

CAREER & TECHNICAL EDUCATION



Cherry Creek Schools



Career & Technical Education
Your life, your world, your future.

2020-2021 Course Catalog
www.cherrycreekschools.org/CTE



Your life,
your world,
your future.

CTE PROGRAMS EXPLAINED



Career & Technical Education (CTE) is a national program with courses teaching core academics, technical, and job-specific skills. CTE classes and programs like internships and apprenticeships, are designed to provide students with tools necessary to succeed in post-secondary education and career. All high schools in the Cherry Creek School District offer CTE courses.



Cherry Creek Innovation Campus (CCIC) is a stand-alone CTE facility which opened in August, 2019. Courses at the CCIC align with the industry standards for seven in-demand and growing career pathways. Many courses offer core academic credit in English, Math, or Science and/or college credit. Transportation to and from CCIC is provided at all home high schools.



Career Connections is a CTE program designed to guide students through career exploration by partnering with local business and industry. This program includes the *Career Exploration* class, *Executive Internship* and *Apprenticeship* programs. All programs help students develop necessary skills for transition to career and/or post-secondary education.



Concurrent Enrollment (CE) is an opportunity for students to earn high school and college credit simultaneously. Many course in the Cherry Creek School District (CCSD) offer concurrent enrollment credit through local colleges. As an additional benefit, CCSD will pay the tuition for students who apply for the College Opportunity Fund (COF). College credit can only be earned with a grade of 'C' or better.



Industry Certifications and Certificates are available in many CTE programs. An industry certification/certificate is recognized by business and industry at the local, state or national level. These certificates measure competency in an occupation, and they validate the knowledge base and skills that show mastery in a particular industry. Some certifications and certificates will be accepted for a student's demonstration of learning according to Graduation Guidelines. See your counselor for more information.



Career & Technical Student Organizations (CTSO) are key components to strong CTE programs. These student run organizations develop business and industry-specific skills, procedures, and values that align with coursework, activities, and events in the classroom and greater community. Students also have the opportunity to demonstrate these acquired skills at regional, state and national competitions.

REGISTRATION PROCESS

HOME HIGH SCHOOL CTE COURSE REGISTRATION

Information about CTE elective courses offered at your home high school can be found in the high school's course catalog. The course catalog provides information regarding the pathway of your selected CTE course, as well as any pre-requisites you may need to complete. To register for a course, follow home high school's registration process.

CCIC AND CTE DISTRICT COURSE REGISTRATION

Step 1: ICAP Planning

Use your ICAP to help select a CTE pathway that fits your career and academic goals. Based on your career goals, you may choose to apply for a CTE course that is offered at the Cherry Creek Innovation Campus (CCIC), or through the District CTE program.

Step 2: Course Selection

Use the information in the CTE course catalog to help you plan your course selection. Make sure you meet the grade-level requirements and any prerequisites required.

Step 3: Counselor Input

After you've selected a CCIC or District CTE course that fits your ICAP, consult your counselor to ensure the courses will fit with your home high school schedule and will allow you to complete all courses necessary for graduation.

Step 4: Application

Once you have received counselor approval, complete the CTE online application, opening on **January 21, 2020**. A link to the CTE online application can be found on the CCIC website and in registration links on home high school websites. **Applications must be submitted by Friday, March 6, 2020.** In addition to the application, some courses may require a supplemental application and/or attendance at an informational meeting.

Step 5: Confirmation

After submitting an application, you will receive a confirmation email, as well as information regarding additional application requirements. Note that all application requirements must be completed in order to be considered for acceptance. Notification of acceptance into a CCIC or District CTE course will occur by email in late April/early May.

APPLICATION DUE: FRIDAY, MARCH 6, 2020

Transportation provided to and from each home high school.
Financial assistance available to students who qualify.

NOTIFICATION OF NONDISCRIMINATION













Cherry Creek School District No. 5 does not discriminate on the basis of race, color, national origin, sex, age, sexual orientation or disability in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of their operations. The Cherry Creek School District No. 5 Career and Technical Education Department does not discriminate in enrollment or access to any of the programs available. The lack of English language skills shall not be a barrier to admission or participation in the district's activities and programs. The Cherry Creek School District also does not discriminate in its hiring or employment practices.

