerequisite: 3.0 GPA and an ACT composite of 18. (1 credit) (Semester class)

Humanities is a required class that can be taken 9th, 10th or 11th grade, or can be fulfilled by 1 classes of Art, Band, Chorus, or Theatre or 1 Music Theory class or the college class Understanding Visual Arts.
Arts & Humanities - Visual Arts

COURSE

Visual Arts I -- (grades 9 - 12) Visual Arts I provides students with knowledge and opportunities to experience a variety of art forms and to create individual works of art. Students will learn about the elements and principles, language, materials, and processes used to produce various kinds of visual arts as they begin to develop their own creative styles. Students will learn about the production of art, study of the structures, purposes, careers and humanities (Art History). Prerequisite: None (1 credit) (Semester class)

Visual Arts II -- (grades 9 - 12) Visual Arts II provides students with the ability to begin to determine and produce artworks in their own area of specialization in art. Students will use the elements and principles, language, materials, and processes to produce various kinds of visual arts as they continue to develop their own creative styles. Prerequisite: successful completion of Visual Arts I with at least a “B” average. (1 credit) (Semester class)

Visual Arts III — (grades 10 - 12) Visual Arts III provides students with the ability to expand and produce artworks in their own area of specialization in art. Students will use the elements and principles, language, materials, and processes to produce artworks. As students continue to develop their own creative style, they will continue to learn about the production of art, study of the structures, purposes, careers and art history. Prerequisite: successful completion of Visual Arts I & II with at least a “B” average, and/or Instructor permission. (1 credit) (Semester class)

Visual Arts IV—(grades 11 - 12) Visual Arts IV offers the opportunity to create a professional body of work that reflects personal style and talent. Students will work independently on their own aesthetic endeavors and create their own sense of style. Students will continue exploring elements, principles, composition and Art History to create and inform their artwork. Students will create a portfolio showcasing their work. Prerequisite: completion of Visual Arts classes and students are only accepted with Instructor permission and portfolio review. (2 credits) (Year-long class)
Photography—(grades 9 - 12) Students will utilize digital imaging software (Adobe Photoshop Elements) and digital photography as a means of improving visual/photographic imagery. In addition to many out-of-class photo assignments, students will be studying the history of photography, composition, the mechanics of the camera, and various noted photographers. Open critique of student-produced images will be emphasized so students must complete out-of-class photo assignments as scheduled. A portfolio of ten mounted prints is required upon completion. Class size is limited to 12 students. (Each student must have constant access to a digital camera (not a phone camera), a flash drive, and there is a required course supply fee of $25 for each student enrolled.) Prerequisite – None (1 credit) (Semester class)

Successful completion of any two 1 credit courses under the Visual Arts section fulfills the Arts and Humanities requirement for graduation (i.e., Visual Arts I and Photography or Visual Arts I and Visual Arts II).
Arts & Humanities - Music

COURSE

**Band** — Band is designed to develop knowledge and technique for playing brass, woodwind, percussion, and string instruments. Instrumental Ensemble covers multiple styles of music literature and connections to historical and cultural contexts. **Students will:**

1. Demonstrate intermediate music reading skills.
2. Interpret and demonstrate the meanings of basic music symbols through performance.
3. Demonstrate intermediate performance technique (tone, intonation, articulation, rhythm).
4. Demonstrate understanding of their individual role within the ensemble (e.g., blend and balance).
5. With assistance, select and prepare solo literature for performance.
6. Write music notation effectively.
7. Compose basic melodies using music notation and/or improvisation.
8. Perform with an intermediate level of musical expression.
9. With assistance, demonstrate/present historical and cultural contexts in their musical performances.
10. Use teacher-provided criteria to analyze and evaluate musical performances.

Students will be required to participate in evening concerts and pep band. *(1 credit) (Year-long class)*

**Guitar Class** *(grades 9 - 12)* This course teaches beginning to intermediate instrumental music through a curriculum that includes a guitar ensemble, rock combos, and individual performance opportunities. **Students must own a guitar or electric bass and have the teacher’s permission to enroll.** *(1 credit) (Semester class)*
**Music Theory** - (grades 10 - 12) This course teaches the fundamental concepts of music theory including notation, aural identification, interval structure and harmonic analysis. Students must be able to read music prior to enrollment. Music theory is recommended for students with a strong musical interest, particularly students considering a career in the Fine Arts. This class does fulfill the requirement for Arts and Humanities for students identified with an Arts career cluster.  

**Prerequisite:** Students must have taken at least one year of either Band, Choir, Guitar, or have permission from the instructor. (1 credit)  

(Semester class)

**Music Theory II** – (grade 11 - 12) This course builds off the skill base mastered in Music Theory, focusing on modality, form and analysis. Music Theory II is strongly recommended for students with a strong musical interest and especially for those considering a career in Applied Music and/or Music Education.  

**Prerequisite:** Music Theory and teacher recommendation is required. (1 credit)  

(Semester class)

**Choir** – Choir is designed to develop knowledge and tone for all vocalists. Choir covers multiple styles of music literature and connections to historical and cultural contexts.

**Students will:**

1. Demonstrate intermediate music reading skills.
2. Interpret and demonstrate the meanings of basic music symbols through performance.
3. Demonstrate intermediate performance technique (rhythm, diction, tonal concept, etc.).
4. Demonstrate understanding of their individual role within the ensemble (e.g., blend and balance).
5. With assistance, select and prepare solo literature for performance.
6. Write music notation effectively.
7. Compose basic melodies using music notation and/or improvisation.
8. Perform with an intermediate level of musical expression.
9. With assistance, demonstrate/present historical and cultural contexts in their musical performances.
10. Use teacher-provided criteria to analyze and evaluate musical performances.

**Students will be required to participate in evening concerts for test grades. (1 credit) (Year-long class)**
Successful completion of two years of art, choir, band, or theatre by the end of junior year fulfills the Arts and Humanities requirement for graduation. It must be two years of the same Performing Art (two band, for example). One year of Music Theory or Understanding Visual Arts (ART*160) will meet the requirement for Humanities.
**Business**

**COURSE**

**Accounting and Finance Foundations** – (grades 9-12) This course will provide an introduction to accounting and finance. The content will be learned through hands-on activities and group discussions. Topics will include banking, credit, financial literacy, career exploration, spreadsheet usage, and technical writing. The accounting taught in this course includes preparing bank reconciliations, payroll taxes, and financial statements. Career exploration will focus on jobs available in the accounting field. Leadership development will be provided through FBLA.  

(1 credit)  

(Semester class)

**Business and Marketing Essentials** – (grades 9-10) This course establishes basic foundations for further study in business courses and provides essential information for making financial decisions. Students learn about the fundamentals of the American free enterprise system and world economies; application of sound money management for personal and family finances; credit management; consumer rights and responsibilities; forms of business ownership; risk and insurance; and the importance of international trade. Leadership development will be provided through FBLA.  

(1 credit)  

(Semester class)

**Dual Credit Digital Literacy** – (grades 9-12) Students will use a computer and application software including word processing, presentation, database, spreadsheets, internet, and email to prepare elementary documents and reports. The impact of computers on society and ethical issues are presented. This class is offered as dual-credit through JCTC Students taking this course are responsible for tuition.  

(1 credit)  

(Semester class)

**Dual Credit Financial Accounting** – (grades 10-12) The accounting principles taught in this course include an in-depth study of accounting principles, procedures, and techniques used in keeping financial records for sole proprietorships, partnerships, and corporations. There is an emphasis on automated accounting. Topics include a more analytical approach to accounting. Leadership development will be provided through FBLA. **Prerequisite: Completion of Accounting and Finance Foundations with a C or higher.**  

(1 credit)  

(Semester class)
Dual Credit Microsoft Office – (grades 11-12) This course is an extension of Digital Literacy. Students will have the opportunity to increase their computer skills. Advanced functions and integration of Microsoft Word, Excel, Access, and PowerPoint will be taught. Students will work toward MOS Certification in one or more of the Microsoft areas. In addition, students will utilize Internet access to complete various projects. Leadership development will be provided through FBLA. **Prerequisite: Digital Literacy and permission of the instructor** (1 credit) (Semester class)
Education

COURSE

The Learning Community (EDU 101) – (grade 9 - 12) In this course students develop an understanding of the various responsibilities and systems involved in the K-12 educational system. Specifically, students will acquire the knowledge of education through the perspectives of classroom, school, district, state, and federal roles. This course is offered as a dual credit course through Midway University. Students enrolling in this course are responsible for all tuition and materials. (1 credit) (Semester class)

The Learner-Centered Classroom (EDU 204) – (grade 9 - 12) This course will develop rising educators’ awareness of their funds of knowledge, as well as their personal biases that develop from their life experiences. Using research-based methods, rising educators will develop methods to impact student equity based on culturally competent models as well as growth mindset methods. This course is offered as a dual credit course through Midway University. Students enrolling in this course are responsible for all tuition and materials. (1 credit) (Semester class)

The Professional Educator (EDU 304) – (grade 10 - 12) In this course students will develop an understanding of how educators advance their profession within the classroom. Specifically, students will gain both the knowledge and skills to plan, deliver, and reflect on the process of teaching and learning. This course is offered as a dual credit course through Midway University. Students enrolling in this course are responsible for all tuition and materials. Prerequisite: Successful completion of The Learning Community and The Learner-Centered Classroom. (1 credit) (Semester class)

Collaborative Clinical Experience – (grade 11 - 12) In this course, Collaborative Clinical Experience, students will refine the required knowledge and skills to be an effective educator while also practicing the dispositions necessary for the educational profession. Specifically, students will gain an understanding of how teachers lead through individual and collaborative growth and reflection. Prerequisite: Successful completion of The Learning Community, The Learner-Centered Classroom, and The Professional Educator. (1 credit) (Semester class)
Engineering

**COURSE**

**Engineering I** – (grades 9 – 11) Introduction to Computer-Aided Drafting and Engineering Design Principles. This course applies the skills, concepts, and principles of engineering. Students explore various technological systems and engineering processes in related career fields. Topics include investigating technological system, design optimization, and problem solving. Students utilize CAD and physical and virtual modeling concepts to construct, test, collect, and report data. This is the foundation class and prerequisite to all other engineering classes. Students will rigorously prepare for industry certification exam for Autodesk Inventor. *(There is a $20 cost for this class to cover tool upkeep and material costs.)* (1 credit) (Semester class)

**Engineering II** – (grades 10-12) A project and research-based Computer Aided Drafting and Design course that extends the learning experiences where students focus on mechanical, electrical, fluid and thermal systems allowing in-depth exploration in selected disciplines of engineering areas such as manufacturing, power/energy/transportation, robotics, hydraulics, electricity/electronics, communications, construction systems, alternative energy and computer aided design and problem solving. Students will be offered the opportunity to complete a certification test for Autodesk Inventor. *(There is a $20 charge for this class to cover tool upkeep and material costs.)* Prerequisite: Engineering I (1 credit) (Semester class)

