CAPE GIRARDEAU CAREER & TECHNOLOGY CENTER

All Courses are Elective Credit

Career Path: Arts and Communications; Business, Management and Technology; Health Services; Human Services; Industrial and Engineering Technology; Natural Resources

In order to be eligible to enroll in a three hour course at the Career and Technology Center (CTC), students must complete an application process, including signatures from their parent/guardian and school counselor. To be considered for acceptance to the career center, students must have both a good attendance and discipline history at their high school. Due to the number of students who request enrollment at CTC, students with more than ten absences or two discipline referrals may be unable to attend.

Mineral Area College (MAC) – Articulated Credit

Students who enter articulated career and technical programs will have the opportunity to earn from 3 to 36 semester hours of college credit through Mineral Area College of Park Hills, MO, while earning high school graduation credits. College hours may apply toward an Associate of Applied Science degree (AAS).   This is an articulated collaborative program through Mineral Area College (MAC) that allows qualifying juniors and seniors a great opportunity to get a head start on their college education while still in high school.

Students enrolled in an articulation program at CTC will earn the technical portion of the degree while in high school and may complete the general education portion of the degree upon graduation. The general education courses may be completed at MAC's campus in Park Hills, or students may choose to take the courses online with MAC. The credit will be issued to any student who chooses to pursue an Associate of Applied Science degree either on the MAC campus or via online coursework. Once students have completed 15 hours of non-developmental classes, the credit earned at CTC will be issued to them.

Students also have the opportunity to earn an additional three hours of MAC credit by choosing to enroll in the **Technical Math** course. Completing the Tech Math course allows students to earn an additional three hours of college credit for free, and one credit of high school math. College credit will be applied toward the general education requirements if choosing to complete the AAS degree through MAC.

Programs with articulation agreements include: Automotive Collision, Automotive Technology, Childcare, Computer Networking and Security, Construction Technology, Digital Media Production, Electrical Trades, Graphic Arts, HVAC/R, Landscape/Horticulture, Marketing, Precision Machining, Pre-Engineering – Project Lead The Way, and Welding.

Three Rivers College (TRC) – Articulated Credit

Students who enter articulated career and technical programs will have the opportunity to earn from 25 to 36 semester hours of college credit through Three Rivers College (TRC) in Poplar Bluff, MO, while earning high school graduation credits. College hours may apply toward an Associate of Applied Science degree in Career and Technical Studies. More information regarding the TRC articulated credit will be provided to students upon enrollment.

Programs with articulation agreements include: Automotive Collision, Automotive Technology, Careers in Childcare, Computer Coding and Programming, Computer Networking and Security, Construction Technology, Criminal Justice, Culinary Arts, Digital Media, Drone Technology, Electrical Trades, Graphic Arts, HVAC/R, Precision Machining, Marketing, Pre-Engineering by Project Lead the Way, and Welding.

The credits earned through the articulated program may be applied toward an Associate of Applied Science degree. The general education requirements may be completed through the Cape College Center (CCC), located within the CTC building, or on any TRC campus.

The following high school programs are offered at the Cape Girardeau Career and Technology Center:

Course Title: Auto Collision Technology I .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: None
Description: This course provides training in auto collision repair; straightening sheet metal with hand and power tools, dent filling with plastics, sanding and masking techniques, and windshield repair/replacement. Basic instruction in mig welding is given for panel repair. Spray painting is primarily with base coat/clear coat paint system. Students will complete projects on late model vehicles. Written competencies will require 3 days in classroom per week for the first semester. Second semester will be devoted to shop performance.

Course Title: Auto Collision Technology II .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 12
Prerequisites: Auto Collision Tech I and Teacher Approval
Description: This course provides advanced training in all phases of the occupation including air conditioning, estimation, spraying urethane finishes of all types, color blending, and paint matching. Students will complete projects on a variety of vehicles.

Course Title: Automotive Technology I .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: None
Description: This is an introduction to shop safety, automotive maintenance, power plants, electrical braking, steering, suspension system, and maintenance and light repair, and Skills USA. Theory, diagnosis and computerized systems will be emphasized in all levels of training. In-depth book work along with theory and shop work is expected. Students must have good communication and math skills. Much emphasis will be placed on **Automotive Service Excellence (ASE)** guidelines. Students must have a valid driver's license and a good driving record.

