CTE - BUSINESS

Whatever your career choice, you will benefit from business skills and computer training acquired in the CTE – Business Department at O'Fallon Township High School. Courses offered in the department will develop business and technological skills needed for future job markets as well as prepare students for post-secondary studies in all areas of business. All students can benefit from the various computer classes as part of their four years at O'Fallon to prepare to function in a technology-driven society. College-bound students find that our business courses provide an important foundation and preparation for during and after college years. Business courses are especially important for students planning to major in a business-related field such as accounting, business administration, economics, finance, management, marketing, information technology and office technology.

ACCOUNTING 1 *CCPP Academy Course*

Full Year 1/2 credit per semester

Open to sophomores, juniors, and seniors

Prerequisite: Completion of Introduction to Algebra or Advanced Algebra 1 with a grade of "C" or better

This course is highly recommended for students who have an interest in pursuing any major in business at the college level, or are considering owning their own business in the future. This course includes planned learning experiences that develop initial and basic skills used in systematically computerizing, classifying, recording, verifying and maintaining numerical data involved in financial and product control records including the paying and receiving of money. Instruction includes information on keeping financial records, summarizing them for convenient interpretation, and analyzing them to provide assistance to management for decision making. Much of the work in this class is done electronically, reflecting how accounting has become a computerized profession. In addition to stressing basic fundamentals and terminology of accounting, instruction will provide initial understanding of the preparation of budgets and financials reports, as well as career opportunities in the accounting field. *Professional Bookkeeping Certification is available.*

State Course ID 12104A001

HONORS ACCOUNTING 1 *CCPP Academy Course*

Full Year 1/2 credit per semester

Open to sophomores, juniors and seniors

Prerequisite: Completion of Honors Algebra 1 or Advanced Algebra 1 with a grade of "B" or better

Honors Accounting 1 will cover the same areas of study as Accounting 1 *(see course description above).* Additionally, students develop a deep knowledge of the principles of accounting with more emphasis being placed on financial statements and accounting records. This year-long course covers the learning objectives of a traditional college level accounting course covering specialized fields of financial, managerial, nonprofit, tax and payroll accounting. Students learn how to businesses plan, evaluate operations, financing and investing decisions, and how to provide data to internal and external stakeholders. This course is highly recommended for students who have an interest in pursuing any major in business at the college level. Exposure to professional opportunites in the industry. Computer applications will be integrated throughout the course. *Professional Bookkeeping Certification is available.*

State Course ID 12104A001

ACCOUNTING 2 *CCPP Academy Course*

Full Year 1/2 credit per semester

Open to juniors and seniors

Prerequisite: Completion of Accounting 1 with a grade of "B" or better or instructor approval.

Accounting 2 is a course that builds upon the foundation established in Accounting 1. Additionally, students develop a deep knowledge of the principles of accounting with more emphasis being placed on financial statements and accounting records. This year-long course covers the learning objectives of a traditional college level accounting course covering specialized fields of financial, managerial, nonprofit, tax and payroll accounting. Students learn how to businesses plan, evaluate operations, financing and investing decisions, and how to provide data to internal and external stakeholders. This course is highly recommended for students who have an interest in pursuing any major in business at the college level. Exposure to professional opportunites in the industry. Computer applications will be integrated throughout the course. *Professional Bookkeeping Certification is available.* *State Course ID 12104A002*

**Note: See Creating Career Pathways Project Academy Flyers for additional Academy details.*

CAREER & TECHNICAL EDUCATION DEPARTMENT
BUSINESS

Jennifer Haislar, Department Chairperson

ADVANCED APPLICATIONS – EXCEL

CCPP Academy Course

1 Semester 1/2 credit

SWIC Dual Credit Course

Open to sophomores, juniors and seniors
Prerequisite: Completion of Technology Essentials with a grade of "C" or better; or completion of a Proficiency Exam in the spring prior to enrollment

The course will provide hands-on instruction in Microsoft® Excel. Students will complete applications and demonstrate competence in the performance of a variety of spreadsheet and database tasks. Students will gain experience with beginning, intermediate, and advanced capabilities of the program. Students will learn how to complete complex and repetitious calculations accurately, quickly, and easily using a computerized spreadsheet. This course is highly recommended for students interested in business industry careers. *Microsoft® Office Specialist Certification test is available.* *State Course ID 10005A001*

ADVANCED APPLICATIONS – WORD/POWERPOINT

CCPP Academy Course

1 Semester 1/2 credit

SWIC Dual Credit Course

Open to sophomores, juniors and seniors
Prerequisite: Completion of Technology Essentials with a grade of "C" or better; or completion of a Proficiency Exam in the spring prior to enrollment.