**Advanced Design Applications** – (Grades 11-12) This is a fundamental course that provides a project-based learning approach to understanding the principles and concepts of physics and associated mathematics for most Engineering Technology programs. Students explore various careers and disciplines of engineering areas, problem solving and core technology such as, but not limited to, manufacturing, power/energy/transportation, robotics, hydraulics, electricity/electronics, communications, construction systems, alternative energy and computer-aided design. *(There is a $20 charge for this class to cover tool upkeep and material costs.)* Prerequisite: Fundamentals of Engineering Design I,AND Mechanical & Technical Design (1 credit) (Semester class)
Building Construction Technologies – (Grades 10 – 12) This is an introduction to residential and light commercial building construction and design. Students will learn basic sketching, mechanical drafting skills with an emphasis on computer aided drafting. In this class, students will design a structure relevant to today’s modern architecture and create models of their designs with various materials and tools. Students will experience and solve many problems in designing or building structures with regards to environment and community impact and limitations from town planning, urban design and landscape architecture to furniture and objects. **(There is a $15 charge for this class to cover tool upkeep and material costs.)** Prerequisite: Fundamentals of Engineering I (1 credit) (Semester class)

Engineering Capstone – (Grade 12) This is a hands-on career readiness class. This curriculum will cover the world of materials around us that are used in several facets of industry. Plastics and the multiple types will be covered in depth. We will also be using a variety of tools with different mediums. The 3d printers will be used extensively for additive modeling. The laser cutter will be used with acrylics and the CNC mill will be used with wood. All of the different tools require a different computer program, thus there will be a lot of software training incorporated. The principles of design are required as each student must design a working set of blueprints for a project they will build. **There is a charge for materials in this class.**  Prerequisite: Preparatory status (have completed three (3) Engineering courses) (class capped at 15 for safety and tool quantity reasons) (1 credit) (Semester Class)

Engineering and Engineering Technology Co-op Valid Course Code: 210330 Course Description: Cooperative education is a paid educational program consisting of in-school instruction combined with the program related on-the-job work experience in a business or industrial establishment. These are planned experiences supervised by the school and the employer to ensure that each phase contributes to the students Individual Learning Plan (ILP). Refer to the KDE Work Based Learning Manual for further specifications. **Must have complete 3 other pathway classes**

Engineering and Engineering Technology Internship Valid Course Code: 210331 Course Description: Internship for CTE courses provides supervised work-site experience for high school students associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. **Student must be transition ready in order to be considered. Must have completed 3 other pathway classes**
**Special Topic - Architectural and Civil Engineering** – (Grades 10 – 12) This is an introduction to residential and light commercial building construction and design. Students will learn basic sketching, mechanical drafting skills with an emphasis on computer aided drafting. In this class, students will design a structure relevant to today’s modern architecture and create models of their designs with various materials and tools. Students will experience and solve many problems in designing or building structures with regards to environment and community impact and limitations from town planning, urban design and landscape architecture to furniture and objects. *(There is a $15 charge for this class to cover tool upkeep and material costs.)* Prerequisite: *Fundamentals of Engineering I* (1 credit) (Semester class)

**Special Topic - Material & Process Technology** – (Grade 12) This is a hands-on career readiness class. This curriculum will cover the world of materials around us that are used in several facets of industry. Plastics and the multiple types will be covered in depth. We will also be using a variety of tools with different mediums. The 3d printers will be used extensively for additive modeling. The laser cutter will be used with acrylics and the CNC mill will be used with wood. All of the different tools require a different computer program, thus there will be a lot of software training incorporated. The principles of design are required as each student must design a working set of blueprints for a project they will build. *(There is a charge for materials in this class.)* Prerequisite: Preparatory status (have completed three (3) Engineering courses) (class capped at 15 for safety and tool quantity reasons) (1 credit) (Semester Class)

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English/Language Arts

**COURSE**

**Literacy** – (grades 9-10) The Literacy Class has been established to help students who have not met benchmark scores for readiness based on MAP testing in reading and/or English. This class will also reinforce the skills needed to be more successful by stressing organizational skills along with study skills and time management. Students will be given any extra academic attention they need in reading and writing to ensure their success as a student and to work toward meeting benchmark scores on the ACT for college and career readiness. (1 credit) (Semester class)

**English I** – (grade 9) Focuses on developing reading and comprehension skills. This is a course that seeks to accelerate the learning of striving readers. By providing strategies, materials, differentiated instruction, and opportunities for success, English I will help students become better readers. Students will explore literary fiction and nonfiction while reading both narrative and non-narrative texts, as well as acquire specialized vocabulary while using standard and electronic texts. Students will prepare and present reports, projects, and other types of writing that will demonstrate their learning, while also practicing research and documentation skills. Throughout all units of study, students will learn how to apply correct grammar, usage, and mechanics. (1 credit) (Semester class)

**Honors English I** – (grade 9) is broken into several units including an informational text unit, literary unit, as well as a persuasive unit. Students will participate in challenging projects, and do in-depth studies of literature. Honors English I is recommended for the serious student only. Assignments will include research projects, independent reading, presentations, serious reading assignments, and many writing opportunities. **Responsibility is a key factor to success in this class.** (Honor Course) Recommendation: A or B in 8th grade English or teacher recommendation. (1 credit) (Semester class)
**English II** (grade 10) Focuses on a survey of literature, including short stories, poems, and plays. The curriculum will build analytical reading and writing skills over various genres and modes of writing. Students will continue to build on their writing skills learned in English I, including research and documentation skills. Throughout all units of study, students will learn how to apply correct grammar, usage, and mechanics and ask and answer literal, interpretive, and evaluative questions. Additional assignments include: personal writing, constructed response essays, oral presentations, and independent projects. This is a year-long course with students taking an End of Course Assessment upon completion of the course. *(1 credit) (Year-long class)*

**Honors English II** (grade 10) Students will concentrate on all units of study outlined in the English II course description. Students will participate in a more in-depth study of the literature and the history of the literature, as well as complete challenging out of class assignments. Major presentations demonstrating knowledge of materials covered will also be a requirement. Honors English II is recommended for the serious student only. Assignments include: 2-4 page persuasive essay with research, personal writing, constructed responses, and literary analysis. Students will take an End of Course Assessment upon completion of the course. **Honors students will demonstrate intellectual curiosity, growth mindset, and intrinsic motivation necessary to succeed in an advanced class. (Honor Course)** Recommendation: A or B in Honors English I or teacher recommendation. *(1 credit) (Year-long class) (Honor Course) (1 credit) (Year-long class)*

**English III** - (grade 11) Focuses on the study of American Literature. This class not only examines the literature of the time period, but the history and its impact on the literature. This course also offers a thorough review of grammar, usage, and mechanics that students will use in compiling a cumulative writing folder and preparing for the ACT. Students will extend their knowledge of research and documentation techniques. *(1 credit) (Year-long class)*

**Honors English III** - (grade 11) is designed for the student who is willing to devote time to reading and writing on the advanced level. Students should already possess good grammar skills and the ability to write analytically and creatively. Honors English III is recommended for the serious student only. Students will focus on analyzing literature, will compose several analytical writing pieces, will compile a cumulative writing folder, and will prepare for the ACT. Students will continually demonstrate their writing abilities and knowledge through in- and out-of-class assignments that focus on higher-order critical thinking. Furthermore, students will also complete class projects and prepare, deliver, and reflect up student presentations. **Responsibility is a key factor for success in this class. (Honor Course)** Recommendation: A or B in Honors English II or teacher recommendation. Students in this class should be independent thinkers who are able to complete work in a timely fashion and make connections to other texts, current events, historical events, and to their own lives. *(1 credit) (Year-long class)*
**Blended English IV/Life 101** (grade 12). This is a year-long class designed to equip seniors with the knowledge and skills they need to successfully transition into the world of college and career.

Students enrolled in this Blended class will receive the majority of their instruction and assignments in an online setting; while some of the class time will be dedicated to real-world lessons, such as managing finances and maintaining a positive social media presence, the majority of the first-semester will focus on college and career readiness and enhancing student performance on the ACT and various career assessments. Students will also concentrate on college, career, and scholarship applications. Once a student reaches college/career readiness status, their learning will become more personalized: they will engage in mini-projects that allow student choice in selecting, planning, implementing, and presenting their own learning.

Even though the majority of student work will be conducted online, there are mandatory attendance days throughout the semester; these days are scheduled in advance and include computer instruction for the first two weeks of school. **Students who are not college/career ready may be required to attend class until they become so.**

During the second semester, students will focus on developing better research and argumentative writing skills, in addition to improving their language skills. Writing pieces include an argumentative speech and an essay demonstrating proper MLA documentation. Students will read numerous non-fiction and fiction materials and will complete assignments and assessments to improve their reading comprehension and to demonstrate their learning.

**Recommendations:** Students enrolling in this course should be responsible, self-directed learners who already possess good time-management, computer, reading and writing skills. **For optimal success, students need consistent access to a computer with internet capabilities at home;** if there is not access at home and students are not available before and/or after school to use a computer in the Media Center, they should enroll in the English IV/Life 101 class. **(1 Life 101 credit; 1 English IV credit) (Year-long class)**
**English IV/Life 101** (grade 12). This is a year-long class designed to equip seniors with the knowledge and skills they need to successfully transition into the world of college and career.

So that all students understand the myriad opportunities available to them after high school, this class includes weekly visits from college and career representatives during the first semester. While some of the class time will be dedicated to real-world lessons, such as managing finances and maintaining a positive social media presence, the majority of the first-semester will focus on college and career readiness and enhancing student performance on the ACT and various career assessments. Students will also concentrate on college, career, and scholarship applications. Once a student reaches college/career readiness status, their learning will become more personalized: they will engage in mini-projects that allow student choice in selecting, planning, implementing, and presenting their own learning. During the second semester, students will focus on developing better research and argumentative writing skills, in addition to improving their language skills. Writing pieces include an argumentative speech and an essay demonstrating proper MLA documentation. Students will read numerous non-fiction and fiction materials and will complete assignments and assessments to improve their reading comprehension and to demonstrate their learning. Students enrolled in this class will focus throughout the year on developing computer skills, as well as time management, organization, problem-solving, and teamwork skills. They will receive the majority of their instruction and assignments in an online setting. *(1 Life 101 credit & 1 English IV credit) (Year-long class)*

**Blended Life 101** (only for students enrolled in College English courses) (grade 12). This is a semester-long class designed to equip seniors with the knowledge and skills they need to successfully transition into the world of college. Students enrolled in this Blended class will receive the majority of their instruction and assignments in an online setting; this instruction includes digital citizenship, financial literacy, grammar, and other assignments targeted at enhancing their performance on the ACT. Even though the majority of student work will be conducted online, there are mandatory attendance days throughout the semester; these days are scheduled well in advance and include computer instruction, a minimum number of college representative sessions, workshops to assist students with college, scholarship, and financial aid applications, etc.

**Recommendations:** Students enrolling in this course should be responsible, self-directed learners who already possess good time-management, computer, reading and writing skills. For optimal success, students need consistent access to a computer with internet capabilities at home; if there is not access at home and students are not available before and/or after school to use a computer in the Media Center, they should enroll in the English IV/Life 101 class. *(1 Life 101 credit) (Semester-long class)*
STUDENTS TAKING ENGLISH 101 & 102 MUST TAKE BLENDED LIFE 101—SEE DESCRIPTION.

**English 101** – (grade 12) English 101 focuses on academic writing and provides instruction in drafting and revising essays that express ideas in Standard English. The course emphasizes reading critically, thinking logically, responding to texts, addressing specific audiences, researching, and documenting sources. Course work will include a review of grammar, mechanics, usage, and vocabulary development. Notes: (a) credit not available by special examination; (b) English 101 and 102 may not be taken concurrently. **Prerequisite:** ACT ENG score of 18, appropriate writing placement score or ENC 091.

