



# **Course Catalog**

## **2022-2023 School Year**



**Montgomery County ATC  
682 Woodford Drive  
Mt. Sterling, KY 40353**

**859-498-1103**

The Montgomery County Area Technology Center does not discriminate on the basis of race, color, national origin, sex, disability, age, marital status or religion in admission to vocational programs, activities and employment practices in accordance with Title VI of the Civil Rights Act of 1964, Title VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973 (revised 1992), and the Americans with Disabilities Act of 1990 and shall provide, upon request by qualified disabled individual, reasonable accommodations including auxiliary aids and service necessary to afford individuals with a disability an equal opportunity to participate. For more information, contact Travis Manley, EEO Coordinator, 682 Woodford Drive, Mt. Sterling, KY 40353, 859-498-1103

**Priority shall be given to students who are 15 years of age or older during the school year in which they enroll in a career and technical education program. High school counselors/designated school officials in cooperation with the area technology center principal shall enroll secondary students who will attend career and technical education classes based on Individual Career/Graduation Plans, interests, and available space.**

# Kentucky Tech

## *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 safe 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.
  - Teachers, administrators, parents and the community share the responsibility for helping students learn.

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# **Automotive Technology**

**Michael Montgomery, Instructor**

## **470507 Automotive Maintenance and Light Repair and Lab Section A/Lab**

**ADX-120/121 .5 Credit**

Grade 10-11

**Taken with Automotive Maintenance and Light Repair B/Lab**

These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders. All Tasks for the Automotive Maintenance and Light Repair Sections A, B, C, and D are listed in the Automotive Maintenance and Light Repair Section A Task List.

## **470509 Automotive Maintenance and Light Repair and Lab Section B/Lab**

**ADX-120/121 .5 Credit**

Grade 10-11

**Taken with Automotive Maintenance and Light Repair A/Lab**

These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders. All Tasks for the Automotive Maintenance and Light Repair Sections A, B, C, and D are listed in the Automotive Maintenance and Light Repair Section A Task List.

## **470511Automotive Maintenance and Light Repair and Lab Section C/Lab**

### **ADX-120/121 .5 Credit**

Grade 11-12

**Taken with Automotive Maintenance and Light Repair D/Lab**

These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders. All Tasks for the Automotive Maintenance and Light Repair Sections A, B, C, and D are listed in the Automotive Maintenance and Light Repair Section A Task List.

## **470513 Automotive Maintenance and Light Repair and Lab Section D/Lab**

### **ADX-120/121 .5 Credit**

Grade 11-12

**Taken with Automotive Maintenance and Light Repair C/Lab**

These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders. All Tasks for the Automotive Maintenance and Light Repair Sections A, B, C, and D are listed in the Automotive Maintenance and Light Repair Section A Task List.

## **470501 Co-op I – Automotive AUT 199**

Grade 12

*Prerequisite:* Enrollees shall have taken basic skill prerequisites required by the occupational program they are pursuing, a student in cooperative education shall be enrolled in a related class in the current school year and the student shall work in a salaried position which provides work experience directly related to the student's Individual Learning Plan. Students in a co-op course must already be a program completer or take another course in the pathway with the co-op course.

*Comments:* Teacher recommendation required

Cooperative Education provides supervised on-the-job work experience related to the students' education objectives. Students participating in the Cooperative Education program receive compensation for their work.

## **470577 Special Problems I (Auto) AUT 290 1 Credit**

Grade 12

*Prerequisite:* Completion of the Automotive Maintenance and Light Repair Courses/ Sections A, B, C and D.

Courses designed to enhance a student's understanding of shop situations and problems that arise when dealing with live work. It expands on the task lists that have already been taught to the student in previous Auto Courses. The instructor will teach students how to deal with real world problems that arise when repairing automobiles subjected to various types of customer road use.

# Health Sciences

**Tina Cantrell, Instructor**

## **170111 Principles of Health Science AHS 105 1 Credit**

Grade: 9-10

Principles of Health Science is an orientation and foundation for occupations and functions in any health care profession. The course includes broad healthcare core standards that specify the knowledge and skills needed by the vast majority of healthcare workers. The course focuses on exploring health career options, history of health care, ethical and legal responsibilities, leadership development, safety concepts, health care systems and processes and basic health care industry skills. This introductory course may be a prerequisite for additional courses in the Health Science program.