This course will provide hands-on instruction in the advanced features of both Microsoft® Word and Microsoft® PowerPoint. Students will obtain advanced skills in document formatting and presentation preparation. Students will gain experience with preparing a variety of business-related documents while incorporating advanced features of Word such as customizing paragraphs, inserting objects, creating tables and SmartArt, and enhancing documents with clip art, bullets, shading, and desktop publishing concepts. Students will also learn to locate and retrieve information from hard copy and electronic sources and prepare presentations incorporating advanced features of PowerPoint. Students will gain experience in developing presentations with professional appeal and utilizing presentations to present to an audience. *Microsoft® Office Specialist Certification test is available.* *State Course ID 10005A001*

INTRODUCTION TO ARTIFICIAL INTELLIGENCE (AI)

CCPP Academy Course

1 Semester 1/2 credit

Open to sophomores, juniors and seniors
Prerequisite: None

This course that introduces students to the concepts of Artificial Intelligence, blending foundational theory with practical application. Students will explore the history and evolution of AI, understanding key concepts such as machine learning, neural networks, natural language processing, robotics, and computer vision. Students engage in hands-on activities, including programming basic AI models using beginner-friendly tools and languages, data analysis, and problem-solving exercises designed to develop critical computational thinking skills. Real-world applications of AI in areas such as healthcare, entertainment, transportation, and environmental science are explored to connect theory with practice. This course also emphasizes ethical, social, and philosophical questions surrounding AI technology, encouraging students to critically consider issues like privacy, bias, job automation, and the future impact of AI on society. *State Course ID 10160A001*

BUSINESS OWNERSHIP

CCPP Academy Course

1 Semester 1/2 credit

Open to freshmen
Prerequisite: None

This course will provide an overview of an array of topics and concepts related to the field of business. Students will be exposed to business concepts such as banking and finance, the role of government in business, consumerism, credit, investment, and management. An overview of the American economic system and corporate organization will also be included as well as all aspects of business, including the concepts, functions, and skills required for meeting the challenges of operating a business in a global economy. *State Course ID 12051A001*

COMPUTER PROGRAMMING

CCPP Academy Course

Full Year 1/2 credit per semester

Open to juniors and seniors **SWIC Dual Credit Course**
Prerequisite: Completion of Advanced Algebra 2 or instructor approval

Computer Operations & Programming is designed to develop computer programming and program design skills through the use of various programming languages such as Python, Java, SQL, C+ and other object-oriented languages. Students will learn techniques to help with system analysis and design, as well as gaining knowledge of the systems development life cycle. Instruction will include basic programming tools that

COMPUTER PROGRAMMING (CONT…).

are common to many programming languages, including input/output statements, constants, assignment statements, input statements, string and numeric variable types, conditional, and branching and looping control structures. Students will learn programming techniques such as counting, averaging, rounding and the use of random numbers to develop a good programming style. Students will apply what they learn to create programs and applications that solve real world business related problems. Students will create programs to store, locate, and retrieve specific documents, data and information.

Students will gain valuable experience in logical problem solving and structured programming. The student will learn to develop program solutions using event-driven procedures and structured.

State Course ID 10152A001

COMPUTER NETWORKING

CCPP Academy Course

1 semester 1/2 credit

SWIC Dual Credit Course

Open to sophomores, juniors and seniors
Prerequisite: None

This course covers the fundamentals of data communications and networking principles. Students will learn network standards, protocols, and topologies. Students will also learn network architectures of Local Area Networks and Wide Area Networks and related media, connections and components. Other topics covered include the OSI model, TCP/IP, and network security. Note: *Successful students will possess basic computer skills prior to enrolling.*

State Course ID 10102A001

CYBERSECURITY

1 Semester 1/2 credit

SWIC Dual Credit Course

Open to sophomores, juniors and seniors
Prerequisite: Completion of Computer Networking before enrolling in Cybersecurity is recommended, but not required.

This course provides a comprehensive introduction to the field of cybersecurity. It is designed for learners interested in pursuing a career in cybersecurity and prepares for a Junior Cybersecurity Analyst role by equipping learners with job skills across three domains: Endpoint Security, Network Defense, and Cyber Threat Management. The course introduces information security, systems security, network security, mobile security, and physical security. Additional topics include ethics and laws, related technologies, defense and mitigation techniques used in protecting businesses. The course also discusses the characteristics and tactics of cyber criminals and explores the technologies, products, and procedures used by cybersecurity professionals to combat cybercrime. *Certification testing is available.*

State Course ID 10020A001

CTE - WORK EXPERIENCE

Full Year 1 credit for related class
Open to seniors 2 credits for work experience
Prerequisite: Application and instructor consent required

CTE - Work Experience is designed for senior students interested in gaining work experience in their focused field of study. Goals will be set cooperatively by the student, Coordinator, and employer. Students are released from school for work experience and will participate in related classroom instruction. Classroom instruction will focus on providing students with job survival skills, career exploration skills related to the job, and improving students' abilities to interact positively with others. Written training agreements and individual student training plans are developed and agreed upon by the employer, student and Coordinator. The Coordinator, student, and employer assume compliance with federal, state and local laws and regulations.