Course Title: Automotive Technology II .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 12
Prerequisites: Automotive Technology 1 and instructor approval
Description: This class is an introduction to brakes, advanced electrical, emission and fuel control, heating and air condition, auto tire and wheel alignment, electrical test equipment, maintenance and light repair, and prep for employment. In-depth theory and shop work is expected. Much emphasis will be placed on **Automotive Service Excellence (ASE)** guidelines. Students must have good communication and math skills, a valid driver's license, and a good driving record.

Course Title: Basic Flight .... **CREDIT: 3.0**
2 Semesters- 3 periods (PM only)
Grades Eligible: 11, 12 (one year only- seniors will be given preference)
Prerequisites: Algebra I

Description: This course is designed to provide the initial phases of ground and flight training prescribed by Federal Aviation Regulations (FARs) part 61for the private pilot certification level. Along with classroom training students may log a possible 5 hours of aircraft practical flight instruction and possible 10 hours of flight observation. Upon successful completion of the course, students are eligible to take the FAA Private Pilot written exam and pursue student pilot certification status.

Course Title: Cabinet Making..**CREDIT: 3.0**
2 semesters – 3 periods – (AM only)   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: None
Description: This course will allow students to learn the procedures of design and wood manufacturing. Students will be exposed to cabinet design through sketching, drawings, and reading blueprints. Students will also learn the manufacturing process including: machining and assembly of furniture and cabinet components. The use of stationary power machines, hand power tools, and hand tools are an integral part of the course. Students will be introduced to Computer Numerical Control (CNC milling), Master CAM and CADD design software. Students will also have the opportunity to understand and apply different finishes to furniture consistent with industrial standards. This course will prepare students for entry level employment in the wood manufacturing industry.

Course Title: Cabinet Making II..**CREDIT: 3.0**
2 semesters – 3 periods (AM only)   **Community college credit available**
Grades Eligible: 12
Prerequisites: Wood Design and Manufacturing I and instructor approval
Description: This course will continue with the wood manufacturing processes of machining, assembly of cabinet and furniture components, and finishing of wood products. A greater portion of class time will be spent on computer numerical control machining (CNC), using Master Cam software to aid in the machining process, computer aided design and drafting (CADD) to gain knowledge of the design process, and estimating complete wood manufacturing projects for residential building and remodeling.

Course Title: Child Care Careers.. **CREDIT: 3.0**
2 Semesters – 3 periods   **Community college credit available**
Grade Eligible: 12
Prerequisites: Child Development or instructor approval
Description: This class is a three hour block in which students begin to learn how to become an Early Childhood Teacher. In this course students learn about child development theories and health and safety techniques as well as how to develop age-appropriate learning activities for children ages 3-5. The students will also learn positive discipline techniques needed to successfully manage a classroom. Students receive experience writing lesson plans, implementing those plans, conducting circle time, and managing the classroom. Students will learn how to observe and record student behavior. They will also build a positive and productive relationship with families and maintain a commitment to professionalism. Students will begin a professional portfolio necessary for national certification. They will earn 120 clock hours of classroom training, including 10 hours each of the 8 CDS subcategories, and 480 clock hours of interaction with children that is required for the Child Development Associate (CDA) examination. This is a national certification recognized in 48 states and opens employment doors in State-licensed daycares and preschools as well as Head Start programs. Dual credit is also available for this class through Southeast Missouri State University. Those credits would go toward an Early Childhood Degree or could be used as elective credits.

Course Title: Computer Coding and Programming I .... **CREDIT: 3.0**
2 semesters – 3 periods – (AM Only)   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: Computer Basics (Computer Apps or Keyboarding) and Algebra I or equivalent

This course introduces students to coding fundamentals through an approachable, block-based programming language where they will have early success in creating usable apps. As students sharpen their computational thinking skills, they will transition to programming environments that reinforce coding fundamentals by displaying block programming and text based programming style side-by-side. Finally, students will learn the power of text-based programming as they are introduced to the Python programming language.

