

COLUMBIA PUBLIC SCHOOLS

# COLUMBIA AREA CAREER CENTER

2012-2013  COURSE CATALOG

IT'S YOUR CHOICE



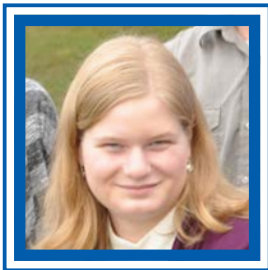


**Columbia Area Career Center**

*“Preparing today’s students for tomorrow’s careers”*

[www.career-center.org](http://www.career-center.org)

573.214.3800



Samantha Nielsen, Cover Designer

# IT'S YOUR CHOICE

## Career and Technical Education: Learning that works for America

Career Technical Education (CTE) is helping our nation meet the very real and immediate challenges of economic development, student achievement and global competitiveness.

Some 13 million students are enrolled in CTE programs—encompassing every state—in nearly 1,300 public high schools and nearly 1,700 two-year colleges.

CTE is organized by a national framework called Career Clusters. This framework presents a complete range of related career options to students, helps them discover their interests and passions, and empowers them to choose the educational pathway that can lead to success in high school and their chosen career.

CTE is developing America’s most valuable resource—its people; helping them gain the skills, technical knowledge, academic foundation and real-world experience they need to prepare for high-skill, high-demand, high-wage careers—and keep America working—in every sense of the word.

Today’s economy requires students to be aware of employment trends and educational plans that are linked to a career path or cluster of occupations.

[www.careertech.org](http://www.careertech.org)

### How to Use the Course Catalog

- Review your career interest inventory results from the EXPLORE, PLAN, or Missouri Connections assessment to locate the Career Path that supports your interests.
- Refer to the Career Paths and Clusters (page 6 & 7) to locate career center courses that match your interest and skills
- Review career center course descriptions and note opportunities to earn college credit while in high school.

### College Credit

High school students can earn **college credit** while taking classes at the career center through **dual credit** or **articulation** agreements. Last year, 252 students earned 900 college credits in Columbia Area Career Center (CACC) dual credit courses!

CACC has 49 **dual credit** agreements with the following schools: Central Methodist University, Linn State Technical College, Missouri State University, Moberly Area Community College, Stephens College, University of Central Missouri, and University of Missouri-Kansas City. Dual credit is transcribed and is transferable to other postsecondary institutions.

**Articulated credit** is designed to satisfy specific requirements for particular programs at pre-designated schools. Articulated credit is free and is transcribed after the student is enrolled and attending the institution awarding the credit. CACC has articulation agreements with 15 postsecondary institutions.

Learn more at [www.career-center.org/highschool/college\\_credit.cfm](http://www.career-center.org/highschool/college_credit.cfm).

### Thank You To

- Samantha Nielsen, a current Graphic Design student, who designed the course catalog cover.
- Students photographed on the cover: Jonathan Breedlove, Hallsville High School; Patrice Sims and Russley Shaw, Hickman High School; Michael Pisano, Amy Vinyard, Rena Rong, McKenzie Johnson, and Tory Chasteen, Rock Bridge High School; Corey Logsdon, Southern Boone County High School.

# Columbia Area Career Center Serves You

We serve students from the following schools at Columbia Area Career Center and at other locations(\*): Hickman High School\* • Rock Bridge High School\* • Father Tolton Catholic High School • Douglass High School • Christian Fellowship • Columbia Independent School • Hallsville High School • Southern Boone County High School • Jefferson\*, Oakland\*, West\* Jr. High Schools. Home-schooled students who reside within the Columbia Public School district are also eligible. For more information, ask your counselor, or contact CACC at 573-214-3800.



## CTE: CAREER AND TECHNICAL EDUCATION

|  |   |
|--|---|
| <b>CTE MYTH #1</b>   | <b>CTE FACT #1</b>  |
| It is an alternative to "college prep" education.                              | CTE offers rigorous, industry-relevant coursework that students can pursue in addition to the required CPS college prep curriculum.                 |
| <b>CTE MYTH #2</b>   | <b>CTE FACT #2</b>  |
| It is just working with your hands.  | CTE offers real world experience, including industry competitions, guest speakers, job shadowing, and internships.                                  |
| <b>CTE MYTH #3</b>   | <b>CTE FACT #3</b>  |
| It is vocational education designed for students who are not going to college. | CTE prepares students for success in college and careers via programs that result in industry certifications, college credit, and high-paying jobs. |

## Why Career and Technical Education (CTE)?

- CTE works for higher graduation rates. The average high school graduation rate for students concentrating in CTE programs is 90.18% compared to an average national graduation rate of 74.9%.
- CTE works for postsecondary placement. 70% of students concentrating in CTE areas stayed in postsecondary education or transferred to a 4-year degree program.
- CTE works for America's jobs of tomorrow. Experts project 47 million job openings in the decade ending 2018. About one-third will require an associate's degree or certificate, and nearly all will require real-world skills that can be mastered through CTE.

[www.careertech.org](http://www.careertech.org)

## Did You Know That...

- Students who earned a CTE-related associate degree or certificate make an average of \$9,000 more per year than an associate degree-holder with a humanities or social science focus.
- CTE students report that they developed problem-solving, research, math, communication, time management and critical thinking skills during high school.
- Science, Technology, Engineering, and Mathematics (STEM) occupations are projected to grow by 17 percent (2008-2018).

[www.careertech.org](http://www.careertech.org)

Check out our web site and several Personal Plans of Study at [www.career-center.org](http://www.career-center.org)

## Foundation Knowledge and Skills

### 1525MA CACC College Algebra

Grade: 12 Credit: 1

Students have the opportunity to earn College Algebra credit through the dual credit program at Linn State Technical College or the University of Missouri-Kansas City. The class meets for a full year and will be held at the career center location. First semester, students will be in an Intermediate College Algebra preparatory class to improve specific mathematical skills required for college-level algebra and also prepare for the College Algebra COMPASS placement test. The COMPASS placement test will be given in December and students with a qualifying score will be enrolled in College Algebra second semester. Qualifying students will be responsible for paying the tuition charged by the college and will need a scientific or graphing calculator. Textbooks will be available for student use during both semesters. Students who meet first semester requirements will earn .5 high school math credits. Students who meet second semester requirements will earn .5 high school math credits and 3 hours of college credit.

**Prerequisite:** Senior concurrently enrolled in a career center class with a 2.5 or higher GPA. Grade B or better in Integrated Math 3 or Algebra 2 (or higher level math course) or qualifying ACT or COMPASS math subscale score. Preference given to students with 95% attendance.

**Dual Credit** is available with Linn State Technical College or University of Missouri-Kansas City

### 2510EN English 12 – CACC College Composition

Grade: 12 Credit: 1

Fulfill requirements for English 12 and earn 3 hours of college credit for English Comp 101. Students will compose for a variety of purposes and audiences-all related to the technical program in which they are enrolled. Students will write college-level essays, complete critical readings and analysis of challenging literature, apply fundamental aspects of argument and support in a research paper.

**Prerequisite:** Concurrent enrollment in a career center class. Grade B or better in English 11, U.S. Studies, or equivalent English course and GPA of 2.5 or higher with preference given to students with 95% attendance

**Dual Credit** is available with Linn State Technical College or University of Missouri-Kansas City

## Arts, A/V Technology and Communications

### 9005 Floral and Plant Design

Grade: 10, 11, 12 Credit: 1

Students will learn to make floral arrangements in a variety of design styles: holiday designs, corsages and boutonnieres, and more using fresh, silk, and dried plant material. Students will participate in plant and flower sales throughout the year. Students should be free from plant allergies since work will be done with a variety of plant materials when designing and in the greenhouse.