## **170131 Medical Terminology I AHS-120 .5credit**

Grade:

10-11

*Prerequisite:* Principles of Health Science

A course 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.

## **170141 Emergency Procedures .5 credit**

Grade: 10-11

*Prerequisite:* Principles of Health Science

This course will focus on potential emergency situations. It is designed to promote an understanding of standard precautions necessary for personal and professional health maintenance and infection control. Upon successful completion of the course, the student will demonstrate the necessary skills in First Aid and Cardiopulmonary Resuscitation (CPR) and will be given the opportunity to take the completion examination as outlined by the sponsoring agency.

Safety and First Aid is a course designed to teach current strategies relative to designated emergency situations as put forth by the National Safety Council or American Red Cross. The National Safety Council or American Red Cross standardized course qualifies a student for certification in safety and first aid.



## **170501 Allied Health Core Skills .5 – 1 credit**

Grade: 12

*Prerequisites:* Principles of Health Science

Medical Terminology

Emergency Procedures or Permission of Instructor

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.

## **170601 Health Sciences Co-op I 1 Credit**

Grade 12

*Prerequisite:* Enrollees shall have taken basic skill prerequisites required by the occupational program they are pursuing, a student in cooperative education shall be enrolled in a related class in the current school year and the student shall work in a salaried position which provides work experience directly related to the student's Individual Learning Plan.

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.

*Comments:* Teacher recommendation required

# **Welding Technology**

**Glendon Harris, Instructor**

## **480524 Basic Welding WLD-110 .5 Credit**

Grade: 10-11

**Taken with Blueprint Reading and SMAW/Lab**

A working knowledge of various cutting processes used by the welding industry. Will include, but is 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. Includes oxy-fuel cutting, plasma arc cutting, exothermic cutting, air carbon arc cutting, shielded metal arc cutting, and mechanical cutting process.

## **480521 SMAW WLD-120 .5 Credit**

Grade: 10-11

**Taken with Blueprint Reading & Basic Welding/Lab**

Teaches students 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.

## **480522 Gas Metal Arc Welding WLD-140 .5 Credit**

Grade: 11-12

Prerequisite: SMAW/Lab

**Taken with Gas Tungsten Arc Welding/Lab**

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 WLD-130 .5 Credit**

Grade: 11-12

Prerequisite: SMAW/Lab

**Taken with Gas Metal Arc Welding/Lab**

Identification, inspection, and maintenance of GTAW machines; identification, selection and storage of GTAW electrodes; principles of GTAW; the effects of variables on the GTAW

process; and metallurgy. This course also teaches the theory and application of Plasma Arc Cutting.

### **480505 Blueprint Reading for Welding WLD-170 .5 Credit**

Grade: 11-12

Prerequisite: SMAW/Lab

**Taken with Basic Welding and SMAW/Lab**

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.

### **480535 Shielded Metal Arc Welding Open Groove Lab WLD-225 .5 Credit**

Grade 11-12

Prerequisite: SMAW/Lab

Offers the student the opportunity to advance skills in the practical aspects of v-butt plate welding using SMAW

### **480533 Gas Metal Arc Welding Open Groove Lab WLD-143 .5 Credit**

Grade 11-12

Prerequisite: GMAW/Lab

Teaches the method of operation and application of the gas metal arc welding process for welding groove welds in both ferrous and non-ferrous plate in all positions using both short circuiting and spray transfer where appropriate

### **480595 Special Problems Welding WLD 198 1 Credit**

Grade 12 Advanced Students Only

Prerequisite: Consent of Instructor

Various Welding Technology topics, issues and trends will be addressed. Topics may vary from semester to semester at the discretion of the instructor.

This course does not count towards preparatory status.

## **480541 Co-Op for Welding WLD 299**

Grade 12

Prerequisite: Enrollees shall have taken basic skill prerequisites required by the occupational program they are pursuing, a student in cooperative education shall be enrolled in a related class in the current school year and the student shall work in a salaried position which provides work experience directly related to the student's Individual Learning Plan. Students in a co-op course must already be a program completer or take another course in the pathway with the co-op course.

Comments: Teacher recommendation required

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# **Business**

**Angela Barker, Janie Blair,  
and Cassidy Davis, Instructors**

## **060112 Digital Literacy (*Foundational class for all Business pathways*) CIT 105 or OST 105 and OST 100 1 Credit**

Grade: 9-12

Students will use a computer and application software including word processing, presentation, database, spreadsheet, internet, and email to prepare elementary documents and reports. The impact of computers on society and ethical issues are presented. Leadership development will be provided through FBLA (Future Business Leaders of America) and/or DECA.