Course Title: Computer Coding and Programming II .... CREDIT: 3.0
2 semesters – 3 periods – (PM Only)   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: Computer Coding and Programming I with a minimum of a C- and instructor approval

This course is a continuation of Computer Coding and Programming 1. Students will specialize in languages, such as HTML, CSS, and JavaScript. Students will also be exposed to languages, such as, Java and PHP. Year two focuses on text-based languages, as well as career readiness in the Computer Science industry. To prepare students for their future career, an internship will be apart of the year two curriculum. Students are responsible for transportation.

Course Title: Computer Networking & Security I .... CREDIT: 3.0
2 semesters – 3 periods – (AM Only)   **Community college credit available**
Grades Eligible: 11, 12   **SEMO dual credit available**
Prerequisites: Keyboarding, Computer Applications, Algebra I and English with a grade of C and above are required. Strong reading skills and good attendance will be necessary.

During Semester 1, students will study IT Essentials: PC Hardware and Software. IT Essentials is a hands-on, career-oriented e-learning solution with an emphasis on practical experience to help students develop fundamental computer skills, along with essential career skills. Students will solve common computer problems, upgrade programs and operating systems, install virtual machines and build a computer. The Cisco® IT Essentials curriculum helps students prepare for entry-level IT (Information Technology) career opportunities. Students will be encouraged to test for the CompTIA A+ certification, which helps differentiate themselves in the marketplace to advance their careers. Students can enroll for dual credit with SEMO (TN-255) for 3 credit hours.

During semester two, students will begin studying the Cisco CCNA Routing and Switching curriculum which will include the "Introduction to Network" course. Students will begin preparing for a networking career with this introduction to how networks operate. This includes learning the architecture, structure, and functions needed to support the operations and priorities of Fortune 500 companies to small innovative retailers. Students will even get the chance to configure a network themselves, such as a simple LAN (Local Area Network). After completing this course, you will have a working knowledge of routing, switching, network applications and protocols. This is the first course in a 4-course series designed to prepare for entry-level networking jobs. Students can enroll for dual credit with SEMO (TN-275) for 3 credit hours.

Course Title: Computer Networking & Security II .... CREDIT: 3.0
2 semesters – 3 periods – (PM Only)   **Community college credit available**
Grades Eligible: 12   **SEMO dual credit available**
Prerequisites: Computer Networking & Security I with a minimum of C- <u>and</u> instructor approval.
Description: Through participation in the Cisco Networking Academy, second-year students will study advanced computer networking concepts. During semesters three and four, students will study course 2, 3,

and 4 of the CCNA Routing and Switching Essentials curriculum. Students will become more fascinated with the sheer magnitude and interconnectedness of networks used in today's technology world. Students will become proficient at configuring a router and a switch to enabling the functionality of a network, and gain more knowledge on what it takes to work with LANs, WANs and other network designs. Student will be encouraged to test for the Cisco CCENT and CCNA Certification. Students can enroll for dual credit with SEMO (TN-375) for 3 credit hours.

Course Title: Construction Technology I .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: None
Description: Students will receive instruction and hands-on experience in hand and power tool safety, site prep and layout, footing and foundation forming, floor and wall framing, sheathing, window and exterior door installation and exterior wall finishes. The students will participate in various projects around the school district. Besides the hands on training, there will be extensive classroom work including math and communication arts. The students will also spend time being tested for basic job skills.

Course Title: Construction Technology II .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 12
Prerequisites: Construction Technology I and instructor approval
Description: Students will cover areas of residential interior finish carpentry. This will include energy conservation, insulation, drywall, interior wall and ceiling finishes, interior doors and trim, flooring, cabinet installation, fixture installation, residential wiring and plumbing. The students will participate in various projects around the school district. Besides the hands on training, there will be extensive classroom work including math and communication arts. Students will also spend time being tested for basic job skills. Students will have the opportunity to earn the OSHA 10 card.