The goal of the CTE - Work Experience is for the student to gain part-time employment and maintain employment with acceptable skills.

Areas of concentration include:

1. Developing job skills as required at the training site
2. Maintain employment throughout each semester
3. Demonstrating job punctuality and attendance
4. Performing clerical duties
   a. Completing job station reports
   b. Completing training agreements
   c. Completing time sheets
5. Job problem-solving
   a. Using effective communication techniques
6. Meeting with work study coordinator to monitor on-job performance.

State Course ID 12098A002

CAREER & TECHNICAL EDUCATION DEPARTMENT
BUSINESS

Jennifer Haislar, Department Chairperson

MARKETING
CCPP Academy Course

1 Semester 1/2 credit
Open to juniors and seniors
Prerequisite: None

Marketing I is your chance to explore the world of business, advertising, and creativity—all while working on fun, real-world projects. In this course, you'll discover how goods and services flow from producers to consumers, the impact of the product life cycle, and the development of marketing functions in today's companies. You'll learn how businesses plan, package, and price products, identify their target audience, and manage and promote brands. From social media campaigns to product design and sales strategies, you'll gain hands-on experience with tools and projects connected to today's top companies. If you're interested in business, entrepreneurship, or just curious about the secrets behind your favorite brands, this class is the perfect place to start! *State Course ID 12167A001*

ADVANCED DIGITAL MARKETING & SOCIAL MEDIA
CCPP Academy Course
SWIC Dual Credit Course

1 Semester 1/2 credit
Open to juniors and seniors
Prerequisite: Completion of Marketing with a "C-" or better

Ready to take your marketing skills to the next level with this second semester of Advanced Marketing? Promotion will be emphasized while focusing on the end consumer and product or service. Students will create and manage accounts on platforms like Instagram, Facebook, X, TikTok, and YouTube while developing real-world skills in branding and content creation. Topics include current trends, influencer marketing, best practices, and ethical issues. Through hands-on projects and campaigns, students will learn how companies and influencers build a brand, connect with audiences, and go viral. *State Course ID 12152A001*

MICROSOFT® OFFICE APPLICATIONS
CCPP Academy Course

1 Semester 1/2 credit
Open to freshmen, sophomores and juniors
Prerequisite: None

Students who are enrolled in or have successfully completed Advanced Applications - Word/PowerPoint or Excel should not enroll in Microsoft® Office Applications.
This is an essential course that provides students with an in-depth knowledge of the Microsoft® Office applications. Students will benefit from the skills gained in this course not only for other courses taken OTHS, but also for post-secondary studies, and/or for future employment. The course will provide instruction in Microsoft® Office applications, including Word, Excel, and PowerPoint, as well as the integration of these programs. Students will apply problem-solving skills to hands-on, real-life situations using a variety of software applications. This course is designed to develop awareness and understanding of application software and to prepare students for placement in advanced computer courses. **Take this course early in your four-year course plan to reap the most benefits!**

State Course ID 10004A001

FOUNDATIONS OF MULTIMEDIA PRODUCTION & COMMUNICATION
CCPP Academy Course

1 Semester 1/2 credit
Open to freshman, sophomore, junior, senior
Prerequisite: None

This introductory course gives students hands on exploration to create, design, and produce a variety of multimedia products found within advance courses. Students will gain entry-level experience with industry-standard tools including *Adobe Photoshop*, *Illustrator*, and *Lightroom* as well as online platforms for content creation and social media. Projects will include video storytelling, digital photography, photo editing, layout design, and social media branding. By the end of the course, students will have a strong foundation in creative media and a better understanding of which advanced courses best match their interests within Video Production, Yearbook Design, and Digital Marketing.

State Course ID 10201A001

PERSONAL FINANCE
CCPP Academy Course

1 Semester 1/2 credit
Open to juniors and seniors **SWIC Dual Credit Course**
Prerequisite: None

This course is designed to familiarize students to their role as consumers in the free enterprise system. This course will teach students how to manage their personal resources by making informed choices as consumers in the marketplace. Specific consumer problems that students will encounter during both their school years and adult lives will be discussed. The abilities to make personal financial decisions in the areas of budgeting, record keeping, insurance, credit, investing, and financial institutions and services will be emphasized in the learning activities.