This notice is provided as required by Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Title IX of the Education Amendments of 1972, the Age Discrimination Act of 1975, and the Americans with Disabilities Act of 1990. Questions, complaints, or requests for additional information regarding these laws may be forwarded to the designated compliance coordinator: Ms. Stephanie Davies, District Compliance Officer, Educational Services Center, 4700 S. Yosemite St., Greenwood Village, CO 80111, (720) 554-4471. or directly to the U.S. Department of Education, Office for Civil Rights, Region VIII, Federal Office Building, 1244 North Speer Blvd., Suite #310, Denver, CO 80204

CTE PATHWAYS AND PROGRAMS

Cherry Creek School District offers CTE courses in the below career pathways and programs:















CTE Pathways:

- | | | |
|--|---|--|
|  Advanced Manufacturing |  Criminal Justice |  Hospitality & Tourism |
|  Arts & Design |  Family & Consumer Science |  Infrastructure Engineering |
|  Business Services |  Future Educator |  IT & STEAM |
|  Cosmetology |  Health Sciences |  Transportation |

CTE Programs:

-  Alternative Cooperative Education (ACE)
-  Career Connections

The below chart outlines which pathways and programs are available at individual schools. Off-site pathways are offered through partnership school districts.

Pathway/Program	Cherokee Trail	Cherry Creek	CCIC	Eaglecrest	Endeavor & I-Teams	Grandview	Overland	Smoky Hill	Off-Site
 Advanced Manufacturing			X						
 Arts and Design		X		X		X		X	
 Business Services	X	X	X	X		X	X	X	
 Cosmetology									X
 Criminal Justice	X	X				X	X	X	
 Family & Consumer Sciences		X		X		X	X	X	
 Future Educator			X				X		
 Health and Wellness	X	X	X				X	X	
 Hospitality and Tourism			X						
 Infrastructure Engineering			X						
 IT and STEAM	X	X	X	X		X	X		
 Transportation			X				X	X	X
 ACE	X				X				
 Career Connections	X			X			X	X	

Pathway and Program Pages

All CTE courses are part of a CTE Pathway, which is a sequence of courses within a specific area of interest. The following pages provide basic information about the Pathways and Programs offered within Cherry Creek School District. Following the Pathway and Program pages, you will find specific descriptions for district CCIC and CTE courses. CTE courses offered at the home high school are listed in the home high school course catalogs.



ADVANCED MANUFACTURING



The Advanced Manufacturing Pathway will help fill industry's skills gap by giving students unique opportunities to be trained on manufacturing trends. Whether it be computer numerical control (CNC) manufacturing systems, materials processing, or precision measurement, students will be able to engage in hands-on learning with state-of-the-art CNC equipment including mills, lathes, water jets, routers, and plasma cutters. Courses available at: CCIC.

Prepare for future careers like:

- CNC Machinist
- Electromechanical Technician
- Production Technician
- Material Handler
- CNC Programmer
- Manufacturing Technician
- Quality Inspector
- Tool & Die Maker

Prepare for industry certifications:

- National Institute of Metalworking Skills (NIMS) Job Planning, Benchmark & Layout Credential
- National Institute of Metalworking Skills (NIMS) Measurement, Materials & Safety Credential

Did you know?

In 2017, the average manufacturing worker in the U.S. earned \$84,832, including pay and benefits.

Did you know?

Manufacturers in the United States perform more than 75% of all private-sector research and development in the nation, driving more innovation than any other sector.*



CTSO



Did you know?

Over the next decade, 2 million of the nearly 3.5 million jobs in manufacturing are expected to go unfilled because of the lack of skilled workers.*

Our Partners



* National Association of Manufacturers (<http://www.nam.org>)



ARTS AND DESIGN



The Arts and Design Pathway involves designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, photography, graphic design, and entertainment services. Courses available at: Cherry Creek, Eaglecrest, Grandview and Smoky Hill.