This course supports Morehead State University’s mission to provide general education credit for transfer to baccalaureate programs. Students must request JCTC to send official transcript to college at time of enrollment.

**English 102** – (grade 12) English 102 emphasizes persuasive and argumentative writing and literary analyses. This course focuses on academic writing and provides instruction in drafting and revising essays that express ideas in Standard English. The course emphasizes reading critically, thinking logically, responding to texts, addressing specific audiences, researching, and documenting sources using MLA format. Course work will include a continued review of grammar, mechanics, usage, and vocabulary development. Notes: (a) credit not available by special examination; (b) English 101 and 102 may not be taken concurrently. **Prerequisite:** ACT ENG score of 18, appropriate writing placement score or English 101.

This course supports Morehead State University’s mission to provide general education credit for transfer to baccalaureate programs. Students must request MSU to send official transcript to college at time of enrollment.

*Students will take English 101 and History 109 first semester in place of two (2) high school courses. English 101 and English 102 will replace the regular senior English IV course. The cost of each college course will be approximately $156 for tuition plus the cost of books. Books can run over $100 for each course. If the course is a full year course, it must be paid for at the beginning of the school year. If the course is a semester course, it must be paid for at the beginning of each semester—as soon as school starts and as soon as we return from Christmas break. During the 2nd semester, students who successfully pass the 6 hours of college courses will then take English 102 and History 105 in the spring semester. All of the above costs will also apply to the 2nd semester courses.*
Journalism I & II - (grades 10-12) Students will be responsible for completion of the current yearbook as well as be required to write and edit articles for publication. Photography, copy writing, designing layouts, sales and distribution are included in job assignments. Students must be able to work well with others, complete independent assignments and meet deadlines. Members of the staff must make themselves available to attend a variety of school functions after school and on weekends in order to cover them for the yearbook publication. Students will learn management duties such as organization, sales and distribution, page design and layout, and managing staff. Students must apply to the journalism teacher. (1 credit) (Each is a Year-long class)

Practical Skills of Tutoring Writing I & II – (grades 11-12) This course will introduce students to the theory and practice of peer-to-peer writing tutoring. Student work will focus on the Writing Center at HCHS. Being a writing center tutor is about more than just knowing grammar and revising papers. Peer tutors will base their practice on research-based techniques and theories that promote critical thinking and the understanding of writing as a process. Writing center tutors do not need to be writing experts in all types of writing, but they do need to understand the writing process, possess good interpersonal and presentation skills, and be able to work independently. Application required. (1 credit) (Each is a semester class)
Health and Physical Education

**COURSE**

**Health** - (grade 9) Health education is designed to communicate information and teach students skills that can help them attain a high degree of wellness throughout life. Areas of instruction include nutrition; mental, emotional, social and physical wellness; infectious and non-infectious diseases; drug, alcohol, and tobacco awareness; reproduction and the life cycle; and safety and first aid. *(1/2 credit-This course is taught with Physical Education.)* *(Semester class)*

**Physical Education** - (grade 9) Students will learn warm-up exercises to prevent injury. They will learn the concepts of sportsmanship and team play. They will learn rules and objects of a variety of team and individual sports. *(1/2 credit-This course is taught with Health.)* *(Semester class)*

**Physical Education II** - (grades 10-12) Students will learn more about the concepts and strategies of team play. Students will have a higher level of understanding of the rules and objects of a variety of team sports. **Because of the popularity of this course, students may enroll in this course only once in grades 10-12.** *(1 credit)* *(Semester class)*

**Advanced Fitness Concepts** - (grades 10-12) This class is a one credit class for a semester designed for students to learn multiple areas of physical fitness including: weight training, cardiovascular strength and endurance, core strength, plyometric and isokinetic exercises. Students will be actively involved in the training, so they would need to dress out each day. Students will also need to participate daily in rigorous exercises designed to improve life-long health and athletic performance. **Pre-requisite is a passing grade in PE I. Student may take this class up to two times. Must have an A in class first time to qualify to take it the second time.** *(1 credit)* *(Semester class)*
Health Sciences

Students who enroll in Health Science classes are eligible to participate in HOSA (Health Occupation Student Organization). The KYTech Medicaid Nurse Assistant (MNA) Certificate may be attained through the Pre-Nursing career pathway.

**AHS 105 Principles of Health Sciences** – (Grades 9-12) This course is an orientation to the health care cluster consisting of four career majors: Nursing, Medicine, Dentistry and Allied Health. It is also designated to develop and enhance an understanding of the responsibilities and roles of each career major area. Communication, study, and leadership skills will be emphasized as the student learns about the health care industry, health care economics and career opportunities available. Medical Terminology will be integrated throughout the course. Upon successful completion of this course, the student will be able to focus on a career major path and make informed decisions regarding choices for continuing education and/or employment. This course addresses the Kentucky Learner Goals and Academic Expectations, Core content for Assessment and includes core components from the National Health Care Skills Standards. **Dual credit with Jefferson Community and Technical College is awarded for these courses. Students enrolling in dual credit courses are responsible for paying tuition. Students must complete this course with an average of 75% or higher for credits to articulate and to remain in the program. (1 credit) (Semester class)**

**AHS 115 Medical Terminology** – (Grades 9-12) This course is a study of medical terms and their origins. Emphasis is given to the correct interpretation of medical terms and their applications in the medical profession. **Dual credit with Jefferson Community and Technical College is awarded for these courses. Students enrolling in dual credit courses are responsible for paying tuition. Students must complete the course with an average of 75% or higher for credits to articulate. This course qualifies for dual credit. (1/2 Credit) (Semester class—paired with Emergency Procedures)**
Emergency Procedures/CPR and First Aid -- (Grades 9-12) This course will focus on current emergency techniques relative to cardiac and/or respiratory arrest and emergency situations. It is designed to promote an understanding of Universal Precautions/Standard Precautions necessary for personal professionals’ health maintenance and infection control. Medical Terminology will be integrated throughout the course. Upon successful completion of this course, the student may become trained in Safety/First Aid and Cardiopulmonary Resuscitation (CPR), as required by the American Red Cross, the American Heart Association, The National Safety Council-Green Cross or the National Safety Council. Students must complete the course with an average of 75% or higher for credits to articulate. (1/2 credit) (Semester class—paired with Medical Terminology)

HST 104 Medicaid Nurse Aid (MNA) -- (Grades 11-12) This course provides knowledge and skills for nurse aides to assume the role and responsibility required to care for the elderly resident in long-term nursing home care. The focus of the course is communication, infection control, safety, residents’ rights, and basic nursing skills. Students complete a minimum of 16 hours of clinical rotation in various local healthcare facilities. Upon completion students are able to sit for the SRNA (State Registered Nurse Assessment) certification exam. Students must complete the course with an average of 75% or higher for credits to articulate. Students must also have at least an average of 70% on 5 exams to be able to sit for the State Exam. This course qualifies for dual credit. Dual credit with Jefferson Community and Technical College is awarded for these courses. Students enrolling in dual credit courses are responsible for paying tuition. Prerequisite: Completion of 1st year Principles of Health Science course (1 credit)
Allied Health Internship/ Practicum I (Health Career Exploration) -- (Grades 11-12) The practicum provides supervised on-the-job work experience related to the students' education objectives. Students participating in the practicum do not receive compensation and must provide their own transportation. Practicum experience may include:

- Physical Therapy
- Sports Medicine
- Dental Assisting
- Veterinary Assisting
- X-Ray Technician
- Pharmacy Technician

**Prerequisite: Completion of 1st year Health Science courses (1 credit) (Semester class)

Student must provide their own transportation for practicum experience.**

**Medical Math—(Grades 10-12)** This course is designed to focus, utilize and build on mathematical skills commonly used in all health occupations. Students will use applied techniques, computations, ratio and proportion, weights and measurements and conversions. This course is strongly recommended for all Health Science Majors. **Prerequisite: Successful completion of Principles of Health and successful completion of Algebra I. (1 credit) (Semester class)**

**Anatomy (science course) - (grades 12)** This course is designed to give students interested in pursuing a career in medicine, nursing or science a base of knowledge beyond biology to build on. Structure and function of all human systems will be covered. Students will be required to work as cooperative group members producing models, projects, and completed dissections. **(Honor Course) Prerequisite: successful completion of Biology I with a "B" average or higher. (1 credit) (Semester class)**
Information Technology

**Computer Literacy Dual Credit (CIT-105)** – (grade 9-12) – This course provides an introduction to the computer and various aspects of computer technologies. Topics include computer hardware and an introduction to various software packages, file management, the Internet, e-mail, social web, digital audio and video, security and computer ethics. Completer students will be eligible to take the *CompTia IT Fundamentals* industry certification exam. **This class is a prerequisite for all other classes.** (1 credit) (Semester class)

**Computer Hardware & Software Maintenance Dual Credit (CIT-120)** – (grade 9-12) – Focuses on the design of computing systems, including instruction in the principles of computer hardware and software components, algorithms data basis, telecommunications, etc. Includes the knowledge to identify and explain PC components, setup a basic PC workstation, conduct basic software installation, identify compatibility issues and recognize/prevent basic security risks and also gives knowledge in the areas of Green IT and preventative maintenance of computers. **Prerequisite: Successful completion of CIT-105.** (1 credit) (Semester class)

**Help Desk Operations (CIT-155)** – (grades 10-12) – Introduces a variety of tools and techniques to provide user support in help desk operations. Explores help desk concepts, customer service skills, troubleshooting problems, writing for end users, help desk operations and software, needs analysis, facilities management, and other topics related to end user support. Completer students will be eligible to take the *TestOut PC Pro* industry certification exam. **Prerequisite: Successful completion of CIT-120.** (1 credit) (Semester class)

**Management of Support Services (CIT-157)** – (grades 10-12) – Digitally organizing the information technology and information and support services milestones achieved by the student that is reflective of their industry certification readiness, understanding the cost of doing business and preparation of technical and behavioral job performances i.e. interviews. The course also focuses on employability skills to include: a professional digital portfolio that emphasizes critical milestones focusing on entry level information technology technical and employability skills. **Prerequisite: Successful completion of CIT-155.** (1 credit) (Semester class)
Information Technology

**Internet Technologies** - (grade 10-12) - This course provides students with a study of traditional and emerging Internet technologies. Also covered are other topics including Internet fundamentals, Internet applications, Internet delivery systems, and Internet client/server computing. Internet Technologies provides a hands-on experience and some rudimentary programming in an Internet environment. **Prerequisite:** Successful completion of CIT 155. (1 credit) (Semester class)

**Special Topics: Wildcat IT Help Desk** – (grades 10-12) – This class will be a student run “IT Help Desk.” Professional, responsible, tech-savvy students to sit behind the café and help/assist/tutor/repair technology for students and teachers. Students will receive some training in Help Desk Operations. **There is a $10 fee for this course. Prerequisite:** Successful completion of CIT 120 & Teacher recommendation/Application. (1 credit) (Semester class)

**Security Fundamentals** - (grades 11-12) - Security Fundamentals introduces basic computer and network security concepts and methodologies. Covers principles of security; compliance and operational security; threats and vulnerabilities; network security; application, data, and host security; access control and identity management; and cryptography.