State Course ID 12101A001

CAREER & TECHNICAL EDUCATION DEPARTMENT
BUSINESS

Jennifer Haislar, Department Chairperson

TECHNOLOGY ESSENTIALS

1/2 Semester 1/4 credit
Open to all levels
Prerequisite: Enrollment in Driver Education

This course is designed to develop and enhance the abilities to key by touch, proofread, correct errors, and format a variety of documents used throughout the OTHS curriculum. Students enrolled in Technology Essentials will obtain necessary skills related to the daily use of technology in education. They will learn to properly utilize the OTHS student data drive, develop important file management skills, format documents in Microsoft Word including announcements, letters, and MLA reports, utilizing a variety of Word 2019 features and shortcuts. Students will also gain experience with their OTHS Cloud email accounts and learn email etiquette while developing the ability to organize work and meet deadlines.

Students enrolled in this course are encouraged to continue with *Microsoft Office Applications or Advanced Applications – Word/PowerPoint.*

State Course ID 12005A001

VIDEO PRODUCTION *CCPP Academy Course*

(ADOBE SUITE/LIGHTROOM/PREMIERE PRO)

SWIC Dual Credit Course

1 Semester 1/2 credit
Open to sophomores, juniors and seniors
Prerequisite: Instructor consent required – student interview may be conducted.

Video Production is a course designed to provide students with the skills needed for a career in the technical aspects of broadcasting. Instruction includes camera operations, audio and video editing, sound and lighting techniques, and sound mixing. Students will gain an understanding of the basic principles and concepts of digital video production using digital video cameras, digital still cameras and computer software for finished video productions. Students will be required to produce individual videos as well as a variety of cooperative productions.

Successful completion of this course will prepare students for participating in the Broadcast Club and working with the Panther Beat. *State Course ID 11051A001*

ADVANCED VIDEO PRODUCTION 1, 2, 3, 4, 5

(ADVANCED PREMIERE PRO/AFTER EFFECTS)

CCPP Academy Course

1 Semester 1/2 credit
Open to sophomores, juniors and seniors May be repeated.
Prerequisite: Successful completion of Video Production with a "C+" or better and instructor consent required.

In this courese students will expand on the activities explored in Video Production. Utilizing *Adobe Suite Applications* with special emphasis on *Advanced Premier Pro* and *After Effects*. Students work in a team-based environment to create a variety of video and audio-related broadcasts. Instruction includes single and multi-camera operations, video editing, production and post-production processes, sound mixing, multi-track production, audio editing, and special effects. Students in this course will be responsible for producing the Panther Beat broadcast and developing video projects for a variety of activities at OTHS. Students also have the opportunity to participate in several live stream events for the high school. Students who take multiple semesters of this course will build their portfolios with increasingly challenging projects and collaborating with community organizations.

State Course ID 11051A002

YEARBOOK DESIGN & PRODUCTION

SWIC Dual Credit Course

1 Semester 1/2 credit
Open to sophomores, juniors and seniors May be repeated.
Prerequisite: Application or instructor consent required This course is designed to develop skills in yearbook production by providing experiences in selected aspects of yearbook production. Students learn basic principles of yearbook design and production and develop skills that include writing copy, captions and headlines; digital photography; desktop publishing and using appropriate technology tools for media production. Students will work in a project-based environment in this class. Students will use image-editing programs to manipulate images, computer graphics, and original artwork. Instruction will include creating graphical headers and visually appealing backgrounds. Students will be required to cover both in and out of school events through photography and reporting assignments. Students enrolled in this course are responsible for producing the school's yearbook and contributing to other student media.

State Course ID 10201A001

**Note: See Creating Career Pathways Project Academy Flyers for additional Academy details.*

CEO – Business Leadership

Creating Entrepreneurial Opportunities
(Silver Creek Area – CEO: Midland Institute for Entrepreneurship Education Partner)

CCPP Academy Course
SWIC Dual Credit Course

Full Year 1 credit per semester
Open to seniors
Prerequisite: Application required during Junior year.

CEO is a year-long course designed to utilize partnerships that provide an overview of business development and processes. Our local business community partners with area schools to create project-based experiences for participants by providing funding, expertise, meeting space, business tours, and one-on-one mentoring. Students visit area businesses, learn from guest speakers, participate in a class business, write business plans, and start and operate their own businesses. At the heart of a student's development through CEO are the foundational areas learned through the experiential process: financial literacy, communication, critical reasoning, business management, and employability skills. An application process for the program is required.

State Course ID 12053A001

Video Production/Advanced Video Production Laboratory Assistant

1 Semester 1/4 credit per semester
2 Semester Limit – Pass/Fail Option Only
Open to juniors and seniors
Prerequisite: Successful completion of advanced level course work in the field in which the student will assist and written consent from the instructor.