Prepare for future careers like:

- | | | | |
|---------------------|--------------------|-------------|----------------|
| • Fashion Designer | • Graphic Designer | • Artist | • Photographer |
| • Interior Designer | • Animator | • Architect | • Web Designer |

Prepare for industry certifications like:

- Digital Animation certificate
- Adobe Photoshop certificates

Did you know?

In 2018, the median annual wage for art directors in the advertising and public relations industry was \$95,130.*

Did you know?

Employment of graphic designers in computer systems design and related services is projected to grow 24% from 2018 to 2028.*



CTSO



Did you know?

A fashion designer in the motion picture and video industry had a median annual wage of \$79,240 in 2018.*

Our Partners





BUSINESS SERVICES



In a collaborative, startup-style learning environment, the Business Services Pathway will give students an opportunity to cultivate an entrepreneurial mindset and develop skills to build and manage their own businesses. Courses available at: Cherokee Trail, Cherry Creek, CCIC, Eaglecrest, Grandview, Overland and Smoky Hill.

Prepare for future careers like:

- | | | | |
|----------------------|----------------|-----------------------|---------------------------|
| • Project Management | • Entrepreneur | • Sales Associate | • Social Media Specialist |
| • Business Analyst | • Accountant | • Marketing Associate | • Human Resources |

Prepare for industry certifications like:

- Microsoft Office certifications
- Certified Associate Project Manager

Did you know?

The median salary for human resource specialists in 2017 was \$60,350.*

Did you know?

By 2027, employers will need 87.7 million people in project management related roles. The talent gap could result in a loss of \$207.9 billion for the 11 countries analyzed.**



CTSO



Did you know?

The median salary for marketing managers in 2017 was \$129,380.*

Our Partners





COSMETOLOGY



The Cosmetology Pathway will prepare students to become certified in cosmetology and esthetics. The facility offers industry-standard equipment, such as waxing and facial machines so students can familiarize themselves with how the equipment works in a learning setting. Students in the program learn business management skills as well as all the latest industry techniques so when they graduate, they are prepared for all aspects of the industry. Courses available at: Colorado's Finest High School of Choice, Englewood School District.

Prepare for future careers like:

- | | | | |
|---------------|-----------------------|-------------------|---------------------|
| • Esthetician | • Hairstylist | • Cosmetologist | • Business Owner |
| • Manicurist | • Skincare Specialist | • Nail Technician | • Massage Therapist |

Prepare for industry certifications like:

- Colorado Barber/Cosmetology Board state license

Did you know?

Personal care and service occupations will result in 1.2 million new jobs from 2018 to 2028.*

Did you know?

Employment of manicurists and pedicurists is projected to grow 10% from 2018 to 2028, faster than the average for all occupations.*



CTSO



Did you know?

Skincare specialist positions are projected to increase of 11% due to new services like mini sessions and mobile facials.*

Our Partners



Englewood Schools

A Relentless Focus On Learning



ARAPAHOE COMMUNITY COLLEGE



CRIMINAL JUSTICE



The Criminal Justice Pathway is a two-year program designed to emphasize entry level skills in a variety of criminal justice occupations. Students will learn about the agencies and processes involved in the criminal justice system including legislature, courts and corrections. Students will concentrate on forensics, crime scenes, and investigative techniques in the criminal investigation process. Courses available at: Cherokee Trail, Cherry Creek, Grandview, Overland, and Smoky Hill.

Prepare for future careers like:

- | | | | |
|-----------------------|-------------------|----------------------------|----------|
| • Public Defender | • Law Enforcement | • Crime Scene Investigator | • Judge |
| • Corrections Officer | • Detective | • Court Reporter | • Lawyer |

Prepare for industry certifications like:

- Associate of Arts: Criminal Justice degree

Did you know?

The median annual wage for lawyers in the Federal government industry in 2018 was \$120,910.*

Did you know?