Course Title: Criminal Justice ....**CREDIT: 3.0**
2 semesters – 3 periods – (AM only)   **Community college credit available**
Grades Eligible: 11, 12 (one year only- seniors will be given preference)
Prerequisites: None
This course is a one year course and will provide students with knowledge in the field of law enforcement/police science and prepare them for continuing education and ultimately, employment in a related field. This course is designed to acquaint the student with historical perspectives of law enforcement and a variety of criminal justice career fields, including but not limited to: Crime Scene Investigation, Law Enforcement, Police Science, Patrol Theories and Report Writing, Legal Studies, and Leadership Competencies. Course content may include the discussion and viewing of some of man's worst crime scenes. Students will be exposed to real world scenarios which include language and actions consistent with law enforcement encounters.

Course Title: Culinary Arts I... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: Basic Food Class
Description: This program of study is the basic principles of the foodservice industry. Food safety, sanitation, personal safety, food handling skills, knife skills, nutrition, customer service and cooking techniques highlight this program. Students will learn what the nation's largest employer expects them to know and the wide range of opportunities available in the foodservice industry. Hands-on experience is an integral part of the program featuring working lab sessions on a large variety of kitchen equipment.

Students will learn tasks involved in front of house operations, back of house operations and receive their food handler's card from the local regulatory agency.

Course Title: Culinary Arts II .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 12
Prerequisites: Culinary Arts I and instructor approval
Description: The second year program provides the student with additional training in the specific roles of the food service industry. The course is designed for students to develop additional knowledge to prepare for careers in the food service industry. History and depth of knowledge of the industry allows the student to understand the concept of proven and varied cooking techniques used worldwide. Students will learn about food costing, menu planning and profitability. Students meeting the qualification and with the recommendation of the instructor will have the opportunity to compete in culinary competitions at the state and national level. Students will take lead roles in the operation of our campus restaurant and further their experience in the real world food service operations. Second year students will have the opportunity to become ServSafe Certified and earn certification from the National Restaurant Association ProStart Program.

Course Title: Digital Media Production.. **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: Computer Applications 1 with a grade of "C+" or above
Description: This exciting program will introduce and prepare students for the field of broadcasting, digital video, and digital film production. Emphasis will be placed on hand-on access to the high-tech gear ~~camera~~ and state-of-the-art software, digital video cameras, professional lighting, audio equipment, and more. Students will also learn computer-based editing with Adobe Premiere and special techniques with After Effects while working on projects such as: TV commercials, PSAs, news, music videos, sports, and short films. Digital Media Production gives you the skills, tools, and techniques to prepare for an exciting future in media, movies, and communications.

Course Title: Advanced Digital Media Production .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 12
Prerequisites: Digital Media Production 1 and instructor approval
Description: This challenging program will build upon the basics of digital media, moving into advanced software and techniques. New genres of production will be explored including news production, film shorts, and industrial video production. Successful completion of this program could qualify students for entry-level employment at television stations, video production companies, advertising agencies, and even film production.

Course Title: Drone Technology... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 12 (one year only- seniors will be given preference)
Prerequisites: Algebra I and Physical Science
Description: Unmanned Aircraft Systems, or drones, are at the heart of a new and growing field that is projected to explode in the next ten years. Applications in the agriculture, construction, filmmaking, law enforcement, journalism, and surveying industries are just the beginning. This program will prepare students to enter the workforce, or a post-secondary program, by teaching the fundamentals of aerodynamics and flight, the technology and types of unmanned aircraft, the proper operation of fixed wing and multirotor UAVs, FAAA regulations regarding UAV usage, and ethical and legal use of UAVs. Unmanned Aircraft Systems program graduates will have a FAA remote Pilot License and be certified and

trained to operate a large variety of UAVs in a commercial environment. Join one of the newest and fastest moving career fields by joining the Unmanned Aircraft Systems program.

Course Title: Electrical Trades I ....**CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: Algebra A
Description: This course will provide training in electrical trades. Students will learn how to interpret and apply designs and drawings to the electrical field. Instruction will include constructing, calculating, and installing residential and circuits and applicable codes. This course will prepare students for entry level employment as an electrician and in other related areas. In the first year, residential and commercial wiring are taught. Residential includes house wiring, NEC code calculations and blueprint reading. Commercial includes conduit bending and transformers.