**Related:** Exploring Agricultural Science

### 9125 **NEW!** Web 2.0: Dynamic Apps in the Cloud

Grade: 10, 11, 12 Credit: 1/2

Work with applications that facilitate online interactive information sharing and collaboration. Browser "apps", podcasts, video conferencing, and online digital storytelling tools will be explored. Work in "the cloud", to set up a Google account and learn to use Google docs, iGoogle, Google sites, and many more! Ethical issues, online safety, and social networking tools will also be discussed in the course. Students will need access to a high speed Internet connection, and a computer with microphone and speakers (or headset). A webcam and cell phone with texting are recommended but not required. This course is delivered in an **online** environment using Angel.

**Related:** Digital Media; MS Office 1 and 2

### 9130 Digital Media

Grade: 10, 11, 12 Credit: 1

In this fast-paced course, you will work with complex software to create digital collages and scrapbook pages in Photoshop; create logos and original vector art in Illustrator; combine audio, image and video files into documentary and music videos using Audacity and Premiere, and code web pages with HTML. It is expected that students be able to type 30 words per minute, have strong file management skills and be able to follow multi-step directions. This course requires students to memorize commands and determine when to apply these in unit projects. An **online** section will also be available, ask your counselor about details.

**Related:** Keyboarding; MS Office 1 and 2

**Dual Credit** is available with University of Missouri-Kansas City or Stephens College

**Articulated** college credit available



Cory  
Class of 2012  
Southern Boone County

I've storyboarded for movies and produced short films as well as written computer programs and learned the inner workings of PCs. I can manipulate pictures in Photoshop and design professional web pages for the Internet. I've met new people and made new friends. So many opportunities and so many experiences that I would have never had at my own school. That's what the Career Center has given me!

### 9134 Graphic Design and Desktop Publishing

Grade: 11, 12 Credit: 1

Interested in print media? Challenge your creativity. Incorporate typography and design principles into visual communications. Design real world projects such as logos, magazine covers, and business sets. Submit poster entries into local and national poster competitions. You'll use InDesign (for page layout and design), master advanced Adobe PhotoShop techniques, and create vector art using Adobe Illustrator, the required tools of professional graphic designers.

**Prerequisite:** B- or better average in Digital Media

**Related:** Introduction to Art; MS Office 1 and 2

**Dual Credit** is available with University of Missouri-Kansas City or Linn State Technical College

**Articulated** college credit available

The more students participate in career and technical student organizations, the higher their academic motivation, grades and college aspirations.

**9138 Digital Video and Motion Graphics** **Grade: 11, 12 Credit: 1**

Plan and produce a short film! Render the special effects in a movie trailer! Use professional techniques to encode onto a DVD. Work with cutting edge hardware and software to bring your ideas to life. Use Adobe Photoshop, Premiere Pro, After Effects, Encore, and Soundbooth to create movie trailers, commercials, short films and more—just as studio professionals do.

**Prerequisite:** B- or better average in Digital Media

**Related:** Graphic Design and Desktop Publishing; Music and Film Analysis

**Dual Credit** is available with University of Missouri-Kansas City or Stephens College

**Articulated** college credit available

**9140 Web Design and Interactive Media** **Grade: 11, 12 Credit: 1**

Become a master of web page design. Use XHTML, CSS, AJAX, Adobe Photoshop, Dreamweaver and Flash to design and create interactive animations and web sites. Use Cascading Style Sheets to create the perfect web site and publish your site to the web.

**Prerequisite:** B- or better average in Digital Media

**Related:** Graphic Design and Desktop Publishing; Introduction to Art

**Dual Credit** is available with University of Missouri-Kansas City, Central Methodist University or Linn State Technical College

**Articulated** college credit available

**My son took both sessions of Civil Engineering and participated on the FIRST Robotics Team which gave him confidence that he can do engineering. He is currently working on the Missouri University of Science and Technology's solar car design and electronics team as a freshman. His experience at the CACC enabled him to contribute and not just watch.**

**Parent of Civil Engineering Student, 2011**

**9144 Leadership in Media Technology** **Grade: 11, 12 Credit: 1**

Students help maintain the career center's web site as well as produce a variety of other digital media: newsletters, videos, etc. Working as a team and using various tools to complete projects, students meet with clients for content and feedback. This class is for responsible Digital Media students who have been approved by an instructor through an interview.

**Prerequisite:** Interview with instructor

**Related:** Digital Media; Digital Video and Motion Graphics; Graphic Design and Desktop Publishing; Web Design and Interactive Media

**9145 Broadcast Journalism 1** **Grade: 10, 11, 12 Credit: 1**

In an introduction to Broadcast Journalism (TV news), students will explore the history of journalism, the role of journalists, current events, news production elements and learn techniques to prepare for continuing education and/or a career in Broadcast Journalism. Students will learn to produce a news show, which includes story development, script writing, videography and computer editing. Students eventually will be reporting for the school news show, CPS-360.

**Prerequisite:** B or better average in English 9 or above

**Related:** Digital Media; Public Speaking; Journalistic Writing/Journalism; Newspaper; Yearbook; Film and Media Studies; Pop Culture

**Dual Credit** is available with University of Missouri-Kansas City

**9146 Broadcast Journalism 2** **Grade: 11, 12 Credit: 1**

You will continue to produce the school news show, write stories for it, as well as produce special projects. Special projects include the senior video yearbook and specialty shows and programs (homecoming, winter concert, etc.). This class requires outside work time, often during lunch and after school and/or early evenings. You will also have the option to attend journalism conventions, workshops and field trips.

**Prerequisite:** B or better average in Broadcast Journalism 1

**9147 Broadcast Journalism 3** **Grade: 12 Credit: 1**

You will take a leadership role in Broadcast Journalism as a Producer or Special Projects Producer. You would be responsible for the overall production of the school news show as well as covering district news stories, events and productions. Many of these stories require after school and/or weekend commitments.

**Prerequisite:** B or better average in Broadcast Journalism 2

**...my college professor, while running the cameras for the football game I worked, said I was one of the best camera operators they've had in a while and they want me to do every game! Those sport tapings are so important!**

**Meghan, Broadcast Journalism, 2011 Graduate**

**9148 Broadcast Journalism Internship** **Grade: 12 Credit: 1**

This is an excellent opportunity for you to get your foot in the door at a local news organization (KOMU, KMIZ, KRCG, etc.). You will report and communicate with the Broadcast Journalism teacher for schedule and assignment updates, but will spend most of your time (4 hours a week) at a local news organization.

**Prerequisite:** B or better average in Broadcast Journalism 2; application and instructor approval

**9606 3D Modeling and Animation** **Grade: 11, 12 Credit: 2**

Students will develop 3D animation skills using 3D Studio Max through storyboarding, 3D modeling, lighting, texture mapping, and post-production editing. These skills are used in advertising, game design, movie effects, aerospace, automotive development and architectural design.

**Prerequisite:** B or better average in Computer Aided Design 1; portfolio review; and instructor approval

**Related:** Digital Media or C++ Programming

**Business, Management and Administration****9307 Entrepreneurship** **Grade: 11, 12 Credit: 1**

Work for yourself! Write a business plan for a business that you open, manage, and grow. You'll learn about entrepreneurship, leadership and management in this class as well as the legal environment of small business, market research, management functions, and staff development. This class is a must for business and marketing students.

**Related:** Marketing; Accounting; Digital Media; MS Office 1 and 2

**Dual Credit** is available with University of Missouri-Kansas City, Central Methodist University or Linn State Technical College

**Information Technology****9142 Web Scripting and Database Management** **Grade: 11, 12 Credit: 1**

Learn the dynamic side of web sites. Use JavaScript, PHP, MySQL, Microsoft Access, ColdFusion, ActionScript, and Dreamweaver to create database driven web sites. Learn how to create content management systems that allow dynamic updates and changes to web sites.