Employment of police and detectives is projected to grow 5% from 2018 to 2028.*



CTSO



Did you know?

In 2018, the median wage for a forensic science technician was \$58,230.*

Our Partners





FAMILY & CONSUMER SCIENCES



The Family and Consumer Sciences Pathway motivates students to manage the challenges of living and working in a diverse global society. Our unique focus is on families, work and inter-relationships. This pathway offers a wide variety of student learning in food and nutrition, human development and the family, parenting and early childhood education, and career awareness in related occupations. Courses available at: CCIC, Cherry Creek, Eaglecrest, Grandview, Overland and Smoky Hill.

Prepare for future careers like:

- Executive Chef
- Teacher
- Food Stylist
- Nutritionist
- Fashion Designer
- Childcare Provider
- Interior Designer
- Caterer

Prepare for industry certifications like:

- ServSafe Food Handler and Manager
- ProStart National Certificate of Achievement

Did you know?

Employment of food service managers is projected to grow 11% from 2018 to 2028.*

Did you know?

The median annual wage for high school teachers was \$60,320 in 2018.*



CTSO



Did you know?

In the motion picture industry, the median annual wage for a fashion designer is \$79,240.*

Our Partners



* U.S. Bureau of Labor Statistics (<https://www.bls.gov>)



FUTURE EDUCATOR



The Future Educator Pathway is an innovative program that introduces high school students to the teaching profession. Students explore the learner, the school and the role of the teacher through exciting hands-on activities, guest speakers, field trips, observations, job shadowing and cooperative learning situations. Students have an opportunity to be hired as a para-professional and work in Cherry Creek School District. Courses available at: CCIC.

Prepare for future careers like:

- | | | | |
|-----------------------|--------------------|------------------------|------------------|
| • Teacher | • Paraprofessional | • School Administrator | • Tutor |
| • Instructional Coach | • Counselor | • Professor | • Camp Counselor |

Prepare for industry certifications like:

- Para-Professional License

Did you know?

The median pay for an Instructional Coordinator in 2018 was \$64,450.*

Did you know?

Employment of high school teachers is projected to grow 4% from 2018 to 2028* due to rising student enrollment.



CTSO



Did you know?

The median annual wage for elementary teachers in 2018 was \$58,230.*

Our Partners



University of Colorado
Denver



Dedicated to Excellence
Cherry Creek Schools



HEALTH & WELLNESS



Whether a student's focus is physical or occupational therapy, behavioral health, nursing, or pharmacy, the Health & Wellness Pathway provides students opportunities to explore various Health professions at the aide/technician level. In these courses, students will meaningfully integrate their knowledge and skills with hands-on labs, authentic clinical settings, and industry-grade equipment. Courses available at: Cherokee Trail, Cherry Creek, CCIC, Overland and Smoky Hill.

Prepare for future careers like:

- | | | | |
|----------------------|----------------|-----------------|--------------------------|
| • Physical Therapist | • Counselor | • Pharmacist | • Athletic Trainer |
| • Registered Nurse | • Psychiatrist | • Social Worker | • Occupational Therapist |

Prepare for industry certifications like:

- | | |
|------------------------|--------------------------------|
| • First Aid/CPR/AED | • Behavioral Health Technician |
| • Certified Nurse Aide | • Pharmacy Technician |

Did you know?

In May 2017, the average wage for a pharmacy technician was \$31,750, while the average wage for a pharmacist was \$124,170.*

Did you know?

Registered nurses can work with a variety of specific patient groups including addiction, critical care, public health, neonatology, and rehabilitation.*



CTSO



Did you know?

Job opportunities for physical therapists are projected to grow 28% from 2016 to 2026, much faster than the 7% growth projection for all occupations.

Our Partners





HOSPITALITY & TOURISM



With a focus on leadership development, students in the Hospitality & Tourism Pathway will be able to develop the skills to manage, market, and operate foodservice establishments, hotels, and resorts. Whether through guest visits, site tours, or apprenticeships, students will have engaging and unique opportunities to advance their culinary skills and deepen their understanding of business operations and world-wide tourism. Courses available at: CCIC.