**Information Technology Internship** – (grade 11-12) - Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less). All information referenced to the Work Based Learning Guide. **Prerequisite:** Successful completion of CIT-155. (1 credit) (Semester class)
Information Technology

**Information Technology Co-Op** – (grade 11-12) - Cooperative Education for CTE courses provide supervised work site experience related to the student’s identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements according to the Work Based Learning Guide. **Prerequisite: Successful completion of CIT 155. (1 credit) (Semester class)**

**BEST PRACTICE COURSES**

Complete (3) three credits:

- 110110 Computer Literacy **OR** 060112 Digital Literacy
- 110101 Computer Hardware and Software Maintenances
- 110102 Help Desk Operations

Choose (1) one credit from the following:

- 110302 Management of Support Services
- 110917 Internet Technologies
- 110918 Information Technology Co-Op **OR** 110919 Information Technology Internship
Algebra I - (grade 9) This course is the study of high school Algebra 1 content. Upon completion of the course, students should be able to represent relationships mathematically, develop fluency in writing, interpret expressions and equations, translate between various forms of linear equations and inequalities and use them to solve problems including those that require a system of equations, solve linear equations, apply related solution techniques and the laws of exponents to solve simple exponential equations, understand function definition and notation, contrast linear and exponential graphical representations, make judgments about the appropriateness of linear models, perform arithmetic operations on inequalities, interpret functions and fluently use function notation, construct and compare linear and exponential models and solve related problems, factor quadratic and cubic expressions solve quadratic equations to interpret related quadratic functions and explore non-linear relationships. This course should be designed to meet the high school graduation credit for Algebra 1 and to build a solid foundation necessary for future high school math courses. (1 credit) (Year-long)
**Honors Algebra I** -- (grade 9) Students will be recommended for this class based on MAP math scores, assessment of basic algebra skills, successful completion of all 8th grade math standards, and teacher recommendation. *(Honor Course) (1 credit) (Year-long class)*

**Geometry** - (grades 10-12) This course will start out with additional algebra concepts needed to fulfill the algebra requirements for graduation and lead into the study of the high school Geometry content. Upon completion of the course, students should be able to prove theorems and solve problems about triangles, quadrilaterals, and other polygons, apply reasoning to complete geometric constructions and explanations, establish triangle congruence criteria based on analyses of rigid motions and formal constructions, use proportionality and similarity to solve problems and apply similarity in right triangles to understand right triangle trigonometry (with particular attention to special right triangles and the Pythagorean theorem), develop the Law of Sines and Cosines from understanding relationships in right triangles, apply knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line, connect algebraic concepts to geometric concepts through the rectangular coordinate system (such as deriving the equation of a circle given the center and radius length using the distance formula or Pythagorean Theorem) and prove basic theorems about circles, chords, secants, and tangents. *(1 credit) (Year-long Class)*

**Honors Geometry** –(grades 10-12) Honors Geometry is recommended for those students who have successfully completed Honors Algebra I (C or higher), a Proficient or Distinguished score on the final Algebra I 9th grade interim test, and/or teacher recommendation. This course will start out with additional algebra concepts needed to fulfill the algebra requirements for graduation and lead into the study of the high school Geometry content. Students may take Honors Algebra II and Honors Geometry as sophomores in order to take Calculus as seniors. *(Honor Course) (1 credit) (Year-long Class)*

**Algebra II** - (grades 10-12) This course is the study of high school Algebra 2 content. Upon completion of the course, students should be able to use properties of numerical operations to perform calculations involving polynomials, identify zeros of polynomials and make connections between zeros of polynomials and solutions of geometry to extend trigonometry to model periodic phenomena, work with a variety of function families exploring the effects of transformations, analyze functions using different representations, build, interpret and compare functions including square root, cube root, piece-wise, trigonometric and logarithmic functions, identify appropriate functions to model situations, adjust parameters to improve the models, and compare models by analyzing appropriateness of fit. *(1 credit) (semester class)*
Honors Algebra II – (grades 10-12) Honors Algebra II is recommended for those students who successfully complete Honors Algebra I/Honors Geometry (C or higher), Proficient or Distinguished on final interim test, and/or teacher recommendation. Students may take Honors Algebra II and Honors Geometry as sophomores in order to take Calculus as seniors. **(Honor Course) (1 credit) (semester class)**

Statistics - (grade 11-12) This course should focus primarily on the conceptual categories: Statistics & Probability and Modeling to address such concepts as theoretical and experimental probability, independent and conditional probability using them to interpret data, rules of probability to compute probabilities of compound events in a uniform probability model, calculations of expected values, analysis of decisions and strategies using probability concepts, binomial distributions, normal distributions, displaying and describing distributions of data, collecting data, measures of central tendency and spread and methods of inferential statistics. Technology should be an integral part of this course to generate plots, regressions functions and correlation coefficients and to simulate possible outcomes relatively quickly based on a given situation. **(Honor Course) Prerequisite: A grade of C or higher in Algebra II (1 credit) (Semester class)**

Intro to Statistics (MATH*123) - (grade 11-12) Basic concepts of probability, sampling, and the algebra of events. Properties of selected discrete and continuous distributions. Students are required to purchase an access code for the Hawkes Learning software—Approximately $70. Prerequisite: Minimum ACT math subscore of 19 & a composite score of 18. Students will receive three (3) hours of college credit as well as high school credit. **(Honor Course) (1 credit) (Semester class)**

MATH 093 Pre-College Algebra – (grade 10-12) The topics explored in this course include notation, operations, rules of exponents (both integer and fractional), linear functions, exponential functions, logarithms, etc. This course is designed for those students who plan to attend college or technical school. Students enrolled in this course must pay for the Hawkes Learning Code (approximately $70 total). Students need to have access to an internet connection or computer to download the program. Prerequisite: Must have a C or higher in Algebra II and have an ACT Math subscore of at least 17. **(Honors Class) (1 credit) (Semester class)**
COURSE

MATH 152 College Algebra – (grade 11-12) The topics explored in this course include notation, operations, rules of exponents (both integer and fractional), linear functions, exponential functions, logarithms, etc. This course is designed for those students who plan to attend college or technical school. **Juniors must take this course and the trigonometry course to enroll in Calculus (Math 175) as a senior.** Students enrolled in this course must pay for the Hawkes Learning Code and workbook (approximately $90 total). Students need to have access to an internet connection or computer to download the program. Dual credit (3 credit hours) is offered for this class in conjunction with Morehead State University. This course can be used to satisfy the general education mathematics requirement for all Kentucky public universities as well as a majority of U.S. public and private colleges and universities. **Prerequisite:** Must have a C or higher in Algebra II and have a minimum ACT Math subscore of 22 and a composite score of 18. (Honors Class) (1 credit) (Semester class)

MATH 141 Plane Trigonometry – (grade 11-12) This course includes the trigonometric functions, identities, multiple analytic formulas, laws of sines and cosines, graphs of trigonometric functions in rectangular and polar coordinates, and solving trigonometric equations. It emphasizes applications in each topic. **Must be taken as a junior if planning to take MATH 175 (Calculus 1) as a senior.** Student will be responsible for buying the book and/or computer code that goes with the class (Approximately $60 but could vary). Dual Credit (3 credit hours) through Morehead State University. **Prerequisite:** ACT minimum math subscore of 22 and a composite score of 18. (Honors Class) (1 credit) (Semester class)

Calculus – (grade 12) This course is designed for those students who want college credit (MAT 175) for Calculus 1. Dual credit is offered for this class in conjunction with the Early College Program at Morehead State University. Students will be eligible for 4 credit bearing hours. Topics include: Functions and Graphs; limits; continuity; differentiation; applications of the derivative; integration; applications of the definite integral. This course satisfies the required core-math reasoning for general education. **Student must have access to an internet connection. The student is responsible for paying for the WebAssign code—(Approximately $60 but could vary).** The book is online but hard copy may be purchased by the student, if they wish. Dual Credit (4 credit hours) through Morehead State University. (Honor Course) **Prerequisite:** Minimum ACT Math subscore of 27 and a composite score of 18, or Credit from MAT 152 (College Algebra) AND MAT 141 (Trigonometry). (1 credit) (Semester class)
Mathematics and Financial Literacy - (grade 12) This course enables the student to explore mathematical content for personal, business, and industrial use. Math concepts and skills applied through study and problem-solving activities in real-world situations in the following areas: banking, measurement, borrowing and investing, consumer purchases, and financial management. Appropriate business forms are used in each unit. Leadership development will be provided through FBLA. This course is approved as a fourth math credit after Algebra I, Algebra II, and Geometry. (1 credit) (Semester class)

Transition Math – (grade 12) The level of preparation a high school graduate needs in order to be successful in a chosen career is constantly increasing. This includes students who want to attend a technical program, a two year college program, a four year college program, receive industry certification, or go directly into the workforce. This course will help students transition into credit-bearing college mathematics classes which require a minimum benchmark mathematics score of 19 on the ACT. This course will also help students with math skills needed in the work force. After successfully completing the transitional course and meeting the college placement test criteria, students will be able to enroll in a college credit-bearing mathematics course. Topics included: simplifying expressions, linear equations, quadratic equations, systems of equations, exponent rules, geometry, and ACT/KYOTE readiness. Students will be placed in this course based on ACT score in math. (1 credit) (Semester class)

MATH 131 General Mathematics Problem Solving - (grade 12) (3-0-3) A course providing the student with experiences designed to improve the ability to make decisions and solve a variety of problems. Emphasis is on learning to investigate, organize, observe, question, discuss, reason, generalize and validate. Mathematical content includes topics which are related to consumer mathematics, geometry, graphs, probability and statistics. This course satisfies the required core-math reasoning for general education. Dual Credit (3 credit hours) through Morehead State University. Student will be responsible for buying the book and/or computer code that goes with the class (Approximately $85 – but price could vary). Prerequisite: One of the following: 1. Minimum ACT Math score of 19 and a composite score of 18; 2. KYOTE score of 22. (1 credit) (Semester class)
Introduction to Media Arts – (grades 9-12) An introduction to and survey of the creative and conceptual aspects of designing media arts experiences and products, including techniques, genres and styles from various and combined mediums and forms, including moving image, sound, interactive, spatial and/or interactive design. Typical course topics include: aesthetic meaning, appreciation and analysis; composing, capturing, processing and programming of media arts products, experiences and communications; their transmission, distribution and marketing; as well as contextual, cultural, and historical aspects and considerations. (1 credit) (Semester class)

Video Studio Fundamentals - (grades 10-12) Prerequisite: Introduction to Media Arts This course will expose students to the materials, processes, and artistic techniques involved in creating video productions. Students learn about the operation of cameras, lighting techniques, camera angles, depth of field, composition, storyboarding, sound capture and editing techniques. Course topics may include production values and various forms/styles of video production (e.g., documentary, storytelling, news magazines, animation, etc.) As students advance they are encouraged to develop their own artistic styles. Major cinematographers, video artists and their work may be studied. (1 credit) (Semester class)

Studio Directing and Performance - (grades 10-12) Prerequisite: Video Studio Fundamentals This course explores the role of managing the production of video studio projects. Students develop knowledge and skills in studio multi-camera and field television production. Students also develop performance skills for broadcasting including interpretation of copy, news casting, and ad lib announcing. The course covers techniques of narrative and non-fiction writing and scripting, the analysis and writing of radio, television, and video materials, including storytelling and screenwriting. (1 credit) (Semester class)
Advanced Studio Production (Moving Image) (formerly Broadcast Journalism Production) (grades 11-12)  Prerequisite: Video Studio Fundamentals
Students will explore the creative and conceptual aspects of designing and producing moving images for the variety of cinematic, film/video and multimedia presentations including: fictional dramas, documentaries, music videos, artistic and experimental presentations and/or installations, interactive, immersive and performance media, etc. Typical course topics include: aesthetic meaning, appreciation and analysis of moving imagery; all processes of development including: pre-production planning and organization, production and post-production methods, tools and processes; moving image presentation, transmission, distribution and marketing; as well as contextual, cultural, and historical aspects and considerations. (1 credit) (Year-long class)