**Prerequisite:** B- or better average in Digital Media or C++ Programming

**Related:** Digital Media; Digital Video and Motion Graphics; Graphic Design and Desktop Publishing; Web Design and Interactive Media

**9161 C++ Programming** **Grade: 10, 11, 12 Credit: 1**

Have you ever heard of Adobe Photoshop, Google or Mozilla Firefox? They have one thing in common—they are developed in the C++ programming language. As one of the most popular programming languages ever created, C++ is widely used for both scientific and business applications. This class introduces you to elementary algorithms and basic programming so that you can design and implement a variety of computer-based solutions. You will create a zero player game first semester and build more visual interactive programs by the end of the year. An **online** section will also be available.

**Prerequisite:** Keyboarding skills; C or better average in Geometry or Integrated Math 2

**Dual Credit** is available with University of Missouri-Kansas City

**Articulated** college credit available

**CACC students have earned scholarships in career and technical organization contests, with amounts ranging from \$1,000 to full-ride scholarships valued as high as \$120,000.**

**Based on CACC Student Info, 2011**

"Preparing today's students for tomorrow's careers"

## Health Services

- Dental Assistant
- Pharmacy Technician
- Cardiovascular Technologist
- Occupational Therapist Assistant
- Medical Scientist
- Nutritionist
- Athletic Trainer

## Arts & Communication

- Florist
- Audio and Video Equipment Technician
- Web Designer
- Film and Video Editor
- Multi-Media Artist and Animator
- Reporter/Correspondent
- Broadcast News Analyst

## Business, Management & Technology

- Tech Support Specialist
- Business and Financial Manager
- Merchandiser
- Market Research Analyst
- Communications and Promotions Manager
- Network Administrator
- Programming and Software Developer

## Agriculture & Natural Resources

- Veterinary Assistant
- Fish and Game Warden
- Forestry Technician
- Agricultural Engineer
- Food Scientist
- Wildlife Biologist
- Farm and Home Management Advisor

## Human Services

- Ambulance Dispatcher
- Emergency Medical Technician
- Food Service Manager
- Childcare Worker
- Meeting and Convention Planner
- Baking and Pastry Chef
- School Counselor

## Engineering & Industrial Technology

- Aircraft Mechanic
- Heating and Cooling System Mechanic
- Surveyor
- Welder
- Storage and Distribution

## Architecture and Construction

- Certified Welding 1 – 9451
- Certified Welding 2 – 9452
- Certified Welding 3 – 9453
- Introduction to the Construction Industry – 9500
- Construction Technology 1 – 9501
- Construction Technology 2 – 9502
- Computer Aided Design 1 – 9601
- Computer Aided Design 2 – 9602
- 3D Modeling and Animation – 9606
- Civil Engineering and Architecture – 9610
- Civil Engineering and Architecture 2 – 9611

## Science, Technology, Engineering and Mathematics

- Geospatial Technology – 9621
- Geospatial Analysis – 9622
- Laser Technology – 9700
- Photonics 1 – 9701
- Photonics 2 – 9702
- Electronic Essentials – 9750
- Electronics 1 – 9751
- Electronics 2 - Robotics 2 – 9752
- Electronics 3 - Robotics 3 – 9753
- Robotics 1 – 9756

## Transportation, Distribution and Logistics

- Automotive Technology 1 – 9401
- Automotive Technology 2 – 9402

## Arts, A/V Technology and Communications

- Floral and Plant Design – 9005
- Web 2.0: Dynamic Apps in the Cloud – 9125
- Digital Media – 9130
- Graphic Design and Desktop Publishing – 9134
- Digital Video and Motion Graphics – 9138
- Web Design and Interactive Media – 9140
- Leadership in Media Technology – 9144

## Engineering & Industrial Technology

## Natural Resources Agriculture

## Agriculture, Food and Natural Resources

- Exploring Agricultural Science – 9001
- Floral and Plant Design – 9005
- Landscaping and Turf Management – 9010
- Greenhouse Production – 9018
- Advanced Horticulture – 9008
- Wildlife, Conservation, and Forestry – 9021
- Urban Conservation Issues – 9022
- Small Engine Technology – 9031
- Welding Technology and Agriculture Mechanics – 9041
- Advanced Welding and Project Fabrication – 9042
- Animal and Veterinary Science – 9060
- Advanced Animal Science – 9061

## Hospitality

- Culinary Arts
- Culinary Arts
- Baking and Pastry

## Law, Public Safety

- Core Essential Skills
- Emergency Services

- Broadcast Journalism 1 – 9145
- Broadcast Journalism 2 – 9146
- Broadcast Journalism 3 – 9147
- Broadcast Journalism Internship – 9148
- 3D Modeling and Animation – 9606

Arts & Communication

**Information Technology**

- Web Scripting and Database Management – 9142
- C++ Programming – 9161
- Advanced C++ Programming – 9162
- Advanced Programming Projects – 9163
- Accelerated C++ Programming – 9164
- AP Computer Science A – 9165
- A+ IT Essentials – 9800
- Information Technology 1 – 9811
- Information Technology 2 – 9812

**Marketing**

- Marketing – 9301
- Sports and Entertainment Marketing – 9304
- Advertising and Promotion – 9305
- Marketing Store Management – 9315

**Business, Management & Technology**

**Business, Management and Administration**

- Entrepreneurship – 9307

**Foundation Knowledge & Skills**  
Academic & Technical Skills

- Teamwork • Career Development
- Information Technology Application
- Problem Solving • Critical Thinking
- Employability • Ethics • Systems
- Safety, Health & Environment
- Legal Responsibilities
- Communication

**Health Services**

**Health Science**

- Introduction to Healthcare Professions – 9230
- Introduction to Healthcare Professions—Honors – 9231
- Professions in Healthcare – 9235
- Professions in Healthcare—Honors – 9236
- Laboratory Exploration 101 – 9251
- Laboratory Foundations MI (Medical and Industrial) – 9252
- Laboratory Foundations PE (Pharmaceutical & Environmental) – 9253
- 21st Century Life Sciences DRIE (Diagnostic Research, Industrial and Environmental) – 9258
- 21st Century Life Sciences MPA (Medical, Pharmaceutical, and Agricultural) – 9259
- Emergency Medical Technician-Basic – 9262

**Human Services**

**Arts and Tourism**

- Culinary Arts 1 – 9951
- Culinary Arts 2 – 9952
- Baking and Pastry Arts – 9953

**Education and Training**

- Teaching Professions – 9215
- Foundations of Teaching and Instruction – 9216
- Teaching Professions Internship – 9217

**Public Safety, Corrections and Security**

- Essentials of Fire Fighting and Public Safety – 9260
- Emergency Medical Technician-Basic – 9262

**Russley  
Class of 2012  
Hickman**



**The Career Center has extended my education through the use of hands on and practical applications. The transportation challenge from Hickman High School that we had to solve was well worth it!**

**9162 Advanced C++ Programming** **Grade: 11, 12 Credit: 1**

Once you've successfully completed C++, you're ready to step up your skill set and develop a deeper understanding of the language and learn advanced techniques. You'll develop, select and implement algorithms and data structures to produce more complex programs. A focus on teamwork and abstract thinking allows students to cover bigger projects in shorter time. Students will develop real-world simulators such as an ATM and an elevator. Teams will work on system design such as desktop application software.

**Prerequisite:** C or better average in C++ Programming

**Dual Credit** is available with University of Missouri-Kansas City or Central Methodist University

**Articulated** college credit available

**The Agriculture instructor really made a difference in my son's life. CACC instructors go above and beyond when it comes to making sure their students succeed whether it is in the classroom or in a Career and Technical Student Organization contest.**

**Parent of Agriculture Student, 2011**

**CACC students participating in Career and Technical Student Organization contests have placed at the district, state, national, and international levels.**

**Based on CACC Student Info, 2011**

**9163 Advanced Programming Projects** **Grade: 11, 12 Credit: 1**

Computer science is not a spectator sport! If you're a motivated student, you'll learn much more from actually solving problems, designing advanced algorithms and coding programs. Not only will students work in teams to design and develop, they will need to present to audiences of various technical skill levels. Projects will include a divergent section of topics such as developing web based applications, mobile device applications, simulators and desktop applications. While the primary teaching language is C++, new languages will also be explored.