No more than two laboratory assistants will be assigned to any teacher during a given period. Student laboratory assistants will be required to aid the teacher in preparation for instruction in the classroom and to assist the teacher in the preparation, organization, maintenance, distribution, and storage of laboratory materials and equipment.

Note: In order for a student to be a Lab Assistant, it must be their sixth class.

State Course ID 11051A002

See Appendix at end of the curriculum guide for additional CTE courses, course descriptions, and prerequisites through the **Collinsville Area Vocational Center (CAVC) Program**.

CTE - FAMILY & CONSUMER SCIENCE

FOODS & NUTRITION *CCPP Academy Course*

1 Semester 1/2 credit

Open to sophomores and juniors

**If enrollment allows, seniors may be wait-listed.*

Prerequisite: None This course includes basic classroom and laboratory experiences needed to develop knowledge and understanding of basic food principles and applied nutrition for people of all ages. This course content centers around: promoting food service and preparations management; applying nutrition concepts; meeting health needs in planning, preparing, and serving food; maximizing resources; promoting hospitality; and analyzing individual and family nutritional needs. Information related to careers in foods and nutrition, along with safety and sanitation is incorporated throughout the course.

State Course ID 16054A001

CULINARY CAREERS *CCPP Academy Course*

1 Semester 1/2 credit

Open to juniors and seniors

Prerequisite: Completion of Foods & Nutrition with a"C-" or better.

This course is designed to provide students interested in a career in culinary arts with the information and practical experiences needed for the development of food service job-related competencies. The students receive laboratory experiences using commercial food service equipment, if available, preparing food in quantity and serving food. Safety and sanitation are emphasized. Training experiences involve equipment and facilities, which simulate those found in business and industry.

State Course ID 16054A002

WORLD CUISINE *CCPP Academy Course*

1 Semester 1/2 credit

Open to juniors and seniors

Prerequisite: Completion of Culinary Careers with a"C-" or better.

This course will focus on the culture, foods, and recipes of cuisine found throughout the world. Emphasis is placed on management skills, human relations, personnel selection, supervision and career opportunities. Training experiences involve equipment and facilities that simulate those found in the restaurant business and industry when available.

State Course ID 16054A002

GROWTH AND DEVELOPMENT OF CHILDREN *CCPP Academy Course*

1 Semester 1/2 credit

Open to sophomores, juniors, and seniors

This course addresses the knowledge, skills, attitudes, and behaviors associated with supporting and promoting optimal growth and development of infants and children. The focus is on research-based nurturing and parenting practices and skills, including brain development research that supports positive development of children. The theories of Erikson, Piaget, Vygotsky, and others will be studied as a foundation to understanding the physical, social, cognitive and emotional developmental milestones in children prenatally to 12 years. Students will explore opportunities in human services and education-related careers. Students enrolled in this course will be required to take home an infant simulator.

State Course ID 19052A001

EARLY CHILDHOOD EDUCATION *CCPP Academy Course*

1 semester 1/2 credit

Open to sophomores, juniors, and seniors

This course provides students with information and practical experiences needed for the development of competencies related to childcare, day care, and other education services occupations. Curriculum includes the philosophies of education, classroom management, and lesson planning for developmentally appropriate practices. Students will experience teaching in front of a class. Federal laws, licensing and regulatory requirements for programs serving children birth to12 years are covered. The history of educating children from birth to 12 years will be addressed. This course does not include the infant simulators.

State Course ID 19051A001

**Note: See Creating Career Pathways Project Academy Flyers for additional Academy details.*

CAREER & TECHNICAL EDUCATION DEPARTMENT
FAMILY & CONSUMER SCIENCE

Jennifer Haislar, Department Chairperson

FAMILY HEALTH MAINTENANCE

CCPP Academy Course

1 semester 1/2 credit

Open to juniors, and seniors

This course is designed to address health, safety, and social/emotional issues related to children, parents, and families. The curriculum will move through all the life stages and discuss the development of humans as well as struggles and milestones of families. Students interested in the fields of early childhood education, family studies and social services would especially benefit from this course. This course requires students to take home an infant simulator.

State Course ID 19053A001

FAMILY & CONSUMER SCIENCE INDIVIDUALIZED INSTRUCTION

1 Semester 1/2 credit

Open to juniors and seniors 2 Semester Limit

Prerequisite: Completion of advanced-level course work in the field and written consent from the instructor.

No more than one individualized instruction student will be assigned to an instructor during a given semester. Students will be required to select a topic for study and Laboratory work must be a component of the study. The instructor must approve the topic during the first four weeks of the semester. A written contract specifying work to be completed must be signed by both the student and the instructor. At the end of the semester the student must submit a written report to the instructor. After grading, a copy of the report will be placed on file with the department chairperson.