Course Title: Electrical Trades II ....**CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 12
Prerequisites: Electrical Trades I and instructor approval
Description: Students entering the second year will focus on industrial motor controls and PLC (Programmable Logic Controller). Students will learn how to install, troubleshoot, and maintain motor controls and variable frequency drives. Upon completion of the second year, the student will be able to read and write Programmable Logix. The different types of PLC's are: Micrologix 1100, and Compact Logix.

Course Title: Emergency Medical Technician-Basic (EMT-B) .... **CREDIT: 3.0**
2 semesters – 3 periods – (AM only)
Grades Eligible: 12 (one year only)
Prerequisites: Health with a C or better, cumulative GPA of a C or better. Candidates will go through an interview process.
Description: Emergency Medical Technician (EMT-B) is a study of basic emergency care. Students will learn the history of Emergency Medical Service (EMS), as well as proper care of the sick and injured patient. The program follows the Department of Transportation's National Standard Curriculum for the EMT-B. Upon completion, students will be eligible to take the National Registry Certification Exam. The Curriculum includes how to properly assess patients, cardiopulmonary resuscitation, management of medical conditions and traumatic injuries, management of obstetrical emergencies, caring for infant and pediatric emergencies and ambulance operations. Also included in the program will be a variety of specialized areas of training, including: Emergency Vehicle Operation driving course, vehicle extrication and hazardous material training. The program does include classroom and lab studies as well as clinical rotations in the hospital emergency departments, as well as at area ambulance services completed outside of classroom time.

   Students will be required to purchase the following throughout the school year: polo uniform shirt, uniform pants,, uniform boots, uniform belt, class t-shirt, stethoscope, flu shot, certification exam fees. Optional purchases: uniform hat and pullover.
This course will cost the student approximately $230.

Course Title: Graphic Arts I .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: Keyboarding
Description: Graphic Arts I is designed to give students the opportunity to experience the many facets of the Graphic Design/Offset Printing industry through classroom and hands-on techniques. Students will

utilize Adobe Photoshop CC, Adobe Illustrator CC, Adobe InDesign CC, and will be given the opportunity to design and print products used by local school districts, including programs, fliers, brochures, stationery, envelopes, and much more. In addition to paper products, students will be given the opportunity to learn the basics of screen printing including but not limited to creating the image, setting up the equipment, and printing the product.

Course Title: Graphic Arts II .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 12
Prerequisites: Graphic Arts I and instructor approval
Description: Students will have the opportunity to experience the many facets of the Graphic Design/Offset Printing industry through classroom and hands-on techniques. Students will continue to expand on their knowledge of Adobe Photoshop CC, Adobe Illustrator CC, and Adobe InDesign CC to design and print products used by local school districts, including programs, fliers, brochures, stationery, envelopes, and more. In addition to paper products, students will be challenged to expand their knowledge of screen printing to create more intricate images, and to master the process for setting up the equipment for multi-color printing jobs. Students will be given experience in some managerial aspects of the printing process while working with first year students on printing and screen printing projects.

Course Title: Health Occupations .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available***
Grades Eligible: 12
Prerequisites: None
Description: Students will learn medical terminology, anatomy, and basic bedside care skills. You will learn to give daily care to a patient (bathe, dress, feed, bathroom/toileting and assist with activities of daily living). The first semester all students learn the basic skills that all health care workers need to know. The second semester students will travel to nursing facilities for hands on training and will continue training to become a Certified Nurse Assistant (CNA). Students will be given the opportunity to qualify to take the Missouri Nurse Assistant Certification Test. Upon successful completion of all class requirements, eligible students may take the state certification examination. Students completing specialized training must provide own transportation to work sites. Pharmacy Aide requires additional expenses to be paid by student. *For a reduced fee, Health Occupations students may also receive three hours of dual enrollment credit in Medical Terminology through Mineral Area College.

   Students will be required to purchase the following throughout the school year: watch with second hand, scrub uniform set, leather type tennis shoes, socks,-short/long sleeve solid white, grey, or black t-shirt, TB test, flu shot, Family Care Safety Registration, CPR/First Aid cards, food items for nutrition/feeding class exercise, CNA certificate, wallet card, and pin.
This course will cost the student approximately $150.