Prepare for future careers like:

- | | | | |
|------------------|----------------------|-------------------------|--------------------|
| • Executive Chef | • Marketing Director | • Catering Director | • Restaurant Owner |
| • Food Stylist | • General Manager | • Executive Housekeeper | • Pastry Chef |

Prepare for industry certifications like:

- ProStart National Certificate of Achievement
- ServSafe Food Handler and Manager
- ServSuccess Certified Restaurant Professional
- CHTMP (Certified Hospitality & Tourism Management Professional)

Did you know?

In the U.S., lodging and tourism is a Top 10 industry in 48 of the 50 states. The hospitality sector is expected to add 2.1 and 3.3 million jobs by 2021.*

Did you know?

Employment for chefs and head cooks is projected to grow 11% from 2018 to 2028.



CTSO



Did you know?

In Colorado, 10% of all jobs held are in the restaurant industry.

Our Partners





INFRASTRUCTURE ENGINEERING



From framing to HVAC to drywall, it takes many different kinds of skilled workers to make a new building habitable! The Infrastructure Engineering Pathway gives students a chance to explore several careers in building trades. With opportunities to operate cranes and/or forklifts, pour concrete, and frame buildings, students will get the chance to work with their hands and experience “on the job” training to build structures. Courses available at: CCIC.

Prepare for future careers like:

- HVAC Technician
- Electrician
- Plumber
- Landscaper
- Forklift Operator
- Carpenter
- Roofer
- Drywaller

Prepare for industry certifications like:

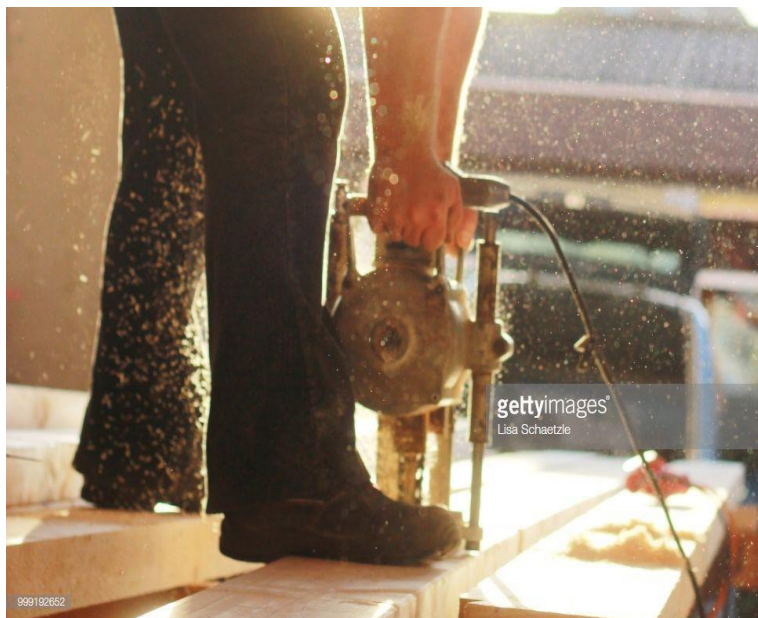
- Occupational Safety and Health Administration (OSHA) 10-Hour Card
- Home Builders Institute Pre-Apprenticeship Certificate Training
- National Center for Construction Education and Research credentials

Did you know?

The median annual wage for plumbers in 2017 was \$52,590.*

Did you know?

Colorado’s construction industry is expected to need 30,000 new employees over the next 7 years.**



CTSO



Did you know?