State Course ID 16097A000

FAMILY & CONSUMER SCIENCE LABORATORY ASSISTANT

1 Semester 1/4 credit per semester

2 Semester Limit – Pass/Fail Option Only

Open to juniors and seniors

Prerequisite: Successful completion of advanced-level course work in the field in which the student will assist and written consent from the instructor.

No more than two laboratory assistants will be assigned to any teacher during a given period. Student laboratory assistants will be required to aid the teacher in preparation for instruction in the classroom and to assist the teacher in the preparation, organization, maintenance, distribution, and storage of laboratory materials and equipment.

Note: In order for a student to be a Lab Assistant, it must be their sixth class.

State Course ID 16054A002

See Appendix at end of the curriculum guide for additional CTE courses, course descriptions, and prerequisites through the **Collinsville Area Vocational Center (CAVC) Program**.

**Note: See Creating Career Pathways Project Academy Flyers for additional Academy details.*

CTE – HEALTH SCIENCE TECHNOLOGY

HEALTH OCCUPATIONS *CCPP Academy Course*

1 semester 1/2 credit

Open to sophomores, juniors, seniors

This course provides students with a core knowledge of the health care industry and helps refine their health care-related knowledge and skills. Students will develop cognitive and affective skills in formulating a strong foundation for entry-level skill development. Topics will include (but are not limited to) an overview of health care delivery and culture; patient care, including assessment of vital signs, body mechanics, and diet; health care industry ethics; health professions licensure; emergency response; health care confidentiality; health care personnel and roles; health care sanitation; and health care rules and regulations.

State Course ID 14002A002

MEDICAL TERMINOLOGY *CCPP Academy Course*

SWIC Dual Credit Course

1 Semester 1/2 credit

Open to juniors and seniors

Students in this course learn how to identify medical terms by analyzing their components. This course emphasizes defining medical prefixes, root words, suffixes, and abbreviations. The primary focus is on developing both oral and written skills in the language used to communicate within health care professions.

Concurrent enrollment in Medical Terminology and Honors Human Anatomy and Physiology is discouraged due to content overlapping. It is advised that students elect to take Medical Terminology as a junior for precursor enrollment in Honors Human Anatomy and Physiology as a senior.

State Course ID 14154A001

See Appendix at end of the curriculum guide for additional CTE courses, course descriptions, and prerequisites through the **Collinsville Area Vocational Center (CAVC) Program**.

**Note: See Creating Career Pathways Project Academy Flyers for additional Academy details.*

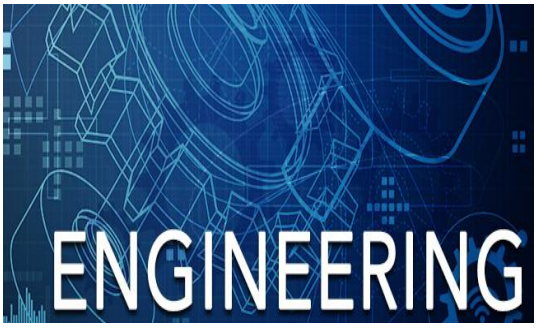
CAREER & TECHNICAL EDUCATION DEPARTMENT
INDUSTRIAL TECHNOLOGY & ENGINEERING

Jennifer Haislar, Department Chairperson

INDUSTRIAL TECHNOLOGY & ENGINEERING

COURSE SEQUENCING

Industrial Technology Flow Chart



Technical Drawing & Engineering Design
1 semester
Prerequisite: none
SWIC Dual Credit: CAD 100

Small Engine Repair
1 semester
Prerequisite: none

Individualized Instruction
1 semester

Beginning Welding
1 semester
Prerequisite: none

Welding 1
1 semester
*Prereq: Beg. Welding
SWIC Dual Credit: WLDT 101

Welding 2
1 semester

Carpentry
1 semester
Prereq: T D & E D
SWIC Dual Credit: CMT 145

Construction 1
1 semester
SWIC Dual Credit: CMT 146

Construction 2 – Advanced Building Trades
1 semester

Drafting & Engineering Design
1 semester
Prereq: T D & E D
SWIC Dual Credit: CAD 120

Engineering Design - CAD 1- 1 semester
*Prereq: Draft & Eng.
SWIC Dual Credit: CAD 120

Engineering Design - CAD 2
1 semester

Electricity and Electronics
1 semester
Prereq: Algebra 1 w/ C or better or concurrent enrollment in Algebra.