Course Title: HVAC-R I .... **CREDIT: 3.0**
2 semesters – 3 periods –   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: None
Description: Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC-R) field is part of a growing technical-trades industry. This course is designed to provide the student with a fundamental understanding and working knowledge in the fields of heating, ventilation, air conditioning, and refrigeration. Students will study all phases of HVAC-R applications, fundamental circuitry/schematics reading, and troubleshooting electrical, mechanical, and refrigeration systems. Students will be given the opportunity to take the EPA certification testing on site (at an additional fee) as well as testing for field certification in residential, light commercial, and heat pump application.

Course Title: Advanced HVAC-R II... **CREDIT: 3.0**
2 semesters – 3 periods –   **Community college credit available**
Grades Eligible: 12
Prerequisites: HVAC-R 1 and instructor approval
Description: The second year student will train on light commercial systems applications, in-depth trouble shooting of circuitry, mechanical, and refrigeration systems. While in training, students will be given the opportunity to learn the practical application of recovery equipment and other service tools specific to the trade. Students will also be allowed to choose specific areas of training, such as building energy management, sheet-metal design and fabrications, estimating and layout. Time will also be spent preparing for industry certification.

Course Title: Landscape/Horticulture I .... **CREDIT: 3.0**
2 semesters – 3 periods (AM Only)   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: None
Description: This course is designed to provide knowledge and practical experience in the care and identification of ornamental plants (flowers, trees, and shrubs). Activities include starting plants from seeds and vegetative plant parts, green house operation, drawing landscape plans, floral design, pruning practices, and lawn establishment and care.

Course Title: Landscape/Horticulture II .... **CREDIT: 3.0**
2 semesters – 3 periods (AM Only)   **Community college credit available**
Grades Eligible: 12
Prerequisites: Landscape Horticulture 1 and instructor approval
Description: Students may specialize in areas such as greenhouse operations, nursery management, landscape maintenance, and landscape installations. Those students who maintain a "C" average or better and a good attendance record may be released for work/study program in the fourth quarter of their second year.

Course Title: Marketing I .... **CREDIT: 3.0**
2 semesters – 3 periods – (AM Only)   **Community college credit available**
Grades Eligible: 11, 12
Prerequisites: None
Description: This course is designed to help students learn the basic concepts and practices of retailing within our society. Students will gain an in-depth understanding of many elements of marketing, business management, and selling as it relates to retailing and retail businesses. This course will explore topics ranging from selling, cashiering, customer relations, pricing and promotion. The student store will be used as a learning lab, and students will rotate through various positions for experiential learning before testing on course standards. This is an ideal course for those students who have a career interest in marketing or management, management or retailing.

Course Title: Marketing II.. **CREDIT: 3.0**
2 semesters – 3 periods – (PM Only)   **Community college credit available**
Grades Eligible: 12
Prerequisites: Marketing 1 or instructor approval
Description: This course is designed to help students learn the basic concepts and practices of marketing within our society. Students will gain in-depth understanding of the many elements of marketing, business management, and selling. This is an ideal course for those students who have a career interest in marketing or management. Students enrolled in this course may participate in the Marketing Internship program for paid, on-the-job training in a marketing occupation. Students may be released up to two periods from the

regular school day to complete the on-the-job portion of this class. Those students working a minimum of 180 hours per semester (10 hours a week) will be released one period, and those working 360 hours per semester (20 hours a week) will be released two periods. Participation in the Internship is not automatic. Instructor must approve the training site during the first week of class.

Course Title: Practical Nursing.. **CREDIT: 3.0**
2 semesters – 3 periods (AM Only)
Grades Eligible – 12
Prerequisites: cumulative overall GPA of B or better; English I, II, III; Algebra I; Biology; successful completion of the ATI-TEAS test; successful completion of extensive application and interview process; remarkable attendance and discipline history
Description: Do you know that nursing is the career path for you? Get a head start with your career while still in high school. Only a few nursing schools across the nation offer an educational opportunity to enter the field of nursing as high school seniors. The practical nursing program at the Cape Girardeau Career & Technology Center provides a secondary/post-secondary track where students complete the first session of classes during a 3-hour block at the CTC during their senior year. They return in August after graduating high school and complete the remainder of the classes and graduate from the practical nursing program the following May.