## **060411 Introduction to Management 1 Credit**

Grade: 11-12

Introduction to Management expands student understanding of management. It exposes students to several types of management, including customer relationship management, human resources management, knowledge management, information management, project management, quality management, risk management, and strategic management. Business law, communication skills, economics, operations, and professional development are also stressed throughout the course. Current technology will be used to acquire information and to complete activities. Throughout the course, students are presented ethical dilemmas and problem-solving situations for which they must apply academic and critical-thinking skills. Leadership development will be provided through FBLA (Future Business Leaders of America) and/or DECA.

## **060199 Web Page Design CIT 155 1 Credit**

Grade: 10-12

*Prerequisite:* Digital Literacy

Students analyze the structure of the worldwide web, apply basic principles of web documents and HTML, and develop multi-media web pages. Course content will include the understanding of hypertext and web structures. Equipment such as scanners, digital and video cameras, and sound recording devices will be utilized through hands-on instruction. Leadership development will be provided through FBLA.

## **060751 Digital Design (Photoshop/InDesign) 1 Credit**

Grade: 10-12

*Prerequisite:* Digital Literacy

This hands-on course applies publishing and presentation concepts through the development of sophisticated business documents and projects. These documents include, but are not limited to, tri-fold brochures, manuscripts, reports, bi-fold programs, catalogs, newsletters, flyers, business forms, graphs, web pages, on-screen presentations, and video productions. Equipment such as

scanners, digital cameras, video cameras, and color laser printers, may be utilized in creating the documents. Formatting, editing, page layout, and design concepts are taught. Distribution ready publication standards are applied to all projects. Students will develop communication skills, problem-solving techniques, cooperative learning, and interpersonal skills. Leadership development will be provided through FBLA

## **070743 Advanced Computer Applications (MCHS Technology Credit for Graduation)**

### **CIT 130 or OST 240 1 Credit**

Grade: 9-12

*Prerequisite:* Digital Literacy or Consent of Instructor

This course is designed to provide students an advanced level of experiences that will propel them into the 21st century business world as they serve in positions such as college interns, administrative assistants, graduate assistants, and assistant managers. While using high levels of technology learned in previous classes, students will be taught fundamental business procedures such as records management, human resource management, time management software, workstation management, travel planning, financial reporting, payroll, mail procedures, effective communication skills, and ethical decision making skills. A heavy emphasis will be placed on employability skills. Students should regularly be using word processing, spreadsheet, presentation, database, desktop publishing, and email software. This course should be considered the capstone course in its career pathway and is designed for upper-classmen only. Leadership development will be provided through FBLA (Future Business Leaders of America) and/or DECA.

## **060761 Advanced Multimedia 1 Credit**

Grade: 11-12

*Prerequisite:* Multimedia Publishing 1 and 2

This hands-on course applies advanced web design, publishing, and presentation concepts through the development of sophisticated documents and projects which include, but is not limited to, web sites, web databases, web movies, video editing and production, and television productions. This course is designed around the learning goals of the students and is projectbased. Students will complete advanced projects agreed upon with the instructor utilizing hardware and software available. Formatting, editing, layout, and design concepts are reviewed and reinforced. Distribution ready publication standards are applied to all projects. Students will develop communication skills, problem-solving techniques, cooperative learning, and interpersonal skills. Leadership development will be provided through FBLA (Future Business Leaders of America) and/or DECA

## **060311 Financial Services I BMO 020 1 Credit**

Grade: 10-12

*Prerequisite:* 1 Business or Marketing Credit and Special Permission of the Instructor

This course is designed for 10th through 12th grade students interested in pursuing a career in the financial institution field. It involves operation of a student financial center in cooperation with a sponsoring bank, which provides application of banking and financial procedures and

concepts. Leadership development will be provided through FBLA and/or DECA.

## **060351 Financial Services II BMO 040 1Credit**

Grade: 11-12

*Prerequisite:* Financial Services I

Financial Services II is a continuation of Financial Services I, providing opportunities to enhance students' employment portfolio. Students continue to learn and practice financial activities associated with the operation of a bank and other finance-related institutions in addition to assuming management and supervisory responsibilities, including training "new employees." Students will participate in a work-based learning experience. Leadership development will be provided through FBLA and/or DECA.