**Prerequisite:** C or better average in Advanced C++ or AP Computer Science A; instructor approval

**9164 Accelerated C++ Programming** **Grade: 10, 11, 12 Credit: 2**

If you're up for the challenge, you can complete beginning and advanced C++ programming in one school year. This fast paced course meets 90 minutes daily and prepares you to tackle the problem solving skills necessary for successful programming. A first semester grade of C or better is required to advance to the second semester.

**Prerequisite:** Keyboarding skills; C or better average in Geometry or Integrated Math 2

**Dual Credit** is available with University of Missouri-Kansas City or Central Methodist University

**Articulated** college credit available

**9165 AP Computer Science A** **Grade: 11, 12 Credit: 1**

Interested in gaining an advantage for your future? This writing intensive class provides motivated and academically prepared students the necessary groundwork for the Advanced Placement Computer Science A exam. Focus areas include designing and implementing computer-based solutions to problems in a variety of application areas; developing, selecting and implementing algorithms and data structures; coding fluently in an object-oriented paradigm using Java; identifying major hardware and software components and their relationships; and recognizing the ethical and social implications of computer use.

**Prerequisite:** C or better average in Algebra 2 or Integrated Math 3

**Related:** C++ Programming

**Articulated** college credit available

**9800 A+ IT Essentials** **Grade: 10, 11, 12 Credit: 1**

The explosion of computer use has created a high demand for computer support professionals to provide technical assistance, support and advice to users. Take advantage of this tremendous opportunity and get in-depth exposure to computer hardware and operating systems. You'll actually assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems. This course helps prepare you for the CompTIA A+ Certification exam which validates the latest skills needed by today's computer support professionals.

**Related:** Keyboarding skills

**Dual Credit** is available with University of Central Missouri, Moberly Area Community College or Linn State Technical College

**Articulated** college credit available

**9811 Information Technology 1** **Grade: 11, 12 Credit: 2**

Information Technology is IT! Simply put, IT is the use of computers and software to manage information. Your introduction to the fundamentals of networking concepts and technologies will prepare you for exciting hands-on experiences that will add to your tech skills toolbox. Areas of study include: OSI model, TCP/IP model, MAC and IP addressing, cable installation, and basic LAN equipment setup. Because a solid education and specific specialty certifications is the best way to progress in an information technology career, this course prepares students for the Cisco CCENT (Certified Entry Networking Technician). What a great starting point for a successful career in information technology!

**Related:** Keyboarding skills; C++ Programming; A+ IT Essentials; Electronics

**Dual Credit** is available with University of Central Missouri, Moberly Area Community College or Linn State Technical College

**Articulated** college credit available

**9812 Information Technology 2****Grade: 12 Credit: 2**

Step IT up! You're ready to move from the fundamentals to advanced applications and services. Using the top-down approach to networking, you'll master the concepts and skills required to design networks. You'll have plenty of opportunities for practical applications installing, operating and maintaining networks. Focusing on accessing the Wide Area Network gives students the skills necessary to be qualified as network technicians, network administrators and network engineers. Areas of study include LAN Switching, VLANs, Wireless, WANs, VoIP, ACLs, and NAT. This course prepares students for the Cisco CCNA (Cisco Certified Network Associate) certification. CCNA validates your ability to install, configure, operate, and troubleshoot medium-sized routed and switched networks, including implementation and verification of connections to remote sites in a WAN.

**Prerequisite:** C or better average in Information Technology 1**Related:** A+ IT Essentials; Electronics; C++ Programming**Dual Credit** is available with University of Central Missouri or Moberly Area Community College**Articulated** college credit available

## Marketing

**9301 Marketing****Grade: 10, 11, 12 Credit: 1**

Two of the fastest growing fields are marketing and sales, according to the US Department of Labor. To learn principles, skills, and attitudes essential to marketing, students work with a comprehensive set of concepts and problems. We focus on fundamentals of marketing, advertising, human relations, economics, and communications. We also study product development, sales promotion, packaging, and distribution. Marketing is a must for anyone thinking about a career in business!

**Related:** Digital Media; MS Office 1 and 2**9304 Sports and Entertainment Marketing****Grade: 11, 12 Credit: 1**

Look behind the scenes of a multi-billion dollar industry and learn about the business side of sports and entertainment marketing. Examine athletic endorsements, event sponsorships, product development, licensing, sales, promotion, event planning, and careers in sports and entertainment marketing.

**Prerequisite:** B or better average in Marketing**Related:** Digital Media; MS Office 1 and 2**9305 Advertising and Promotion****Grade: 11, 12 Credit: 1**

Discover how advertising and promotions affect consumers and influence the marketing process. Learn the creative side of advertising and promotional development. Analyze all facets of advertising and sales promotion and learn the psychology of the promotional channels including advertising (TV, print, radio, outdoor, etc.), sales promotion, public relations, and publicity.

**Prerequisite:** B or better average in Marketing**Related:** Digital Media, MS Office 1 and 2**Articulated** college credit available**9315 Marketing Store Management****Grade: 11, 12 Credit: 1**

Put your leadership and management skills to work in the school store! Work in a school-based business and gain the skills you need for your retail future. Units covered include: cash register operations, customer service, inventory control, pricing, product management, stocking and receiving, and purchasing.

**Prerequisite:** B or better average in Marketing OR Business Management and Ownership AND instructor approval

**The course options and environment at the CACC fill a vital role in helping students discover their natural skills/talents and passions that wouldn't necessarily be discovered in a conventional classroom setting. There are so many ways that people learn and process and discover themselves that alternative educational environments must be offered to help young people discover their gifts and offer them the opportunity to thrive. The CACC is a shining example of an organization that supports students in an alternative education setting.**

Parent



**Jonathan**  
Class of 2012  
Hallsville

**The Career Center classes have not only taught me what I want to do, but also what I don't wish to do. My experience has taught me to trust myself more and has made me a well-rounded student. Before, I was more narrow-minded when it came to a career. Now, I've realized that I would like to incorporate art with my love for computers.**

## Architecture and Construction

**9451 Certified Welding 1****Grade: 10, 11, 12 Credit: 2**

This course, accredited by the American Welding Society (AWS), will introduce students to all aspects of the welding industry. Students will weld steel plate utilizing Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW), and Flux Core Arc Welding (FCAW). They will learn to cut steel with Oxy-fuel, Carbon Arc, and Plasma. In addition, students will become familiar with many of the welding symbols and codes used in the welding and fabrication industry. Approved work clothes and shoes are required.

**Related:** Industrial Technology classes**Articulated** college credit available**9452 Certified Welding 2****Grade: 11, 12 Credit: 2**

This AWS accredited class will further develop students' welding skills in plate, pipe, and non-ferrous materials such as aluminum and stainless. Students will be expected to learn advanced fit-up and layout as well as welding symbols. Approved work clothes and shoes are required.

**Prerequisite:** C or better average in Certified Welding 1**Articulated** college credit available

**9453 Certified Welding 3** **Grade: 12 Credit: 2**

Certified Welding 3 is a challenging course, accredited by AWS, that focuses on pipe welding in four positions using Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW), and a combination of SMAW and GTAW. Students study welding, oxy-fuel, and power tool safety as well as welding symbols and American Welding Society structural certification codes.

**Prerequisite:** C or better average in Certified Welding 2

**9500 Introduction to the Construction Industry** **Grade: 10, 11, 12 Credit: 1**

Gain experience and training in a variety of construction industry trades. Coursework includes both classroom and lab activities that combine thinking skills with construction of lab projects. Topics covered include job site safety, construction math, hand tools, power tools, employability skills, green building principles, blueprint reading, concrete, house framing, house wiring, drywall, roofing, plumbing, and heating and air conditioning.