Journalism I & II - (grades 10-12) Students will be responsible for completion of the current yearbook as well as be required to write and edit articles for publication. Photography, copy writing, designing layouts, sales and distribution are included in job assignments. Students must be able to work well with others, complete independent assignments and meet deadlines. Members of the staff must make themselves available to attend a variety of school functions after school and on weekends in order to cover them for the yearbook publication. Students will learn management duties such as organization, sales and distribution, page design and layout, and managing staff. Students must apply to the journalism teacher. (1 credit) (Each is a Year-long class)
Science

COURSE

**Conceptual Progression I (grade 9)**  Students develop a conceptual understanding of Earth/Space science including Earth’s formation, changing structure, and the processes responsible for those changes, as well as solar system formation and mechanics. An in-depth study of the various cycles that occur within Earth’s ecosystems is studied along with natural resource use and distribution. Students will learn these core ideas through the use of the science and engineering practices and crosscutting concepts. The science and engineering practices are skills students will use as they investigate the natural world and develop solutions to problems. The crosscutting concepts are conceptual ways of thinking that cross the domains of science. *(1 credit) (Semester class)*

**Honors Conceptual Progression I (grade 9)**  Students develop a conceptual understanding of Earth/Space science including Earth’s formation, changing structure, and the processes responsible for those changes, as well as solar system formation and mechanics. An in-depth study of the various cycles that occur within Earth’s ecosystems is studied along with natural resource use and distribution. Students will learn these core ideas through the use of the science and engineering practices and crosscutting concepts. The science and engineering practices are skills students will use as they investigate the natural world and develop solutions to problems. The crosscutting concepts are conceptual ways of thinking that cross the domains of science. *(Honors Course) (1 credit) (Semester class)*
Conceptual Progression II - (grade 10) Students develop a conceptual understanding of Biology and Earth/Space Science. They experience biology and Earth/space science concepts, as outlined in the Kentucky Academic Standards for Science, such as structure and function of cells; molecular basis of heredity; biological change; changes in the Earth system; interdependence of organisms; matter, energy and organization in living systems; and the behavior of organisms. Students will learn these core ideas through the use of the science and engineering practices and crosscutting concepts. The science and engineering practices are the skills students will use as they investigate the natural world, and develop solutions to problems. The crosscutting concepts are conceptual ways of thinking that cross the domains of science. (1 credit) (Semester class)

Honors Conceptual Progression II –(grade 10) Students develop a conceptual understanding of Biology and Earth/Space Science. They experience biology and Earth/space science concepts, as outlined in the Kentucky Academic Standards for Science, such as structure and function of cells; molecular basis of heredity; biological change; changes in the Earth system; interdependence of organisms; matter, energy and organization in living systems; and the behavior of organisms. Students will learn these core ideas through the use of the science and engineering practices and crosscutting concepts. The science and engineering practices are the skills students will use as they investigate the natural world, and develop solutions to problems. The crosscutting concepts are conceptual ways of thinking that cross the domains of science. (Honour Course) Recommendation: A or B in Conceptual Progression I and teacher recommendation. (1 credit) (Semester Class)

Conceptual Progression III (grade 11) Students develop a conceptual understanding of Chemistry and Physics through a series of hands-on problems and labs. Students will learn these core ideas through the use of the science and engineering practices and crosscutting concepts. The science and engineering practices are the skills students will use as they investigate the natural world and develop solutions to problems. The crosscutting concepts are conceptual ways of thinking that cross the domains of science. Students will take this course OR Chemistry and Physics. (1 credit) (Year-long class)

Chemistry and Physics (grade 11) Intended for students planning to enter college, this course focuses on the science of chemistry and physics to explain the natural phenomena of the world around them. Students develop a conceptual understanding of chemistry content, outlined in the Kentucky Academic Standards. Students will learn these core ideas within these topics through the use of the science and engineering practices and crosscutting concepts. The science and engineering practices are the skills students will use as they investigate the natural world and develop solutions to problems. The crosscutting concepts are conceptual ways of thinking that cross the domains of science. Students will take this course OR Conceptual Progression III. (Honour Course) (1 credit) (Year-long class)
COURSE

Anatomy - (grades 11-12) Major concepts addressed in this course include plant structure, animal structure, tissues, organs, and systems. **Honor Course**

Prerequisite: successful completion of Conceptual Progression II with a "B" average or higher. (1 credit) (Semester class)

Physics I - (grades 11-12) Students develop an advanced understanding of physics as outlined in the Kentucky Academic Standards for Science. They experience concepts such as motions and forces, conservation of energy and the increase in disorder, interactions of energy and matter. Students will learn these core ideas through the use of the science and engineering practices and crosscutting concepts. The science and engineering practices are skills students will use as they investigate the natural world and develop solutions to problems. The crosscutting concepts are conceptual ways of thinking that cross the domains of science. **Honor Course** Recommended for students who have completed or are currently enrolled in MATH 152 College Algebra. (1 credit) (Semester class)
Social Studies

**COURSE**

**World Civilization** - (grade 9) Focusing on the world since 1500, this semester-long course extends student knowledge of the world by drawing on concepts from history, geography, political science, economics, and the history of the different continents of the world. *(1 credit) (Semester class)*

**Honors World Civilizations** – (grade 9) Focusing on the world since 1500, this semester-long course extends student knowledge of the world by drawing on concepts from history, geography, political science, economics, and the history of the different continents of the world. Students will be required to read one book per nine weeks (students are responsible for obtaining books). Assignments based upon the reading (which may include an essay or project) are required. Essay writing will be required and students will also learn to analyze primary source documents in order to complete several document-based question essays. This course emphasizes increased rigor in student assignments. It is required that students have achieved a grade of a B or higher in 8th grade social studies as well as a teacher recommendation before enrolling in Honors World Civilization. *(Honor Course) (1 credit) (Semester class)*

**American Studies** – (grade 10) This semester-long course is designed to give students an introduction to US History during their sophomore year. The curriculum will focus on early American history from colonization to reconstruction, as well as various social science concepts. Topics will include various forms of government, economic principles, the US Constitution, and citizenship. *(1 credit) (Semester class)*

**Honors American Studies** – (grade 10) This semester-long course will incorporate all components of Civics and Economics with an added emphasis on rigor. Due to the fact that the course incorporates an increased level of reading and writing, it is recommended that students possess proficiency in reading (MAP, KPREP), proficiency in writing as indicated by an ability to write an analytical essay (thesis, supporting detail, summary), the ability to analyze and interpret primary source documents (maps, tables, graphs, essays, articles, etc.), and the ability to discern various interpretations of historical issues in secondary sources. *(Honor Course) Prerequisite: Teacher recommendation; must have a B or higher in World Civilization.* *(1 credit) (Semester class)*
US History - (grade 11) This year-long course covers the entire scope of American History from the Reconstruction to the modern era. Attention is given to people, politics, economics, diplomacy and social aspects of American history as well as the relationships between the United States and other nations. (1 credit) (Year-long class)

Honors US History – (grade 11) This year-long course will incorporate all components of US History with an added emphasis on rigor. Due to the fact that the course incorporates an increased level of reading and writing, it is recommended that students possess proficiency in reading (MAP, KPREP), proficiency in writing as indicated by an ability to write an analytical essay (thesis, supporting detail, summary), the ability to analyze and interpret primary source documents (maps, tables, graphs, essays, articles, etc.), and the ability to discern various interpretations of historical issues in secondary sources. A significant amount of outside work should be expected. Students have the opportunity to take this course as dual credit through Midway University. Successful completion of this course will give the student credit in HIS 140 and HIS 141. (Honor Course) Prerequisite: Teacher recommendation; must have a B or higher in American Studies. (1 credit) (Year-long class)

History 109 – (grade 12) History of the United States since 1865 (3 hours college credit) –This course examines key political, economic, and social topics that have influenced significantly the American experience from Reconstruction through the contemporary era. Prerequisite: ACT Reading score of 20 and a composite score of 18, or COMPASS placement score. (1 credit) (Semester class)

History 105 – (grade 12) History of Europe from the Mid-Seventeenth Century to the Present (3 hours college credit)—This course surveys the development of European politics, society, and culture from the Age of Absolutism to the present. Prerequisite: ACT Reading score of 20 and a composite score of 18, or COMPASS placement score. (1 credit) (Semester class) **If it is found that another course would fill the General Education Requirements for local colleges/universities better for our seniors, a history course substitution may be made. All students would be notified of the change. Students will take English 101 and History 109 first semester in place of two (2) high school courses. English 101 and English 102 will replace the regular senior English IV course. The cost of each college course will be approximately $50 for tuition plus the cost of books. Books can run over $100 for each course. There will be a registration fee each semester for JCTC courses which will run about $50. During the 2nd semester, students who successfully pass the 6 hours of college courses will then take English 102 and History 105. All of the above costs will apply to the 2nd semester course. If a student enrolls in more than two (2) dual credit courses per semester from JCTC, the cost of the third course will be the regular tuition cost for that year. The tuition for the 2015-2016 school year at JCTC was $155 per hour or $465 for a three (3) hour course. The third course can no longer be taken for $50. If the course is a full year course, it must be paid for at the beginning of the school year. If the course is a semester course, it must be paid for at the beginning of each semester—as soon as school starts and as soon as we return from Christmas break.
Intro to Politics (GOVT*102) – (grade 11 - 12) This course introduces students to the major issues and features of American Government, International Relations, Comparative Government and Political Theory. By presenting students with an array of problems and controversies specific to the four main subfields of Political Science, the course aims not only to give students an overview of the discipline by presenting to them some of the most pressing problems, domestic and international. The course also aims to equip students with knowledge that will help them understand American politics as well as international affairs outside the classroom.  *This course satisfies the SBS II requirements for general education.* Prerequisite: 3.0 GPA and an ACT composite of 18. This will be a dual credit early-bird class. High school (1 credit) and college (3 credit hours). (Semester class)

Psychology - (grades 11-12) This semester-long course is a comprehensive introductory level study of Psychology. This study includes: 1) An introduction to the field of psychology and many of the core concepts used in studying, analyzing, and describing human psychology. 2) Analyzing the relationship between human physiology and psychology. 3) Understanding the different levels of consciousness. 4) Exploring aspects of learning, memory, and thought. (1 credit) (Semester class)

Intro to Psychology (PSY*200) – (grade 11 - 12) Course includes the application of psychological theories and principles in such major areas of psychology, including abnormal, biological, clinical, cognitive, developmental, personality, learning, sensation and perception, and social; in addition to the understanding of methods used in psychological research.  *This course satisfies the SBS II requirement for general education.* This class is offered for college credit only. Prerequisite: 3.0 GPA and an ACT or PLAN composite of 18. This will be an early-bird class for college credit (3 credit hours). (1 high school credit) (Semester class)

Sociology - (grades 11-12) This is the study of the human society. It is concerned with the behavior of human beings in group situations (in the family, school, neighborhoods, communities, etc.). (1 credit) (Semester class)