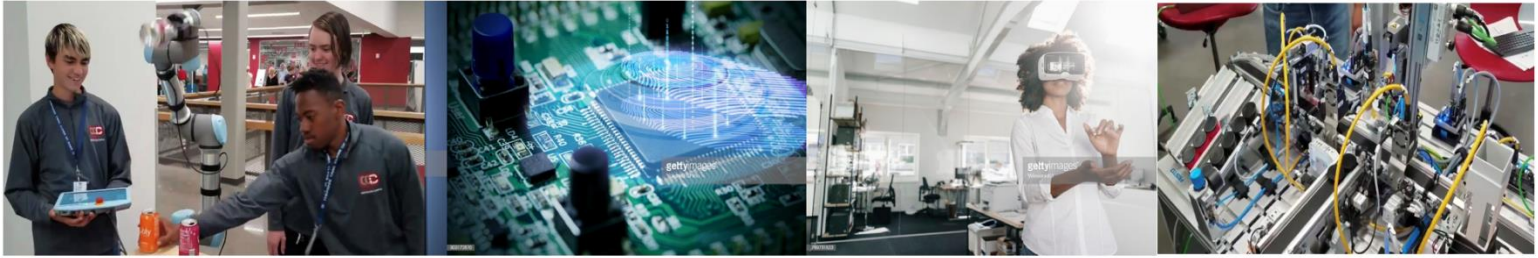
Job opportunities for workers in various construction trades are expected to grow 10% between 2016 and 2026, compared to the 7% for all occupations.*

Our Partners





IT & STEAM



From virtual reality to cybersecurity to robotics, the IT & STEAM Pathway gives students opportunities to use, learn, and create cutting edge technologies to tackle the challenges the future may bring. Through hands-on experiences, students can take ideas from conception to reality, learn to troubleshoot any kind of personal computing device or computer network, or build their own virtual reality environments. Courses available at: Cherokee Trail, Cherry Creek, CCIC, Eaglecrest, Grandview and Overland.

Prepare for future careers like:

- Network Administrator
- Mechanical Engineer
- Product Designer
- Game Designer
- IT/STEAM Educator
- Computer Engineer
- IT Support Specialist
- Data Analyst

Prepare for industry certifications like:

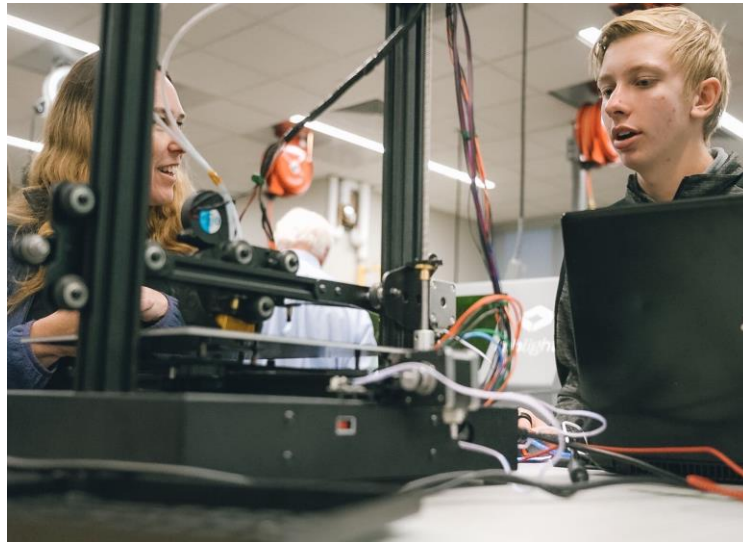
- SOLIDWORKS certifications
- Unity Certified Associate

Did you know?

The median annual wage for engineers in 2018 was \$90,060.*

Did you know?

Job opportunities for information security analysts is projected to grow 28% from 2016 to 2026, compared to 13% growth for all computer occupations.



CTSO



Did you know?

The median annual wage for industrial designers in 2018 was 66,970.*

Our Partners





TRANSPORTATION



The Transportation Pathway will give students a unique opportunity to get hands-on experience learning to inspect, service, and repair automobiles and aircraft. Whether it be diving into the electrical circuits, tire alignments, and suspension repairs for cars or exploring the engine, landing gear, and hydraulic systems on airplanes, students will have a one-of-a-kind opportunity to build invaluable skills with industry-standard tools and equipment. Courses available at: CCIC, Overland, Smoky Hill and Metro State University.