Why start nursing education now instead of after high school?
Admission into nursing programs is competitive. Many require completion of pre-requisite college courses with a certain GPA. Some have 2-3 year wait lists to get admitted. Practical nursing education has both classroom and hands-on clinical experience in a student-friendly, small-group environment. Tuition for the senior year is paid by the sending school. Financial aid, including the A+ scholarship, is available for the post-secondary year. Many of our graduates work as LPN's while they further their education to reach their nursing career goals.

Students will need to purchase the following throughout the school year: flu shot, CPR card, liability insurance, MOSALPN student membership, watch with second hand, stethoscope, bandage scissors, pen light,, white lab coat,, uniforms, all white nurses shoes..
This course will cost the student approximately $250.

Course Title: Precision Machining I .... **CREDIT: 3.0**
2 semesters – 3 periods – (AM Only)   Community college credit available
Grades Eligible: 11, 12
Prerequisites: Algebra I or equivalent
Description: This course is designed to prepare students for entry-level manufacturing jobs as a machinist. Students will learn to operate a power saw, drill press, lathe, mill, and grinder. Fabrication and resurfacing of cutting tools will be taught. In addition, students will interpret designs, drawings, and specifications and analyze quality control data.

Course Title: Precision Machining II .... **CREDIT: 3.0**
2 semesters – 3 periods – (AM Only)   Community college credit available
Grades Eligible: 12
Prerequisites: Machine Tool Tech. I and instructor approval
Description: This course is a continuation of Machine Tool Technology I. Students will also work with computerized numerical control (CNC) machine tools and Electric Discharge Machine operation. Students in the second semester of this course may have the opportunity to complete an approved internship.

Course Title: Pre-Engineering Block I by Project Lead the Way .... **CREDIT: 3.0**
2 semesters – 3 periods – (AM Only)   College credit available

Grades Eligible – 11, 12 Grade
Prerequisites - students must be enrolled in or have completed a college preparatory sequence of math courses (at least Algebra 1 or Algebra B in Grade 9, Geometry in Grade 10, and Algebra II in Grade 11) and be interested in the field of engineering
Description: This block will include two Project Lead the Way courses: Intro to Engineering Design and Principles of Engineering. It will be offered during the **morning CTC** block. PLTW is a sequence of courses which, when combined with traditional mathematics and science courses in high school, introduces students to the scope, rigor, discipline and fun of engineering projects prior to entering college.
This block will include:

Intro to Engineering Design – In this course students use a problem-solving model to improve existing products and invent new ones. They learn how to apply this model to solve problems in and out of the classroom. Using sophisticated three-dimensional modeling software, students communicate the details of the products. Emphasis is placed on analyzing potential solutions and communicating ideas to others.

Principles of Engineering - This introductory course explores the wide variety of careers in engineering and technology and covers various technology systems and manufacturing processes. Using activities, projects, and problems, students learn firsthand how engineers and technicians use math, science, and technology in an engineering problem-solving process to benefit people. The course also addresses concerns about social and political consequences and technological change.

Course Title: Pre-Engineering Block II by Project Lead The Way .... CREDIT: 3.0
2 semesters – 3 periods   (PM Only)   College credit available
Grades Eligible – 12 Grade
Prerequisites – completion of Pre-Engineering Block I and instructor approval
Pre-Engineering Block II is offered during the afternoon CTC block. This course will continue to offer students project-based, hands-on experience to teach students the key elements and skills of engineering and technology-based careers by immersing them in rigorous engineering problems.
This block will include:

Computer Integrated Manufacturing - Students learn concepts of robotics and automated manufacturing by creating three-dimensional designs using computer modeling software. After designs are electronically created, students actually produce models of their designs through the use of CNC equipment and robotics.