Career Development - (grade 12) Students enrolled in Career Development will have the opportunity to learn career related skills on paid and non-paid job sites. Each site will be monitored by the teacher and assistance will be given to make the placement successful. Students will be required to complete a career portfolio.  Pre-requisite: Student must be transition ready in order to be considered. Teacher recommendation and driver's license. (1 credit) (Semester class)
Peer Tutor I - (grades 11 - 12) This class is designed to allow students to explore and gain experience with laws, resources, and careers related to disabilities. Students are required to complete various projects such as reflection journals, design a work station, and research projects related to disabilities. Students will also work directly with those enrolled in the Community-Based Instruction program as tutors, attend community outings, and participate in school integration projects with their partners. Prerequisite: Teacher recommendation. (1 credit) (Semester class—may be taken one or both semesters)

Peer Tutor II - (grade 12) This class is designed to allow students to explore and gain experience with laws, resources, and careers related to disabilities. Students are required to complete various projects such as reflection journals, design a work station, and research projects related to disabilities. Students will also work directly with those enrolled in the Community-Based Instruction program as tutors, attend community outings, and participate in school integration projects with their partners. Prerequisite: Peer Tutor I. (1 credit) (Semester class—may be taken one or both semesters)

World Geography – (grades 11-12) This course is dedicated to studying the world around us. The class starts with an introduction to geography. Students will learn the five themes of geography, the features that define the earth, climate patterns of the earth, how to study people and cultures of the earth, and how to use various geographic tools. Students will apply the skills learned to the ten areas of the world being studied. The students will look at the physical features of those areas (land, climate, and types of vegetation). Each area will be addressed in terms of its culture, including studies of population patterns, history and government, and cultures/lifestyles. The final area to be addressed is current news, which includes current living conditions, current news events, and how people interact with their environment. (1 credit) (Semester class)

Introduction to American Government – (grades 11-12) This semester-long course introduces students to different types of governments, issues and features of the American government, relationships between governments, the US Constitution, political parties, and political theories. (1 credit) (Semester class)
World Languages

**COURSE**

**Spanish I** -- (grades 9-12) Spanish I gives the student a solid introduction to the language. It introduces the student to pronunciation and basic vocabulary and grammar for describing their daily lives. Students will also study many cultural aspects of several different Spanish-speaking countries. *(1 credit) (Semester class)*

**Spanish II** -- (grades 9-12) Spanish II students will continue to study present tense descriptions of their daily lives and be introduced to past tenses and other more complicated sentence structures. They will communicate daily in Spanish and continue to study the cultures of different Spanish-speaking countries. Prerequisite: Students must pass Spanish I with a D or better. *(1 credit) (Semester class)*

**Spanish III** -- (grades 10-12) Spanish III is a further study of the Spanish language and of the cultures of different Spanish-speaking countries. Students must be able to write and speak comfortably in Spanish as classes will be conducted completely in Spanish. Prerequisite: Student must pass Spanish I & II with a minimum of a C average. *(Honor Course) (1 credit) (Semester class)*

**Spanish IV** -- (grades 10-12) Spanish IV advances the student’s investigation of Spanish culture and development of their language skills through immersion in and discussion of Spanish films, literature, and music. Prerequisite: Student must pass Spanish III with a minimum of a C average. *(Honor Course) (1 credit) (Semester class)*

**Dual Credit Spanish 101 Midway University** -- (grades 10-12) This course is a fast-paced review and expansion of the topics students learned in Spanish 1 & 2. Students will widen their vocabulary and polish their grammar so that they can more fluidly discuss topics related to daily life. Additionally, students will deepen their exploration of several Spanish-speaking countries. Prerequisite: Student must pass Spanish 1 & 2 with a minimum of a C average. *The cost of each college course will be approximately $156 for tuition plus the cost of any books required.* *(Honor class) (1 credit) (Semester class)*

**Dual Credit Spanish 102 Midway University** (grades 10-12): Continuing the at the rapid rate of Spanish 101, students will add to their ability to navigate and meet basic needs in a Spanish immersion environment. Topics covered will include how to obtain appropriate food, clothing, and health care in Spanish. Also, students will continue to explore Hispanic cultures (including music, art, film, and literature, as well as traditional customs). Prerequisite: Student must pass Dual Credit Spanish 101. *The cost of each college course will be approximately $156 for tuition plus the cost of any books required.* *(Honor class) (1 credit) (Semester class)*
Vision and Belief Statements

**Get Technical...It Pays**

**Vision**

With high expectations and strong partnerships, Kentucky Tech will actively engage all students in the mastery of academic and technical skills needed to be ready for college and a career.

**We Believe**

- Students learn best when they are actively engaged in the learning process.
- Students learn best when our staff maintains high expectations for learning.
- Students are motivated to learn when classroom instruction is related to real-world applications.
- All students in our school need to have an equal opportunity to learn.
- A sage and physically comfortable environment promotes student learning.
- Students learn best when instruction incorporates both academic and technical skills.
- Effective school leaders engage in practices that support the ongoing improvement of teaching and student performance.
- Teacher, administrators, parents, and the community share the responsibility for helping students learn.

*Note the following:*
ALLIED HEALTH/HEALTH SCIENCES PATHWAY OFFERINGS

Outlined in the table below are all pathways available at CCHS and/or CCATC for students interested in a future in the Allied Health and Health Sciences Pathway. These pathways should follow a proper course sequence. Upon successful completion of three credits, students will be able to sit for the appropriate KOSSA certification. Additional industry certifications will be offered for some pathways. **Courses may be taken out of approved pathway as additional elective options with teacher permission ONLY.**

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<th>Sequence</th>
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<tr>
<td>1*</td>
<td>170632</td>
<td>Health Care Delivery and Management</td>
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<td>170167</td>
<td>Body Structures and Functions</td>
</tr>
<tr>
<td>4</td>
<td>170501</td>
<td>Allied Health Core Skills</td>
</tr>
</tbody>
</table>

**Allied Health Sciences Internships: (can only be taken Senior year)**

<table>
<thead>
<tr>
<th>Course Number</th>
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<tbody>
<tr>
<td>170550</td>
<td>Allied Health</td>
</tr>
<tr>
<td>170555</td>
<td>EKG Technician</td>
</tr>
<tr>
<td>170558</td>
<td>Pharmacy Technician</td>
</tr>
<tr>
<td>170567</td>
<td>Medical Laboratory Aide (Phlebotomy)</td>
</tr>
</tbody>
</table>

**Proposed**: PLTW Bio Med Internship
### ALLIED HEALTH PATHWAY

**EKG Technology/Technician – CIP 51.0902.01**

**PATHWAY DESCRIPTION:** This pathway prepares individuals, under the supervision of physicians and nurses, to administer EKG and ECG diagnostic examinations and report results to the treatment team. Includes instruction in basic anatomy and physiology, the cardiovascular system, medical terminology, cardiovascular medications and effects, patient care, EKG and ECG administration, equipment operation and maintenance, interpretation of cardiac rhythm, patient record management, and professional standards and ethics.

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</tr>
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</table>

### ALLIED HEALTH PATHWAY

**Pharmacy Technician – CIP 51.0805.01**

**PATHWAY DESCRIPTION:** This pathway prepares individuals, under the supervision of pharmacists, to prepare medications, provide medications and related assistance to patients, and manage pharmacy clinical and business operations. Includes instruction in medical and pharmaceutical terminology, principles of pharmacology and pharmaceutics, drug identification, pharmacy laboratory procedures, prescription interpretation, patient communication and education, safety procedures, record-keeping, measurement and testing techniques, pharmacy business operations, prescription preparation, logistics and dispensing operations, and applicable standards and regulations.

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<td>170558</td>
<td>Pharmacy Technician</td>
</tr>
</tbody>
</table>
### ALLIED HEALTH PATHWAY

**Phlebotomy Technician—CIP 51.1009.01**  
**PATHWAY DESCRIPTION:** This pathway prepares individuals, under the supervision of physicians and other health care professionals, to draw blood samples from patients using a variety of intrusive procedures. Includes instruction in basic vascular anatomy and physiology, blood physiology, skin puncture techniques, venipuncture, venous specimen collection and handling, safety and sanitation procedures, and applicable standards and regulations.

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</thead>
<tbody>
<tr>
<td></td>
<td>170567</td>
<td>Medical Laboratory Aide (Phlebotomy)</td>
</tr>
</tbody>
</table>

### PRE-NURSING PATHWAY

**Pre-Nursing—CIP 51.2699.01**  
**PATHWAY DESCRIPTION:** This pathway prepares individuals for admission to a professional program in Nursing. This pathway focuses on caring for residents in a long term care facility.

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</tr>
<tr>
<td>2*</td>
<td>170131</td>
<td>Medical Terminology</td>
</tr>
<tr>
<td>3</td>
<td>170632</td>
<td>Health Care Basic Skills with Clinical</td>
</tr>
<tr>
<td>4</td>
<td>170623</td>
<td>Health Care Communications</td>
</tr>
<tr>
<td></td>
<td>170601</td>
<td>Co-op Nursing</td>
</tr>
</tbody>
</table>

*1st YEAR—Pre-Nursing students will take courses 1 and 2 with Mrs. Beatty*
Industry Certifications: Allied Health—KOSSA
Industry Certifications: Pre-Nursing—

SRNA-State Registered Nursing Assistant
NOCTI-Healthcare Core

170550 – Allied Health
Grade Level: 9-12
Credits: 1
Course Description: The internship provides supervised on-the-job work experience related to the students’ education objectives. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates.
Prerequisites: Principles of Health Science – 170111 Medical Terminology – 170131 Emergency Procedures - 170141 or Permission of Instructor This course may be repeated to accommodate multiple experiences in a variety of health care settings.

170501 – Allied Health Core Skills
Grade Level: 9-12
Credits: 1
Course Description: Allied Health Core Skills is designed to provide knowledge, concepts and psychomotor skills necessary for gainful employment as an entry-level health care worker. Assisting students in selecting a career major, classroom instruction and educational objectives are combined with learning experiences, observations, and a work-based learning opportunity such as internship, shadowing, or clinical rotation. This course is designed for students not enrolled in the Medicaid Nurse Aide program.
Prerequisites: Principles of Health Science – 170111 Medical Terminology – 170131 Emergency Procedures - 170141 or Permission of Instructor.

170167 – Body Structures and Functions
Grade Level: 9-12
Credits: 1
Course Description: Body Structures and Functions (formerly Basic Anatomy and Physiology) is designed to provide knowledge of the structure and function of the human body with an emphasis on normalcy. The interactions of all body systems in maintaining homeostasis will promote an understanding of the basic human needs necessary for health maintenance Academic knowledge from life science core content as it relates to the human body will be included. Laboratory activities should be a part of the course when appropriate.