See Appendix at end of the curriculum guide for additional CTE courses, course descriptions, and prerequisites through the **Collinsville Area Vocational Center (CAVC) Program**.

**Note: See Creating Career Pathways Project Academy Flyers for additional Academy details.*

CTE – INDUSTRIAL TECHNOLOGY

TECHNICAL DRAWING & ENGINEERING DESIGN

CCPP Academy Course

1 Semester 1/2 credit
Open to all levels **SWIC Dual Credit Course**
Prerequisite: None

This course is highly recommended for every course within the Industrial Technology & Engineering sequence. Technical Drawing and Engineering Design will introduce students to *AMSE Y14* drafting standards. Instruction will foster an awareness and understanding of technologies in graphic communication. Topics such as spatial visualization; orthographic, Multiview, oblique, and axonometric projection; lettering; section views; geometric construction; auxiliary views; and dimensioning provide the necessary foundation for pictorial communication. Students will be introduced to drafting communication using both manual and computer-aided design techniques and will utilize the most recent version of *Auto-Cad* software on the market today. Making this course extremely beneficial for any student wishing to further study engineering after high school.

State Course ID 21052A001

DRAFTING & ENGINEERING DESIGN

CCPP Academy Course

1 Semester 1/2 credit
SWIC Dual Credit Course
Open to sophomores, juniors, and seniors
Prerequisite: Completion of Technical Drawing & Engineering Design

This course introduces drafting-related occupations and the knowledge and skills needed for these occupations. Units will foster an awareness and understanding of drafting terms, drafting instruments and their uses, lettering styles and procedures, sketching and shape description, geometric construction, and multi-view projection. This class provides a foundation for students interested in engineering- or architecture- related careers. Mathematical learning standards and workplace skills are addressed in this class.

State Course ID 21102A002

ENGINEERING DESIGN (CAD) 1

CCPP Academy Course

1 Semester 1/2 credit
Open to juniors and seniors **SWIC Dual Credit Course**
Prerequisite: Completion of Drafting & Engineering Design

This course continues to provide skills for students interested in engineering or architecture-related careers. This course is designed to provide students with information and practical experience needed for the development of job-related competencies. The course content includes planning and organizing activities, researching information, preparing various mechanical and architectural sketches, performing basic layouts, detailing drawings such as sectional and isometric views. Computer Aided Drafting (CAD) software is used to generate various types of drawing. Mathematical learning standards and workplace skills are addressed in this class. *State Course ID 21106A001*

ENGINEERING DESIGN (CAD) 2

CCPP Academy Course

1 Semester 1/2 credit
Open to juniors and seniors
Prerequisite: Completion of Architectural Drafting (CAD) 1

This course builds upon CAD skills obtained in Architectural Drafting (CAD) 1 emphasizing technical drawings. The areas of performing presentation techniques such as producing architectural drawings, interpreting codes and constructing structural working drawings, producing mechanical and electrical/electronic working drawings, and producing civil engineering drawings. This class provides a foundation for students interested in engineering or architecture-related careers. Computer Aided Drafting (CAD) software is used to generate various types of drawings. Mathematical learning standards and workplace skills are addressed throughout the class. *State Course ID 21106A002*

CAREER & TECHNICAL EDUCATION DEPARTMENT
INDUSTRIAL TECHNOLOGY & ENGINEERING

Jennifer Haislar, Department Chairperson

CARPENTRY *CCPP Academy Course*

1 Semester 1/2 credit

SWIC Dual Credit Course

Open to sophomores, juniors and seniors
Prerequisite: Completion of Technical Drawing & Engineering Design

This course consists of planned learning experiences designed to introduce this student to construction-related occupations and the knowledge and skills needed for these occupations. Areas of instruction include tools, materials, techniques, equipment, and processes utilized in the carpentry areas of construction. The Illinois Learning Standards (ILS) addressed in this class are mathematics, science and language arts.

State Course ID 17007A001

CONSTRUCTION 1 *CCPP Academy Course*

1 Semester 1/2 credit

SWIC Dual Credit Course

Open to juniors and seniors
Prerequisite: Completion of Carpentry 1

Construction 1 is designed as an introductory course with emphasis on construction industry. It is also designed to provide comprehensive groundwork for construction. Instruction covers, but is not limited to, topics of: blueprint reading, residential floor/wall roof framing, estimating/structural computations, excavation, footings, and foundations. This course provides comprehensive background in the use of power tools.

State Course ID 17003A001

CONSTRUCTION 2 - ADVANCED BUILDING TRADES *CCPP Academy Course*

1 Semester 1/2 credit

Open to juniors and seniors
Prerequisite: Completion of Construction 1

Construction 2 is a skill-level course with emphasis on the construction industry. Instruction covers: interior walls, interior and exterior doors, window framing, roof and rafter construction and finish carpentry work. Emphasis will be placed on good work habits and practices, safety of both hand and power tools. Mathematics, science, and language arts learning standards are addressed in this class. All students receive *OSHA 10* lifetime certification when completing course.