Civil Engineering and Architecture – Students will study the design and construction of residential and commercial building projects. It is an introduction to the varied factors involved in building and site design and construction, including building components and systems, structural design, storm water management, site design, utilities and services, cost estimation, energy efficiency, and careers in the design and construction industry. Students will be exposed to the design and construction practices of residential and commercial building projects, design teams and teamwork, communication methods, building codes and ordinances, engineering design calculations, and technical documentation. Students will use industry standard 3D architectural modeling software to facilitate site and building design and technical documentation. As the course progresses and the complexity of the design problems increase, students will learn more advanced computer modeling skills as they become more independent in their learning, more professional in their collaboration and communication, and more experienced in problem solving and design.

Engineering Design and Development – Teams of students guided by community mentors work together to research, design and construct solutions to engineering problems.
   *Students enrolled in any of the Pre-Engineering courses may be eligible to receive dual college credit at numerous universities across the nation, including Missouri S & T.

Course Title: Welding I .... CREDIT: 3.0
2 semesters – 3 periods   Community college credit available
Grades Eligible: 11, 12

Prerequisites: None
Description: Students enrolling in Welding I receive approximately 450 hours of intense welding instruction by a certified welding instructor in Oxyacetylene Welding and Cutting, Shielded Metal Arc Welding, Gas Metal Arc Welding and Gas Tungsten Arc Welding based on guidelines set forth by the American Welding Society. This instruction will start students on the path for a successful future in the field of welding.

Course Title: Welding II .... **CREDIT: 3.0**
2 semesters – 3 periods   **Community college credit available**
Grades Eligible: 12
Prerequisites: Welding I and instructor approval
Description: Welding II solidifies everything learned in Welding I, provides students with additional welding practice, and allows time for more in-depth training. By demonstrating advanced levels of skill performance, the student can complete Welding II and take multiple welder qualification tests for future employment experience.

EMBEDDED/DUAL CREDIT

Course Title: Embedded Math (Embedded Credit) .... **CREDIT: 1.0**
Grades Eligible: 11 or 12
Prerequisites: Enrollment in a CTC career education program
Description: Students enrolled in a career education program may earn 1 credit of math in one academic year or a combination of two academic years. Embedded math requires students to use practical mathematics to solve technical, real-life problems. Students must complete an enrollment form with their counselor in order to be enrolled in the course. This is a competency based course so students must pass their CTC course and embedded math exam to receive credit.

Course Title: Embedded English/Language Arts (Embedded Credit) .... **CREDIT: .5**
Grades Eligible: 11, 12
Prerequisites: Enrollment in a CTC career education
Description: Students enrolled in a career education program can earn up to a full English Language Arts credit. Juniors can enroll in the half credit program: seniors can enroll in either the half or full credit program. This technical writing course requires students to complete industry specific writing. The uniqueness of ELA is that the assignments are integrated within the individual program instead of as the traditional stand-alone assignment. Students must complete an enrollment form with their counselor in order to be enrolled in the course. It is suggested the student and counselor ensure that the credit is needed before requesting enrollment. The course runs a full academic year.

Course Title: Technical Mathematics (Dual Credit) .... **CREDIT: 3.0**
Grades Eligible: 11 or 12   **Community college credit available**
Prerequisites: Enrollment in a CTC career education course and an ACT math score of 15-18; or Compass Algebra score of 23-37/ or Compass College Algebra score of 23-30
Description: The technical math course at CTC is offered in conjunction with Mineral Area College. Students enrolled at the career center have the opportunity to gain three hours of college credit through Mineral Area College. Technical math is a dual enrollment course that allows the student to gain college credit while in high school.   It is a course that covers a broad range of mathematical concepts from algebra to trigonometry. Students are expected to complete their assignments independent from their career class. Tech Math can be used as one of the two math requirements toward an Associate of Applied Science degree.

SPECIAL PROGRAMS

MISSOURI OPTION PROGRAM

The Missouri Option program is designed for those students in their 4th year of High School who are not finding success in the traditional high school program. Students will be enrolled in one three-hour block HiSet course at the Cape Girardeau Career and Technology Center (CTC) and in one three-hour block course in a CTC vocational course of study of the respective student's choosing. Upon the successful completion of the HiSet Exam, Health, Personal Finance **and** the CTC vocational course, students will be eligible to earn a regular diploma from their sending school and participate in commencement exercises. Interested students should contact the counseling department for complete enrollment details and program expectations.