170601 – Co-op Nursing
Grade Level: 12
Credits: 1
Course Description: Cooperative Education provides supervised on-the-job work experience related to the student’s educational objectives. Students participating in the Cooperative Education program receive compensation for their work. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates.
Prerequisites: Principles of Health Science – 170111 Medical Terminology – 170131 Emergency Procedures - 170141 or Permission of Instructor.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Grade Level: 9-12</th>
<th>Credits: 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>170632 – Health Care Basic Skills with Clinical</td>
<td>Course Description: Introduced student to basic healthcare skills such as: measuring and recording vital signs, assisting licensed personnel, observing and reporting patient conditions, collecting specimens and caring for the hygiene, comfort, and safety of patients in various settings. Prepares the student for entry level healthcare positions by incorporating certification for American Heart Association Cardiopulmonary Resuscitation (CPR). Prepares student for the State Registered Nurse Aide (SRNA) examination.</td>
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</tr>
<tr>
<td>170555 – EKG Technician</td>
<td>Course Description: The internship provides supervised work site experience related to the student’s education objectives in the area of EKG technician. Upon completion of the internship, students are eligible to take the EKG Technician Certification examination. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates.</td>
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</tr>
<tr>
<td>170623 – Health Care Communications</td>
<td>Course Description: Introduces communication and its various forms as it exists in the health care field. Focuses on verbal, nonverbal, written and oral communication between members of the health team, patient, and caregivers through an interdisciplinary approach. Examines each role with discussion from the perspective of the involved parties. Emphasizes diversity, sociocultural influences and teamwork. Includes discussion of the media’s role in health care, as well as how health promotion campaigns may be implemented and managed. Appropriate for anyone interested in a career in allied health or nursing.</td>
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</tr>
<tr>
<td>170632 – Health Care Delivery and Management</td>
<td>Course Description: Introduces delivery and management of health care including professionalism, health care roles, health care delivery models, and types of health care coverage. Explores legal/ethical issues including HIPPA and confidentiality, electronic medical records and patients’ today. Appropriate for anyone interested in a career in allied health or nursing.</td>
<td></td>
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<tr>
<td>170567– Medical Laboratory Aide (Phlebotomy)</td>
<td>Course Description: The internship provides supervised on-the-job work experience related to the students’ education objectives in the area of Medical Laboratory Aide/Phlebotomist. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates. A Memorandum of Agreement must be completed for all clinical sites. The clinical portion of this course requires 100 hours of experience within a hospital lab, clinical lab, or physician's office. Students must complete a minimum of 30 successful unaided venipuncture collections (or minimum requirement of the clinical site) and 10 successful unaided capillary collections. Prerequisites: Principles of Health Science – 170111 Medical Terminology – 170131 Emergency Procedures - 170141 or Permission of Instructor.</td>
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</tbody>
</table>
170131 – Medical Terminology
Grade Level: 9-12
Credits: 1
Course Description: Medical Terminology designed to develop a working knowledge of language in all health science major areas. Students acquire word-building skills by learning prefixes, suffixes, roots and abbreviations. Students will learn correct pronunciation, spelling and application rules. By relating terms to body systems, students identify proper use of words in a medical environment. Knowledge of medical terminology enhances the student’s ability to successfully secure employment or pursue advanced education in health care.

170558 – Pharmacy Technician
Grade Level: 12
Credits: 1
Course Description: This course may be completed as an independent study or classroom course during the student’s senior year. Material covered will include: Orientation, Federal Law, Medication Review, Aseptic Techniques, Calculations, and Pharmacy Operations. It is suggested that students complete and document at least 5-10 hours of observation and/or interview with a pharmacist or pharmacy technician. Upon completion of this internship, students are eligible to take the Pharmacy Technician Certification examination in order to obtain national certification. This internship requires supervised on-the-job work experience related to the students’ education objectives in the area of Pharmacy Technician. Students participating in the internship do not receive compensation. Students will be required to follow program and agency requirements for attendance and health screenings. These may include but are not limited to: drug screens, TB skin test, and immunization certificates. A Memorandum of Agreement must be completed for all clinical sites. The clinical portion of this course requires a minimum of 50 hours of experience—40 hours in a retail pharmacy and 10 hours in a hospital pharmacy.
AUTOMOTIVE TECHNOLOGY

AUTOMOTIVE TECHNOLOGY PATHWAY

Automotive Maintenance Light Repair Technician – CIP 47.0604.01

PATHWAY DESCRIPTION: This pathway prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Includes instruction in brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drive trains, and heating and air condition systems.

Prerequisite: Completion of MLR A, B, C, and D.

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<th>Sequence</th>
<th>Course Number</th>
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<tbody>
<tr>
<td>1</td>
<td>470507</td>
<td>Automotive Maintenance &amp; Light Repair A</td>
</tr>
<tr>
<td>2</td>
<td>470509</td>
<td>Automotive Maintenance &amp; Light Repair B</td>
</tr>
<tr>
<td>3</td>
<td>470511</td>
<td>Automotive Maintenance &amp; Light Repair C</td>
</tr>
<tr>
<td>4</td>
<td>470513</td>
<td>Automotive Maintenance &amp; Light Repair D</td>
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AUTOMOTIVE TECHNOLOGY PATHWAY

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<tbody>
<tr>
<td>1</td>
<td>470527</td>
<td>Light Vehicle Diesel Engines Section A</td>
</tr>
<tr>
<td>2</td>
<td>470528</td>
<td>Light Vehicle Diesel Engines Section B</td>
</tr>
<tr>
<td>3</td>
<td>470529</td>
<td>Light Vehicle Diesel Engines Section C</td>
</tr>
<tr>
<td>4</td>
<td>470530</td>
<td>Light Vehicle Diesel Engines Section D</td>
</tr>
<tr>
<td>5</td>
<td>470501</td>
<td>Co-op Automotive Technology</td>
</tr>
</tbody>
</table>
**CTE-ENGINEERING HYBRID CAREER PATHWAYS**

**Automotive Engineering – CIP 15.0803.00**

**PATHWAY DESCRIPTION:** This pathway provides the opportunity to blend Career and Technical Education (CTE) courses with Engineering courses to help students apply technical skills along with science, technology, engineering, and math (STEM) skills to solve real-world problems. This pathway prepares individuals to apply engineering principles and technical skills in support of engineers and other professionals engaged in developing, manufacturing and testing self-propelled ground vehicles and their systems. Includes instruction in vehicular systems technology, design and development testing, prototype and operational testing, inspection and maintenance procedures, instrument calibration, test equipment operation and maintenance, and report preparation.

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<tr>
<td>1</td>
<td>219901</td>
<td>Intro. To Engineering Design (PLTW) iLead or CCHS-Shirley</td>
</tr>
<tr>
<td>2</td>
<td>219902</td>
<td>Principles of Engineering (PLTW) iLead or CCHS-Shirley</td>
</tr>
<tr>
<td>3</td>
<td>470507</td>
<td>Automotive Maintenance &amp; Light Repair A</td>
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<td>Automotive Maintenance &amp; Light Repair C</td>
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<td>470513</td>
<td>Automotive Maintenance &amp; Light Repair D</td>
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Outlined in the table below are all pathways available at CCHS and/or CCATC for students interested in a future in Construction Carpentry. These pathways should follow a proper course sequence. Upon successful completion of three credits, students will be able to sit for the appropriate KOSSA certification. Additional industry certifications will be offered for some pathways. **Courses may be taken out of approved pathway as additional elective options with teacher permission ONLY.**

### Residential Carpenter Assistant – CIP 46.0201.02

PATHWAY DESCRIPTION: This pathway prepares individuals to apply technical knowledge and skills to lay out, cut, fabricate, erect, install, and repair wooden structures and fixtures, using hand and power tools. Includes instruction in technical mathematics, framing, construction materials and selection, job estimating, blueprint reading, foundations and roughing-in, finish carpentry techniques, and applicable codes and standards.

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<tr>
<td>1</td>
<td>460201</td>
<td>Intro. To Construction Technology</td>
</tr>
<tr>
<td>2</td>
<td>499930</td>
<td>Industrial Safety</td>
</tr>
<tr>
<td>3</td>
<td>460212</td>
<td>Floor and Wall Framing</td>
</tr>
<tr>
<td>4</td>
<td>460217</td>
<td>Construction Prints</td>
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<tr>
<td><strong>2nd YEAR--Senior</strong></td>
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<tr>
<td>1</td>
<td>406214</td>
<td>Site Layout and Foundations</td>
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<tr>
<td>2</td>
<td>406219</td>
<td>Interior and Exterior Finish</td>
</tr>
<tr>
<td>3</td>
<td>406213</td>
<td>Ceiling and Roof Framing</td>
</tr>
<tr>
<td>4</td>
<td>406242</td>
<td>and/or Construction Carpentry Co-op</td>
</tr>
</tbody>
</table>
C.T.E.-ENGINEERING HYBRID CAREER PATHWAYS

Construction Architectural Engineering – CIP 15.0101.02

PATHWAY DESCRIPTION: This pathway provides the opportunity to blend Career and Technical Education (CTE) courses with Engineering courses to help students apply technical skills along with science, technology, engineering, and math (STEM) skills to solve real-world problems. This pathway prepares individuals to apply engineering principles and technical skills in support of architects, engineers and planners engaged in designing and developing buildings, urban complexes, and related systems. Includes instruction in design testing procedures, building site analysis, model building and computer graphics, structural systems testing, analysis of prototype mechanical and interior systems, report preparation, basic construction and structural design, architectural rendering, computer-aided drafting (CAD), layout and designs, architectural blueprint interpretation, building materials, and basic structural wiring diagraming.

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<td>460212</td>
<td>Floor and Wall Framing</td>
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Construction Carpentry Industry Certifications:

**Construction Carpentry—**
NCCER—Construction Carpentry Level 1 Certification

http://www.nccer.org/

**OSHA 30—Construction**—Occupational Safety & Health Administration

http://osha.eku.edu/

460201 – *Intro. To Construction Technology*

**Course Description:** This course is the introduction to the construction carpentry industry. The class will emphasize safe and proper methods of operating hand tools, portable power tools, and stationary power tools in the construction industry.

**Grade Level:** 9-12  **Credits:** 1

499930 – *Industrial Safety*

**Course Description:** This course provides practical training in industrial safety. The students are taught to observe general safety rules and regulations, to apply work site and shop safety rules, and to apply OSHA regulations. Students are encouraged to obtain certification in first aid and cardiopulmonary resuscitation.

**Grade Level:** 9-12  **Credits:** .05

460212 – *Floor and Wall Framing*

**Course Description:** The student will practice floor framing, layout, and construction of floor frames. Cutting and installing floor and wall framing members according to plans and specifications will also be practiced.

**Grade Level:** 9-12  **Credits:** 1

460217 – *Construction Prints*

**Course Description:** This course will provide a series of lectures, demonstrations, and practice exercises in the study of symbols, views, sections, details, and material lists found on architectural working drawings, building materials and specifications lists, and construction dimensioning systems and charts/schedules.

**Grade Level:** 9-12  **Credits:** .05
406214 – Site Layout and Foundations  
**Course Description:** Students will prepare materials, calculate the cost for a building site, and layout a site with a transit, locating property lines and corners. Students calculate the amount of concrete needed for footing and foundation walls and construct different types of foundations and forms.

406219 – Interior and Exterior Finish  
**Course Description:** This course presents basic concepts of building trim, gypsum wallboard, paneling, base, ceiling and wall molding with instruction on acoustical ceilings and insulation, wood floors, tile, inlaid adhesive and tools of the flooring trade. This course will continue to refine the techniques and skills taught in the previous carpentry courses. In this course, cost control, speed, and precision are emphasized. In addition, students will demonstrate the skills associated with the exterior finishing of a house.

406213 – Ceiling and Roof Framing  
**Course Description:** This course covers roof types and combinations of roof types used in the construction industry. The emphasis of this course is on layout, cutting and installing ceiling joists, rafters, roof sheathing, and roof coverings for both commercial and residential construction.