**Related:** Integrated Math 1; Algebra 1; Physics; Electronics

**9501 Construction Technology 1** **Grade: 11, 12 Credit: 3**

Build a house and receive high school credit at the same time. Learn the rewards of a career in a field that employs the largest number of workers in the country—construction. Successful students continue into Construction Technology 2 or to college, apprenticeships, and/or work in the construction field. Approved work clothes and shoes are required.

**Prerequisite:** Passing grade both semesters in Integrated Math 1 or Algebra 1; Record of good citizenship and attendance

**Related:** Introduction to the Construction Industry

**Articulated** college credit available

**9502 Construction Technology 2** **Grade: 12 Credit: 3**

Students who are seriously considering a career in the construction field will have the opportunity to further develop skills and techniques learned in Construction Technology 1 and to develop supervisory and management skills. Second year students serve as team leaders for the construction “crew” of first-year students. Approved work clothes and shoes are required.

**Prerequisite:** C or better average in Construction Technology 1

**Articulated** college credit available

**9601 Computer Aided Design 1** **Grade: 10, 11, 12 Credit: 2**

Like engineers, architects, and 3D designers, students utilize the latest AutoCAD, Architectural Desktop, 3D VIZ, and 3D Studio Max software. They will use these programs to design and model real world 3D products. Windows platform will be used. All students are required to develop a portfolio by the end of the course comprised of traditional prints and the most advanced 3D modeling.

**Prerequisite:** C or better average in Integrated Math 1 or Algebra 1

**Related:** Sketching; Geometry

**Dual Credit** is available with Moberly Area Community College

**9602 Computer Aided Design 2** **Grade: 11, 12 Credit: 2**

Learn advanced computer-aided skills, using a CAD system to produce graphic products of your choice. Each student will select areas of design specialization using the following: Architecture- Architectural Desktop and Revit, Mechanical-AutoCAD, Graphics-3D Studio Max, Z brush 3D Modeling, and more.

**Prerequisite:** B or better average in Computer Aided Design 1

**Dual Credit** is available with Moberly Area Community College

**Articulated** college credit available

**Columbia Area Career Center gave me a chance to try out Introduction to Health Care and the Construction Technology courses, which allowed me to discover that I did not want to become a doctor, but a construction manager. The Career Center saved me one year of college by allowing me to try out my interest in health care and eventually finding out in the end that I didn't want to pursue a career as a doctor for the rest of my life.**

**Niyonzima, Construction Technology, 2011 Graduate**

**The Columbia Area Career Center helped to show me all of the possibilities and opportunities that the hospitality industry can offer if you're willing to work hard for them. My instructors at the CACC challenged me and inspired me to continue my education in the culinary field. In November 2011, I will graduate with my bachelor's degree in Culinary Arts Management from the Culinary Institute of America and I have secured a position cooking within the kitchens of the Ritz Carlton St. Louis! I owe a huge thank you to the Columbia Area Career Center!**

**Doug, Culinary Arts, 2008 Graduate**

**9606 3D Modeling and Animation** **Grade: 11, 12 Credit: 2**  
Information found on page 5 under Arts, A/V Technology and Communications.**9610 Civil Engineering and Architecture** **Grade: 10, 11, 12 Credit: 2**

Civil engineers and architects design, build, and protect the infrastructure that modern society depends on. This course will introduce students to the planning, designing, surveying, and construction of today's infrastructure such as bridges, houses, dams, highways, and more. Opportunities for students to develop skills through projects, the latest CAD systems, and cutting edge survey equipment will be presented. Examples of projects include: building models of balsa wood bridges and testing them for strength, producing electricity from moving water, and drawing house plans and topographic surveys.

**Prerequisite:** C or better average in Integrated Math 1 or Algebra 1

**Related:** Introduction to Architecture and Design

**Dual Credit** is available with Moberly Area Community College

**Articulated** college credit available

**9611 Civil Engineering and Architecture 2** **Grade: 11, 12 Credit: 2**

This course will build upon the knowledge gained in Civil Engineering and Architecture to help equip graduates to face the challenges of modern engineering and architectural practices. Students will delve deeper into engineering and architectural design and construction using several methods. Topographic surveys will be produced and then turned into working site-plans that contain real world methods and solutions. Using the latest CAD systems, house plans will be designed and students will learn how to make structures stable and efficient. An innovative and researched capstone engineering project with a student designed model will complete the course. A professional portfolio of the student's work will be built as projects are finished.

**Prerequisite:** B or better average in Civil Engineering and Architecture

**Dual Credit** is available with Moberly Area Community College

**Articulated** college credit available

**Science, Technology, Engineering & Math****9621 Geospatial Technology** **Grade: 10, 11, 12 Credit: 1**

Geospatial Technology. What's that, you say? Think Google Earth times ten! It's a powerful innovation which has changed the way individuals and organizations solve problems. Police and fire departments depend on it every day. Computerized mapping of geographic information provides data that helps inform decision-making in virtually every organization. Students will use the latest industry-standard GIS software packages to develop computer-aided skills of mapmaking, spatial analysis, and solution based development. This isn't the Matrix, no science fiction here. Just Geospatial Technology.

**Prerequisite:** C or better average in Integrated Math 1 or Algebra 1

**Dual Credit** is available with University of Missouri-Kansas City

**9622 Geospatial Analysis** **Grade: 11, 12 Credit: 1**

Yes, you can map it, but what does the data mean? Study environmental, law and fire emergencies, population and other projects of your choice. Ramp up your analysis skills when you become a consultant to an outside agency to recommend a solution to a real world problem. You'll meet with an agency representative to report the design, work flow and implementation of the project. Your final analysis will be presented to the agency and submitted to ESRI for evaluation. That's a real resume builder for a GIS professional.

**Prerequisite:** C or better average in Geospatial Technology

**9700 Laser Technology** **Grade: 10, 11, 12 Credit: 1**

Create holograms, examine forensics, develop light shows, design security systems, and examine other engineering applications that use lasers and fiber optics. This exploration of photonics—one of the fastest growing technical fields—offers the chance to work with the green laser technology featured in TV programs like CSI.

**Related:** Industrial Technology; Engineering and Physics

**9701 Photonics 1** **Grade: 11, 12 Credit: 2**

Realize the dreams of Archimedes and da Vinci when you use high-tech lab equipment to control light. Your study of one of the foremost emerging technologies—photonics—explores the physical control of light. The in-depth study of the physics of photonics will provide you the foundation on which photonics technicians build their careers—in one of the fastest growing of all technical fields.

**Prerequisite:** C or better average in Integrated Math 2 or Algebra 1

**Related:** Industrial Technology; Laser Technology; Electronics

**Articulated** college credit available

**9702 Photonics 2** **Grade: 12 Credit: 2**

The demand for precision and efficiency is changing the way industry is utilizing photonic and electro-optical technologies. The laser is now the tool of choice for tasks from picture-hanging in residences to major construction projects to hundreds of scientific applications. This class will look at various aspects of photonics, the development of photonic solutions for real-world applications, geometric optics, and non-linear optics.

**Prerequisite:** C or better average in Photonics 1

**Articulated** college credit available

**9750 Electronic Essentials** **Grade: 10, 11, 12 Credit: 1**

Electronics is one of the most important branches of science. Many of today's innovations which have shaped our society are a result of electronics. From iPads to iPods, computer networking to GPS navigation systems, automotive technology to engineering, electronics has reshaped our world. Gain the power of electronics knowledge offered in this class. Then using analog and digital test equipment, you'll analyze the electronic circuits you construct in class.

**Prerequisite:** C or better average in Integrated Math 1 or Algebra 1

**Related:** Industrial Technology; Engineering and Physics

**9751 Electronics 1** **Grade: 10, 11, 12 Credit: 2**

Just because you use computers, cell phones, WiFi, and other electronic bling, doesn't mean you understand them. Electronics 1 is the foundation for understanding and using these devices. Learn about direct current (DC), alternating current (AC), semiconductors, and digital electronics as you build and explore many projects. You'll become a knowledgeable user of technology and gain the basic skills needed to design, build and troubleshoot most electronic devices used in an engineering project.