## **070750 Microsoft Office Specialist 1 Credit (MCHS Technology Credit for Graduation)**

Grade: 10-12

*Prerequisite:* Digital Literacy (Must be an ATC preparatory Junior or Senior)

As an extension of Computer and Technology Applications or Advanced Computer Applications, 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/MCAS Certification in one or more of these Microsoft areas. In addition, students will utilize Internet access to complete various projects. Leadership development will be provided through FBLA. *Prerequisite:* Computer and Technology Applications and permission of the instructor

## **070122 Financial Management 1 Credit**

Grade: 11-12

*Suggested Prerequisite:* Accounting and Finance Foundations

Financial Management introduces students to a wide range of financial analysis, managerial decision making, and financial accounting concepts and skills including performance metrics, cash-flow management, expense-control strategies, depreciation and obsolescence evaluation, the accounting cycle, and much more. Students prepare and interpret financial statements, forecast sales, develop budgets, and conduct multiple forms of financial analysis. Financial regulations, accounting standards, and financial information technology are also emphasized throughout the course. Leadership development will be provided through FBLA (Future Business Leaders of America) and/or DECA.

## **060122 Accounting and Finance Foundations 1 Credit**

Grade: 10-12

This course will provide an introduction to both areas of accounting and finance. Topics will include banking, credit, financial literacy, career exploration, spreadsheet usage, and technical writing. The major focus of the course is on the accounting cycle and the communication of financial information to decision-makers. The accounting principles taught in this course are based on a double-entry system and include preparing bank reconciliations, payroll taxes, and financial statements. Detailed career exploration in the various fields of accounting will be available. Leadership development will be provided through FBLA (Future Business Leaders of America) and/or DECA.

## **060111 Business and Marketing Essentials 1 Credit**

Grade: 9-10

Business and Marketing Essentials is an introductory business and marketing course which enables students to acquire a realistic understanding of business processes and activities. Students examine fundamental economic concepts, the business environment, and primary business activities. They develop an understanding of and skills in such areas as customer relations, economics, emotional intelligence, financial analysis, human resources management, information management, marketing, operations, professional development, and strategic management. Throughout the course, students are presented ethical dilemmas and problem solving situations for which they must apply academic and critical-thinking skills.

## **060170 Personal Finance (CTE Credit) 1 Credit**

Grade: 10 – 12

The goal of the Personal Finance course is to help students to become financially responsible, conscientious members of society. To that end, this course develops student understanding and skills in such areas as money management, budgeting, financial goal attainment, the wise use of credit, insurance, investments, and consumer rights and responsibilities. Throughout the course, students also examine contemporary, real-world ethical dilemmas that individuals commonly encounter when managing their personal finances. Leadership development will be provided through FBLA (Future Business Leaders of America) and/or DECA.

## **060109 Ethical Leadership 1 Credit**

Grade: 9-12

Ethical Leadership is a principles-based ethics course introducing students to key leadership and ethical knowledge and skills, including integrity, trust, accountability, transparency, fairness, respect, rule of law, and viability. Throughout the course, students apply ethical principles to contemporary, real-world situations that teens and young adults often encounter in school, at home, with friends, and in entry-level job positions. They examine the concept of ethical leadership and strengthen their leadership and ethical decision-making skills through the planning, implementation, and evaluation of at least one class service-learning project. Leadership development will be provided through FBLA (Future Business Leaders of America) and/or DECA.

This course is designed to assist students with developing skills needed to be successful leaders and responsible members of society. The student will develop personal attributes and social skills. Emphasis will be placed on interpersonal skills, team building, communication, personal development and leadership. This course will include opportunities for students to apply their knowledge.

## **060107 Business Education Co-Op 1 Credit**

Grade: 12

*Prerequisite:* Enrollees shall have taken basic skill prerequisites required by the occupational program they are pursuing, a student in cooperative education shall be enrolled in a related class in the current school year and the student shall work in a salaried position which provides work



experience directly related to the student's Individual Learning Plan. Students in a co-op course must already be a program completer or take another course in the pathway with the co-op course.

*Comments:* Teacher recommendation required

Cooperative Education provides supervised on-the-job work experience related to the students' education objectives. Students participating in the Cooperative Education program receive compensation for their work.