406242 – Construction Carpentry Co-op  
**Course Description:** Co-op provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Co-op Education program receive compensation for their work.
Outlined in the table below are all pathways available at CCHS and/or CCATC for students interested in a future in Industrial Maintenance Technology Pathway. These pathways should follow a proper course sequence. Upon successful completion of three credits, students will be able to sit for the appropriate KOSSA certification. Additional industry certifications will be offered for some pathways. **Courses may be taken out of approved pathway as additional elective options with teacher permission ONLY.**

### ELECTRICAL TECHNICIAN PATHWAY

**Electrical Technician – CIP 47.0303.02**  
**PATHWAY DESCRIPTION:** Electrical Technicians apply electrical theory and related knowledge to diagnose and modify developmental or operational electrical machinery and electrical control equipment and circuitry in industrial or commercial plants and laboratories: Assembles and tests experimental motor-control devices, switch panels, transformers, generator windings, solenoids, and other electrical equipment and components according to engineering data and knowledge of electrical principles.

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<tr>
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<td>470322</td>
<td>Industrial Maintenance Electrical Principles</td>
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<tr>
<td>2</td>
<td>470321</td>
<td>Fluid Power <em>(year-long course)</em></td>
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<tr>
<td>3</td>
<td>210341</td>
<td>Foundations of Energy</td>
</tr>
<tr>
<td>Sequence</td>
<td>Course Number</td>
<td>Course Title</td>
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<tr>
<td>2nd YEAR</td>
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<tr>
<td>1</td>
<td>210142</td>
<td>Power and Energy Equipment Technology</td>
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<tr>
<td>2</td>
<td>499920</td>
<td>Basic Blueprint Reading <em>(year-long course)</em></td>
</tr>
<tr>
<td>3</td>
<td>470348</td>
<td>Industrial Maintenance Electrical Motor Controls</td>
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<tr>
<td>4</td>
<td>470305</td>
<td>Co-op Industrial Maintenance</td>
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<tr>
<td>Elective</td>
<td>219903</td>
<td>PLTW Digital Electronics</td>
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</table>

**CTE-ENGINEERING HYBRID CAREER PATHWAY**

**Industrial Maintenance/Electrical Engineering—CIP 14.4101.00**

**PATHWAY DESCRIPTION:** This pathway provides the opportunity to blend Career and Technical Education (CTE) courses with Engineering courses to help students apply technical skills along with science, technology, engineering, and math (STEM) skills to solve real-world problems. Electrical Engineers apply electrical theory and related knowledge to diagnose and modify developmental or operational electrical machinery and electrical control equipment and circuitry in industrial or commercial plants and laboratories. Electrical Engineers experiment with motor control devices, switch panels, transformers, generator windings,
solenoids, and other electrical equipment and components according to engineering data and knowledge of electrical principles.

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<tr>
<th>Sequence</th>
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<tbody>
<tr>
<td>1</td>
<td>219901</td>
<td>Intro. To Engineering Design (PLTW) iLead or CCHS-Shirley</td>
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<tr>
<td>2</td>
<td>219903</td>
<td>PLTW Digital Electronics</td>
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<tr>
<td>3</td>
<td>470322</td>
<td>Industrial Maintenance Electrical Principles</td>
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<tr>
<td>4</td>
<td>470348</td>
<td>Industrial Maintenance Electrical Motor Controls</td>
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<td>5</td>
<td>210341</td>
<td>Foundations of Energy</td>
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<tr>
<td>6</td>
<td>210142</td>
<td>Power and Energy Equipment Technology</td>
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*Industrial Maintenance Technology Industry Certificates:*

- **Electrical Technician** — National Center for Construction Education and Research  
- NCCER—Industrial Maintenance Electrical Technician Level 1
- **OSHA 10-General Industry** — Occupational Safety & Health Administration  
  [http://osha.eku.edu/](http://osha.eku.edu/)
470322 – Industrial Maintenance Electrical Principles
Grade Level: 9-12
Credits: 1
Course Description: This course introduces the theory of electricity and magnetism and the relationship of voltage, current, resistance, and power in electrical circuits. The course is designed to develop an understanding of alternating and direct current fundamentals. Students will apply formulas to analyze the operation of AC and DC circuits.

470321 – Fluid Power (year-long course)
Grade Level: 9-12
Credits: 1
Course Description: This course is a study of fluid power theory, component identification and application, schematic reading, and basic calculations related to pneumatic and hydraulic systems and their operations.

210341 – Foundations of Energy
Grade Level: 9-12
Credits: 1
Course Description: The course provides an overview of renewable and nonrenewable energy resources reflecting how energy impacts the environment and the economy from regional, state, national and global perspectives. Extensive hands-on laboratory activities are vital component in this course.

210142 – Power and Energy Equipment Technology
Grade Level: 9-12
Credits: 1
Course Description: Power and Energy Equipment is used every day in many different ways. To become a more environmentally friendly society, students will have a basic understanding of the various types of energy equipment and how energy is obtained or generated. Everyone should know what energy sources are available that do not pollute the environment and how this energy can be converted into a useful power supply. This course provides students with the foundation in content and skills associated with various energy sources, and electrical power generation, working with AC/DC electrical circuits, and transfer of various energy forms to produce DC current. Laboratory-based activities are an integral part of the course that includes safe use and application of appropriate technology, scientific testing and observation equipment.
499920—Basic Blueprint Reading *(year-long course)*  
Grade Level: 9-12  
Credits: 1  
**Course Description:** This course presents basic applied math, lines, multi-view drawings, symbols, various schematics and diagrams, dimensioning techniques, sectional views, auxiliary views, threads and fasteners, and sketching typical to all shop drawings. Safety will be emphasized as an integral part of the course.

470348 – Industrial Maintenance Electrical Motor Controls  
Grade Level: 9-12  
Credits: 1  
**Course Description:** This course addresses the diversity of electric motor control devices and applications used in industry today with safety and electrical lockouts included.  
*Prerequisite: Industrial Maintenance Electrical Principles - 470322*

470305 – Co-op Industrial Maintenance  
Grade Level: 12  
Credits: 1  
**Course Description:** Cooperative Education provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Cooperative Education program receive compensation for their work.  
*Prerequisite: Permission of Instructor*
Welding

WELDING PATHWAY OFFERINGS

Outlined in the table below are all pathways available at CCHS and/or CCATC for students interested in a future in Welding. These pathways should follow a proper course sequence. Upon successful completion of three credits, students will be able to sit for the appropriate KOSSA certification. Additional industry certifications will be offered for some pathways. **Courses may be taken out of approved pathway as additional elective options with teacher permission ONLY.**

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<td>480521</td>
<td>Shielded Metal Arc Welding (SMAW)</td>
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<td>2</td>
<td>480528</td>
<td>SMAW Groove Welds with Backing Lab</td>
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<tr>
<td>3</td>
<td>480505</td>
<td>Blueprint Reading for Welding</td>
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<td>4</td>
<td>480501</td>
<td>Cutting Processes</td>
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<tr>
<td>1</td>
<td>480522</td>
<td>Gas Metal Arc Welding</td>
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<tr>
<td>2</td>
<td>480525</td>
<td>Gas Tungsten Arc Welding</td>
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<td>3</td>
<td>480537</td>
<td>Shielded Metal Arc Welding Pipe Lab B</td>
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<td>4</td>
<td>480535</td>
<td>SMAW Open Groove Lab</td>
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<td>5</td>
<td>480541</td>
<td>Co-op Welding</td>
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**CTE-ENGINEERING HYBRID CAREER PATHWAYS**

**Welding Engineering – CIP 15.0614.00**

**PATHWAY DESCRIPTION:** This pathway provides the opportunity to blend Career and Technical Education (CTE) courses with Engineering courses to help students apply technical skills along with science, technology, engineering, and math (STEM) skills to solve real-world problems. Welding Engineers design and develop metal components for products for the pipeline, automotive, boiler making, ship building, aircraft and mobile home industry. Welding Engineers must have knowledge of cutting processes and gas metal arc welding procedures for efficient development of these industrial processes.
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**Welding Industry Certifications Offered:**

- **Welding**
  - [Website](http://www.aws.org/education/)

- American Welding Society (AWS)  
- KY DOT Certification Part 1 & 2

**OSHA 10-General Industry—Occupational Safety & Health Administration**

- [Website](http://osha.eku.edu/)
480521 – Shielded Metal Arc Welding (SMAW)
Grade Level: 9-12
Credits: 1
Course Description: Students learn the identification, inspection, and maintenance of SMAW electrodes; principles of SMAW; the effects of variables on the SMAW process to weld plate and pipe; and metallurgy.

480528 – SMAW Groove Welds with Backing Lab
Grade Level: 9-12
Credits: 1
Course Description: Students will acquire the manipulative skills to do groove welds in all positions with backing.
Prerequisites: Shielded Metal Arc Welding (SMAW) - 480521 or Consent of Instructor

480505 – Blueprint Reading for Welding
Grade Level: 9-12
Credits: 1
Course Description: This course provides a study of occupationally specific prints for welders. Advanced study of multi-view drawings, assembly drawings, datum dimensions, numerical control drawings, sheet metal prints, castings and forgings, instrumentation and control charts and diagrams, working drawings, geometric dimensioning and tolerance and use of reference materials and books are included. Occupational specifics including welding drawings, symbols, joint types, grooves, pipe welding symbols, testing symbols, and specification interpretations are stressed.
Prerequisite: Consent of Instructor
480501 – Cutting Processes
Grade Level: 9-12
Credits: 1
Course Description: Students will obtain a working knowledge of various cutting processes used by the welding industry. Skills will include, but are not limited to, safety, theory of operation, setup and operating techniques, troubleshooting, and making minor equipment repairs, terms and definitions, identification, evaluation, repair and prevention of discontinuities of cut surfaces. Also included are oxy-fuel cutting, plasma arc cutting, exothermic cutting, air carbon arc cutting, shielded metal arc cutting, and mechanical cutting processes.

480522 – Gas Metal Arc Welding
Grade Level: 9-12
Credits: 1
Course Description: This course covers identification, inspection, and maintenance of GMAW machines; identification, selection and storage of GMAW electrodes; principles of GMAW; and the effects of variables on the GMAW process. Theory and applications of related processes such as FCAW and SAW and metallurgy are also included. Students learn the practical application and manipulative skills of Gas Metal Arc Welding and the proper safety situations needed in this process. Both ferrous and non-ferrous metals will be covered, as well as various joint designs on plate in all positions.

480525 – Gas Tungsten Arc Welding
Grade Level: 9-12
Credits: 1
Course Description: This course covers identification, inspection, and maintenance of GTAW machines; identification, selection and storage of GTAW electrodes; principles of GTAW; effects of variables on the GTAW process; and metallurgy. This course also teaches the theory and application of Plasma Arc Cutting.

480535 – SMAW Open Groove Lab
Grade Level: 9-12
Credits: 1
Course Description: This course offers the student the opportunity to advance skills in the practical aspects of vee-butt plate welding using SMAW. Prerequisites: Shielded Metal Arc Welding (SMAW)-480521 or Consent of Instructor
480537 – SMAW Weld Pipe Lab B
Grade Level: 9-12
Credits: 1
Course Description: Students will learn the required manipulative skills to arc weld pipe using mild steel electrodes in the 6G position including proper pipe preparations, electrodes, safety precautions, and welding sequences.
Prerequisites: SMAW Open Groove Lab – 480535

480541 – Co-op Welding
Grade Level: 12
Credits: 1
Course Description: Cooperative Education provides supervised on-the-job work experience related to the students' educational objectives. Students participating in the Cooperative Education program receive compensation for their work. Prerequisite: Consent of Instruct