**Prerequisite:** C or better average in Integrated Math 1 or Algebra 1

**Related:** Industrial Technology; Engineering and Physics

**Dual Credit** is available with University of Central Missouri

**9752 Electronics 2 - Robotics 2** **Grade: 11, 12 Credit: 2**

From the beginning of time, man has tried to build machines that could perform mechanical tasks so he could spend his time on more important matters! You can become a modern day Leonardo da Vinci and control everything from robots to light shows. Electronics 2 gives you the skills and knowledge to tackle challenging and in-depth projects to expand your knowledge of DC, AC, semiconductor, digital electronics, and electronic engineering. Now that's cutting edge.

**Prerequisite:** B- or better average in Electronics 1, Electronic Essentials, or Robotics

**Dual Credit** is available with University of Central Missouri

**Articulated** college credit available

John's Electronics instructor took students on a field trip to Missouri University Science and Technology. That trip is one of the main reasons John is now enrolled at Missouri S & T studying nuclear engineering. Most high school graduates don't know what they want to be when they grow up. Because of the instructor's mentoring, our son is now focused on a great career.

Parent of Electronics Student, 2010

My Laboratory Technology instructor taught me more than I realized about how to research. I learned lab book skills, how to conduct proper research, how to be accurate and think critically and ethically. I did an independent study outside of class which is a major reason that the Howard Hughes Research Apprenticeship Program chose me for their freshman work study program. Because I took this class, I realized I am interested in some sort of research.

Katie, Laboratory Technology, 2011 Graduate

**9753 Electronics 3 - Robotics 3** **Grade: 12 Credit: 2**

Beam me up, Scotty...it's time to take it to the final frontier in the Electronics trilogy. There are one or more microprocessors used in the smallest handheld devices to the largest supercomputers. Spend the first semester learning about microprocessors, computer numerical controlled projects, and programmable logic controllers through hands-on applications. During second semester, you'll choose a capstone project which will put all you've learned to use as you design, build and test a true prototype engineering product.

**Prerequisite:** B- or better average in Electronics 2

**Dual Credit** is available with University of Central Missouri

**Articulated** college credit available

**9756 Robotics 1** **Grade: 10, 11, 12 Credit: 2**

Robots have leapt from the realm of science fiction into everyday life. Industrial, military and service robots perform tasks that are too dangerous, dirty or undesirable for humans. This course introduces programming, electronics, and robotics concepts that are essential to understanding a robot's design and functions. You'll work with various types of robots and control systems and experiment with sensors, processors and actuators used in engineering. It doesn't get any better than this!

**Prerequisite:** C or better average in Integrated Math 1 or Algebra 1

## Transportation, Distribution & Logistics

**9401 Automotive Technology 1** **Grade: 11, 12 Credit: 3**

The basics of auto diagnosis and repair guidelines are covered in this two-year course designed for students who are interested in Automotive Technology as a profession. It follows ASE/NATEF (National Automotive Technicians Education Foundation) and includes eight major units, covered during two years of instruction. In 2012-2013, the units will include Automotive Electrical/Electronics and Engine Performance. In 2013-2014, the units will include Brakes, Steering and Suspension Systems, Engine Repair, Manual Drive Train, Automatic Transmission/Trans-axle, and Heating and Air Conditioning. Students will alternate classroom studies with lab or shop experiences. Approved work clothes and shoes are required.

**Prerequisite:** C or better average in Integrated Math 1 or Algebra 1; preference given to students with 95% attendance or better

**Related:** Small Engine Technology; Electronic Essentials/Electronics 1

**Articulated** college credit available

**9402 Automotive Technology 2** **Grade: 12 Credit: 3**

This is a continuation of Automotive Technology 1 in which students will cover the remainder of the eight major units of instruction. See Automotive Technology 1 for details. Approved work clothes and shoes are required.

**Prerequisite:** C or better average in Automotive Technology 1

**Articulated** college credit available

Thanks to Clint's exposure to construction management classes at the CACC, and pursuing on-campus interviews while at Missouri State, he completed an internship this past summer for Garney Construction Company. Clint has been offered a position for next summer and given a scholarship towards tuition. The company has also verbally offered a position after graduation in 2013.

Parent of Construction Technology Student, 2009

**Patrice  
Class of 2012  
Hickman**



I enjoy coming to the Career Center because the nursing class I am enrolled in helps me better my knowledge and is helping me with my future.

## Health Science

### 9230 Introduction to Healthcare Professions **Grade: 10, 11 Credit: 1**

Reality-based instruction, guest speakers, exposure to first aid and CPR training are integrated into this introductory course. Components include basic anatomy, growth and development, microbiology, and safety procedures. Many healthcare occupations are presented with the goal of developing a realistic individual career plan in the healthcare sciences for each student.

### 9231 Introduction to Healthcare Professions—Honors

**Grade: 11, 12 Credit: 1**

This honors class introduces a problem-based methodology used by many medical training facilities. Students will be required to do research and to investigate healthcare careers. Specific units will include medical terminology, history of medicine, microbiology, human growth and development, medical assessment, first aid, and safety. Anatomy and pathophysiology will also be explored.

**Prerequisite:** C or better average in Biology and 95% attendance

**Related:** Chemistry; Biology; Anatomy and Physiology

### 9235 Professions in Healthcare

**Grade: 11, 12 Credit: 3**

Students learn patient care skills in the classroom, lab, and at clinical sites within the community, as well as basic nursing and communication skills, and applied medical terminology. American Heart Healthcare Provider BLS CPR certification will be available. Completion of the program prepares students to work in healthcare while pursuing postsecondary education. Completion of the hours of direct patient care and classroom instruction may provide eligibility to sit for the state Certified Nurse Assistant (CNA) exam and enhance opportunities for admission to advanced healthcare career programs.

**Prerequisite:** Record of good citizenship and attendance; Employee Disqualification List (EDL) check; Federal Marker check; State Criminal Background check; and a drug test. Must successfully pass first semester to continue into second semester.

**Related:** Introduction to Healthcare Professions or Honors; Biology; Chemistry; Lab Exploration 101

**Dual Credit** is available with University of Central Missouri and Moberly Area Community College

### 9236 Professions in Healthcare—Honors

**Grade: 11, 12 Credit: 3**

This class explores the same fundamental medical concepts as Professions in Healthcare. However, it requires a more detailed and in-depth analysis of anatomy, physiology, and pathophysiology. There is a strong emphasis on medical math. American Heart Healthcare Provider BLS CPR certification will be available. Completion of the program prepares students to work in healthcare while pursuing postsecondary education. Completion of the hours of direct patient care and classroom instruction may provide eligibility to sit for the state Certified Nurse Assistant (CNA) exam, and enhance opportunities for admission to advanced healthcare career programs.

**Prerequisite:** C or better average in Biology; 95% attendance; record of good citizenship; Employee Disqualification List (EDL) check; Federal Marker check; State Criminal Background check; and a drug test. Must successfully pass first semester to continue into second semester.

**Related:** Introduction to Healthcare Professions-Honors; Biology; Chemistry; Lab Exploration 101

**Dual Credit** is available with University of Central Missouri or Moberly Area Community College

### 9251 Laboratory Exploration 101

**Grade: 10, 11, 12 Credit: 1**

Earn ½ science and ½ practical arts credit while learning to effectively use many laboratory tools and procedures essential to most laboratories. Students will learn to use analytical balances, pH meters, microscopes, and micropipettes, as well as procedures such as gram staining, bacterial strain isolation, and aseptic technique. This course gives students a taste of the lab while equipping them for high school and postsecondary laboratory coursework, laying the foundation for future professional laboratory work.

**Related:** B or better average in previous math and science classes

### 9252 Laboratory Foundations MI (Medical and Industrial)

**Grade: 11, 12 Credit: 1**

Earn ½ science and ½ practical arts credit while learning techniques and applying technologies used in medical and industrial laboratories. Students learn lab skills including microscopy, microbiology, blood and tissue identification, and simple chemical tests, as well as raw materials identification testing, pH, titrations, and specific gravity. Skills taught are essential for students interested in a science-related career and will equip students for high school and postsecondary laboratory coursework.