State Course ID 17003A002

ELECTRICAL APPLICATIONS *CCPP Academy Course*

1 Semester 1/2 credit

Open to sophomores, juniors and seniors
Prerequisite: Completion of Algebra 1 with a C or better OR concurrent enrollment in Algebra 1.

This course consists of planned learning experiences designed to introduce the student to electricity and electronics occupations. Interactive laboratory activities provide hands on knowledge and skills needed for a variety of occupations. and the knowledge and skills needed for these occupations. Areas of instruction include electron theory, OHMS LAW A.C. and D.C. circuits, and the equipment used in analyzing and testing. Additional content areas include residential wiring exercises, the National Electric Code, and Alternative energy including Hydro, Solar, and Wind.

State Course ID 17104A001

3D MODELING, ANIMATION & 3D PRINTING *(CGI, Animation and 3D Printing)* *CCPP Academy Course*

1 Semester 1/2 credit

Open to sophomores, juniors and seniors
Prerequisite: None

This course will be an exploration into current 3D computer modeling primarily using Blender, a free, open source software. This course applies to students interested in a variety of industries and endeavors including: Manufacturing such as 3D printed fine art, commercial product design, architecture, and machinery; Medical, forensic, aerospace, geologic, and all other scientific fields that use models for simulations, products, and research; Entertainment such as the video game industry, web developer, graphic designer, and CGI for animation and films.

State Course ID 11155A001

3D MODELING, ANIMATION & 3D PRINTING 2 *(CGI, Animation and 3D Printing)*

1 Semester 1/2 credit

Open to sophomores, juniors and seniors
Prerequisite: 3D Modeling, Animation, & 3D Printing

This course will be an exploration into current 3D design and software and techniques for modeling 3D objects to be used in products such as games, movies and for production with 3D printers. *State Course ID 11155A002*

CAREER & TECHNICAL EDUCATION DEPARTMENT
INDUSTRIAL TECHNOLOGY & ENGINEERING

Jennifer Haislar, Department Chairperson

SMALL ENGINE REPAIR

1 Semester 1/2 credit
Open to sophomores, juniors and seniors
Prerequisite: None

This course provides experience related to maintenance and repair of a variety of equipment such as lawn mowers, chainsaws, and rotary tillers. Areas of instruction include but are not limited to safety principles and practices; internal combustion engine principles; carburetion principles; disassembly and reassembly of small gas engines; reading from technical manuals; measuring and performing mathematical calculations related to small engine mechanics.

State Course ID 20110A001

BEGINNING WELDING *CCPP Academy Course*

1 Semester 1/2 credit
Open to sophomores, juniors and seniors
Prerequisite: None

Beginning Welding is designed to introduce the student to the basic fundamentals of all types of welding. Instructions will include safety procedures, identification of oxy-acetylene equipment, electrode identification and the making of proper settings of arc welding machines when welds are to be made. It is recommended, but not required, for Technical Drawing and Engineering Design is taken prior to this course

State Course ID 13207A003

WELDING TECHNOLOGY 1 *CCPP Academy Course*

1 Semester 1/2 credit
SWIC Dual Credit Course
Open to sophomores, juniors, seniors
Prerequisite: Completion of Beginning Welding

This course further develops skills obtained in Beginning Welding with additional areas of instruction including advanced shielded metal arc welding using E6010, E7018, and E7024 electrodes, as well as an introduction to gas metal arc welding and flux core arc welding processes. Emphasis will be placed on building proper size fillet welds in the 2-F welding position.

State Course ID 13207A001

WELDING TECHNOLOGY 2 *CCPP Academy Course*

1 Semester 1/2 credit
Open to juniors and seniors
Prerequisite: Completion of Welding Technology 1

This course further develops skills obtained in Welding Technology 1 with additional areas of instruction including: 1) all position butt welding with heavier metal; 2) Vee-groove butt joints; 3) gas metal arc welding; flat butt weld, vertical butt weld, horizontal butt weld, and overhead weld.

State Course ID 13207A001

WELDING TECHNOLOGY 3 I.I.

1 Semester 1/2 credit
Open to seniors
Prerequisite: Completion of Welding Technology 2 AND instructor consent.

This course continues to develop previously introduced skills. Additional areas of instruction include: 1) inspection of specified jobs; 2) maintenance of equipment; 3) proper material selection; 4) air/carbon arc cutting; 5) pipe welding; and 6) spot welding.

State Course ID 13207A002