**Prerequisite:** C or better average in ONE of the following: Biology, Chemistry, Lab Explorations 101, or Lab Foundations PE

NOTE: This course is offered alternate years—next class 2013-2014.

**Related:** Laboratory Exploration 101; Laboratory Foundations (PE)

The CACC was the most important step in my schooling. Not only was there an option of a Laser/Photonics course at a high school level, only one of two in the country, but the other program was based off of this one! The staff at the CACC were better and more involved than any of the staff at the three colleges I attended post-high school. I would love to be able to someday teach students at the CACC to give them the same enthusiasm that I was given.

Sean, Photonics, 2005 Graduate

**9253 Laboratory Foundations PE (Pharmaceutical and Environmental)****Grade: 11, 12 Credit: 1**

Earn ½ science and ½ practical arts credit while applying techniques and technologies used in pharmaceutical and environmental laboratories. Students will perform the pharmaceutical laboratory work of wet chemistry, spectrophotometry, chromatography, and extractions. The environmental laboratory work will include sampling techniques, chemical analysis, and biological testing. Skills taught are essential for students interested in a science-related career. Lab experiences will equip students for high school and postsecondary laboratory coursework, and lay the foundation for future professional laboratory work.

**Prerequisite:** C or better average in ONE of the following: Biology, Chemistry, Lab Explorations 101, or Lab Foundations MI

**NOTE:** This course is offered alternate years—next class 2012-2013.

**Related:** Laboratory Exploration 101; Laboratory Foundations (MI)

**9258 21st Century Life Sciences DRIE (Diagnostic Research, Industrial and Environmental)****Grade: 11, 12 Credit: 1**

Earn ½ science and ½ practical arts credit while investigating life science techniques, technologies, and controversies within industrial, environmental, and research applications. Solve puzzles by applying microbiology methods, gel electrophoresis, spectrophotometry, ELISA and PCR analysis. Understand the current and potential effect of the current biotechnology on human society. Skills taught are essential for students interested in a science-related career. The lab experiences will equip students for high school and postsecondary laboratory coursework, and lay the foundation for future professional laboratory work.

**Prerequisite:** C or better in two of the following: Biology, Chemistry, Laboratory Exploration 101, Lab Foundations MI or PE

**NOTE:** This course is offered alternate years—next class 2013-2014.

**Related:** Laboratory Exploration 101; Laboratory Foundations

**Dual Credit** is available with Central Methodist University

**Articulated** college credit available

**9259 21st Century Life Sciences MPA (Medical, Pharmaceutical, and Agricultural)****Grade: 11, 12 Credit: 1**

Earn ½ science and ½ practical arts credit while investigating life science techniques, technologies and controversies within medical, pharmaceutical and agriculture fields. Solve puzzles by applying microbiology methods, gel electrophoresis, spectrophotometry, ELISA and PCR analysis. Understand the current and potential effect of the current biotechnology on human society. Skills taught are essential for students interested in a science-related career. The lab experiences will equip students for high school and postsecondary laboratory coursework, and lay the foundation for future professional laboratory work.

**Prerequisite:** C or better in two of the following: Biology, Chemistry, Laboratory Exploration 101, Lab Foundations MI or PE

**NOTE:** This course is offered alternate years—next class 2012-2013.

**Related:** Laboratory Exploration 101; Laboratory Foundations

**Dual Credit** is available with Central Methodist University

**Articulated** college credit available

**9262 Emergency Medical Technician-Basic****Grade: 12 Credit: 1**

People's lives often depend on the quick reaction and competent care of emergency medical technicians (EMT). EMTs provide this vital service as they care for and transport the sick or injured to a medical facility. This course follows the national standard curriculum for Emergency Medical Technician-Basic. Upon successful completion of the course and becoming 18 years of age, the student is eligible to take the National Registry for EMT written and practical examinations. Clinical observations at local ambulance services are a required part of this course and occur outside of regular class time. Students are expected to provide their own transportation to these sessions.

**Prerequisite:** 95% attendance; record of good citizenship; Employee Disqualification List (EDL) check; TB test; and drug test. Must successfully pass first semester to continue into second semester.

**Related:** Core Essentials of Firefighting and Public Safety; age 18 within 6 month of completion of the course; strong reading skills given the post-secondary level textbooks and materials.



**McKenzie  
Class of 2012  
Rock Bridge**

The classes I have taken at the Career Center have really helped me feel more confident and prepared for my life after high school. They are more hands-on and you can tell the teachers really have a passion for their job.

**Law, Public Safety, Corrections, & Security****9260 Core Essentials of Fire Fighting and Public Safety****Grade: 10, 11 Credit: 1**

Students will be introduced to the world of fire fighters, police officers, emergency medical technicians, and other emergency responders. A look into field operations, law, public relations, and crisis planning will be included. Students will develop a career plan to prepare for their success in the field of public safety and security.

**Related:** Introduction to Healthcare Professions; Introduction to the Construction Industry

I am a pre-radiology major at MU and I wanted to thank my instructor for the information I received in class last year. Your lectures on biology and anatomy helped me to review some of the AP Biology material I would never have gotten to review before the AP test.

Jin, Intro to Professions in Healthcare, 2011 Graduate

## Education and Training

### 9215 Teaching Professions **Grade: 10, 11, 12 Credit: 1**

This course will introduce students to the teaching profession, PreK-12. Students will explore the requirements for teaching credentials, teacher shortage areas, daily working conditions and extra duties, wages and benefits, and the projected changes in this profession for the next decade.

**Prerequisite:** C or better average in Integrated Math 1 or Algebra 1; C or better average in English 9 or above; AND record of good citizenship and attendance

**Related:** Psychology; Sociology; Child Development

### 9216 Foundations of Teaching and Instruction **Grade: 11, 12 Credit: 2**

This course will provide students with an overview of the historical, philosophical, developmental, and psychological foundations of American education. Students will relate the application of psychological principles to teaching, learning, assessment, and the educational practices in the K-12 classrooms. Students will participate in grades PreK-9 field experience as well as develop a professional portfolio.

**Prerequisite:** B or better average in Teaching Professions AND record of good citizenship and attendance.

**Dual Credit** is available with University of Central Missouri

### 9217 Teaching Professions Internship **Grade: 12 Credit: 2**

This course will provide high school seniors interested in the field of education, the opportunity to gain experience in a classroom setting by interning in local K-9 classrooms under the direct supervision of a host teacher. Students will observe instruction, classroom management, and teaching strategies. They will work one-on-one with students and implement classroom lessons as well as create a professional and student portfolio. Students will gain experiences that will allow them to reflect on their desire to become a teacher and the realities of the classroom.

**Prerequisite:** B or better average in Foundations of Teaching AND record of good citizenship and attendance.

**Dual Credit** is available with University of Central Missouri

## Hospitality and Tourism

### 9951 Culinary Arts 1 **Grade: 10, 11 Credit: 2**

Welcome to the world of professional cooking. This class will give you the start for skills necessary to become certified with the American Culinary Federation as a Certified Culinarian. You can also be nationally certified in sanitation with the ServSafe certification. We will explore every facet of culinary arts, as well as learn the vital practice of quality food prep.

### 9952 Culinary Arts 2 **Grade: 11, 12 Credit: 3**

This class will help you expand your skills, which are necessary to become certified with the American Culinary Federation as a Certified Culinarian. We will explore advanced techniques such as sausage making and other charcuterie and study of regional and international cuisines while applying them to an actual production setting. The class runs a buffet and restaurant periodically throughout the year.

**Prerequisite:** C or better average in Culinary Arts 1

**Related:** Baking and Pastry Arts

**Articulated** college credit available

The opportunity to attend the Culinary Institute of America on a full-ride tuition scholarship and compete in the International SkillsUSA competition would not have been possible without the Columbia Area Career Center. The CACC classes provided me with the skills I needed to achieve my goals and with the support and guidance of the CACC Culinary instructors, my confidence and drive to succeed increased. My instructors were constantly presenting me with new learning opportunities and were willing to do whatever they could to help me.

Rachel, Culinary Arts, 2010 Graduate

### 9953 Baking and Pastry Arts

**Grade: 11, 12 Credit: 2**

Welcome to the world of professional baking. This class will give you the skills necessary to become certified with the American Culinary Federation as a Certified Pastry Culinarian. We will explore every facet of Baking and Pastry, including the ingredients, methods, and techniques of making hearth breads, tarts, custards, cakes, and confections in addition to learning the vital importance of professionalism in the workplace.

**Prerequisite:** C or better average in Culinary Arts 1

**Related:** Culinary Arts 2

**Articulated** college credit available



Tory  
Class of 2012  
Rock Bridge

The Career Center allowed me to experience many new subjects and has helped to narrow my interests into a specific career field.

## Agriculture, Food & Natural Resources

### 9001 Exploring Agricultural Science

**Grade: 9 Credit: 1**

Students learn about the many facets of agriculture. Topics include small and large animal production, basic techniques in crop cultivation, characteristics of Missouri trees and wild plants, floral design, greenhouse production, horticulture, landscaping, and natural resources.

### 9005 Floral and Plant Design

**Grade: 10, 11, 12 Credit: 1**

Information found on page 4 under Arts, A/V Technology and Communications.

Sometimes you never know how the experience students get at the CACC will lead to other opportunities. My daughter took the Professions in Healthcare class and is studying to be a radiology technician now. I hope programs at the CACC continue to grow. It puts students ahead of the pack no matter if they attend a 2 or 4 year school, or plan to find a job after graduation.

Parent of Professions in Healthcare Student, 2008

#### 9010 Landscaping and Turf Management Grade: 10, 11, 12 Credit: 1

Explore the exciting careers relating to landscaping industry as you study plant science, plant identification, landscape design, installation and maintenance, and turf management. Learn how to plant and care for landscaping plants, how to plant lawn grasses, lay sod, and care for a lawn. Students will gain entry level Computer Aided Design (CAD) skills and install landscape plants in a variety of settings.

**Related:** Exploring Agricultural Science

**Dual Credit** is available with University of Central Missouri

**Articulated** college credit available

#### 9018 Greenhouse Production Grade: 10, 11, 12 Credit: 1

Students will grow and care for tropicals, floral crops, and bedding plants with an environmentally friendly emphasis. This course includes plant identification, greenhouse environments, greenhouse structures, and propagation. Biological and organic methods of pest control will be emphasized. Composting and other eco-friendly methods will be implemented. Aquaponics (raising fish and plants in a liquid medium) will be studied in collaboration with Culinary Arts and Conservation courses.

**Related:** Exploring Agricultural Science

**Dual Credit** is available with University of Central Missouri

**Articulated** college credit available

#### 9008 Advanced Horticulture Grade: 11, 12 Credit: 1

The Horticulture industry is the fastest growing sector in the Agriculture industry. If you have a green thumb and love working in the great outdoors, Advanced Horticulture is for you! Pick your passion and you'll learn how to run a business in landscape design, floral and plant design or greenhouse production. Add some marketing and sales savvy and learn how to grow your business.

**Prerequisite:** C or better average in one of the following: Floral and Plant Design, Greenhouse Production, or Landscaping and Turf Management

**Related:** Marketing

#### 9021 Wildlife, Conservation, and Forestry Grade: 10, 11, 12 Credit: 1

Conservation officers, extension agents, foresters—all work to manage wildlife and plants. If you are interested in such careers and want to study forest management, soil and water conservation, and wildlife habitat management—enroll in this course. Learn about species native to Missouri and invasive animals and plants.

**Related:** Exploring Agricultural Science

**Dual Credit** is available with Missouri State University

**Articulated** college credit available

#### 9022 Urban Conservation Issues Grade: 11, 12 Credit: 1

Investigate current issues, including the effects of recreational activities on our environment, maintaining biodiversity with the expansion of urban areas, and developing strategies for managing wildlife in non-rural areas.

**Prerequisite:** C or better average in either Wildlife, Conservation, and Forestry or Environmental Science

**Dual Credit** is available with Missouri State University

I am so glad all three of our children have had the opportunity to be involved with the Columbia Area Career Center through high school course work as well as the summer camps that our elementary daughter attended. The Columbia Area Career Center is truly a PLUS for educational opportunities in the mid-Missouri region.

Parent

I'm happy that my son earned three college credits in Digital Media prior to starting school this fall!

Parent of Digital Media Student, 2011

#### 9031 Small Engine Technology Grade: 10, 11, 12 Credit: 1

With primary focus on 4-cycle engines and some exploration of 2-cycle engines, you'll have a year of instruction in the design and repair of the machinery owned by literally hundreds of millions of home and business owners.

**Related:** Exploring Agricultural Science

#### 9041 Welding Technology and Agriculture Mechanics Grade: 10, 11, 12 Credit: 1

Improve the odds of ultimately landing a welding job as you develop skills essential to the workplace—including shop safety and wood and metal-working tool operation; learn to read and develop project plans. The course provides specific training in arc, MIG, and oxy-acetylene welding and cutting.

**Related:** Exploring Agricultural Science

**Articulated** college credit available

#### 9042 Advanced Welding and Project Fabrication Grade: 11, 12 Credit: 2

Advanced Welding and Project Fabrication allows students to further enhance arc and MIG skills. Students will design and construct major metal projects such as trailers. The fabrication part of the course will start out with group projects to familiarize students with the "real" world setting. Students will be required to design and draw plans before construction of projects occur. Because safety is a shop priority, students will be required to wear clothing and shoes used in industry. Welding helmets, gloves, and safety glasses will be issued at the beginning of the school year.

**Prerequisite:** B or better average in Welding Technology and Agriculture Mechanics; a performance assessment may be required

**Related:** Computer Aided Design; Certified Welding

**Articulated** college credit available

#### 9060 Animal and Veterinary Science Grade: 10, 11, 12 Credit: 1

With a focus on care and production of various farm animals, this course also explores careers related to the care and breeding of domesticated animals, veterinarian, farm manager, livestock buyer, horse trainer, and more.

**Related:** Exploring Agricultural Science

#### 9061 Advanced Animal Science Grade: 11, 12 Credit: 2

With a foundation in Animal and Veterinary Science, students will study animal care, leadership, livestock management, judging, fitting/showing, food science, poultry, agricultural records, and FFA leadership. Can earn ½ credit in science.

**Prerequisite:** B or better average in Animal and Veterinary Science and 80% mastery on Career Center Expectations

**Related:** Biology

**Dual Credit** is available with University of Central Missouri

**Articulated** college credit available

### CACC Student Expectations

- **Attendance**  
Be on time daily and ready to work
- **Respect**  
Treat others as you want to be treated
- **Safety**  
Be careful, follow rules and procedures
- **Responsibility**  
Be honest, use appropriate language, do your work
- **Quality**  
Be proud of what you do
- **Team**  
Work well with others



Columbia Area Career Center  
Columbia Public Schools  
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Columbia, MO 65203

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Use Interest Inventory results from  
the 8th grade EXPLORE test to  
identify careers to research

Create a Personal Plan of  
Study to map a seamless transition to  
postsecondary education and work

Enroll in Career and Technical courses  
that are based on industry-verified  
standards and offered through the  
Columbia Area Career Center

Investigate Missouri Connections at  
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# SKILL EXPO

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**6 PM TO 8 PM**

**Explore** the wealth of **opportunities** available to area **students** at this open house. Talk to **instructors**, participate in interactive **activities**, view examples of student work, and see how **CACC** classes are **relevant** to your **future!**

*A chance to see  
our classes, meet  
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