Prepare for future careers like:

- Automotive Technician: local repair shop, dealerships, fleet maintenance, specialty shops
- Aircraft Mechanic: major airlines, flight schools, air ambulance, cargo aircraft, corporate jets

Prepare for industry certifications like:

- Snap-on Certifications
- Automotive Service Excellence: Maintenance & Light Repair, Automobile Service & Technology
- Federal Aviation Administration: Mechanic Certificate with Airframe and Powerplant Ratings

Did you know?

In 2017, the median annual income for aircraft mechanics was \$61,020.*

Did you know?

Job opportunities for automotive service technicians and mechanics is projected to grow 7% between 2016 and 2026.*



CTSO



Did you know?

There will be a shortage of aviation mechanics in the U.S. starting in 2022.**

Our Partners



Federal Aviation
Administration



* U.S. Bureau of Labor Statistics (<https://www.bls.gov>)

**Oliver Wyman (<https://www.oliverwyman.com>)



ACE



Alternative Cooperative Education (ACE) is a multi-occupational program that facilitates individualized, developmentally appropriate programming necessary to support CTE students successfully. This includes students identified as Special Populations. ACE CTE Programming is developed through collaboration with educators, business representatives and community stakeholders. The collaboration creates local and relevant work-based and school-based learning experiences.

Learn about Postsecondary Workforce Readiness skills like:

- | | | |
|-------------------------|-----------------------|-------------------------|
| • Career Development | • Independent Living | • Academic Foundations |
| • Business and Industry | • Work-Based Learning | • Business and Industry |

ACE Programs Include:

Career Development

This class is designed to help students understand and explore the personal and employability skills that are foundational to successfully transitioning into the workplace. Students will be able to articulate their personal strengths, barriers, interests and career cluster choices. Students will engage in personal development, self-discipline skills, interpersonal communication, leadership, critical thinking, and ethical decision making for the tools necessary to pursue a career path.

Work-Based Learning: In School and In Community

This course is designed for students to enhance employability skills by participating in an in-school or community work experience program (paid or unpaid.) A training plan and evaluation will be developed listing job specific technical skills the students will learn during the experience. Students will demonstrate levels of self-awareness, career exploration, and postsecondary option knowledge and employability skills.



CAREER CONNECTIONS



Career Connections is a program designed to connect students with career pathways of interest by partnering with businesses in the community. Through experiences including the Career Exploration class, career readiness training, career tours, career shadowing, career days, internships and apprenticeships, students will have the opportunity to explore career pathways and develop career readiness skills.

Learn about future careers in:

- | | | | |
|---------------|-----------------|----------------|-------------------|
| • Hospitality | • Manufacturing | • Sales | • Finance |
| • Healthcare | • Marketing | • Architecture | • Human Resources |

Career Connections offers three programs:

Career Exploration

Career Exploration is a year-long class designed to help students explore careers and career pathways in context of their personal interests, strengths, and preferences. Key concepts of focus include: Career Awareness, Financial Literacy, Personal Message, Employment Skills, Understanding of Career Pathways and Self-knowledge.

Classes available at: Cherokee Trail, Eaglecrest, Overland, Smoky Hill

Executive Internships

The Internship Program will provide an opportunity for selected students to have experiences in a career field that they would like to pursue after graduation. An academic internship is a form of a first-hand learning that integrates knowledge and theory learned in the classroom with practical application and skill development in a professional setting. Internships are unpaid.

Apprenticeships

Cherry Creek School District will work collaboratively with CareerWise Colorado and industry partners to create an apprenticeship program unique to individual students' interests and abilities. CareerWise modern youth apprentice students earn a wage while receiving hands-on work experience where they can apply their high school classroom learning each week. Typically, the apprenticeships are 2-3 years in length. Eligibility depends on student's maturity, reliability, commitment and graduation status.

Some of our partners include:



CCIC AND CTE DISTRICT COURSE CATALOG

The following pages include course pathway and descriptions for courses offered at the Cherry Creek Innovation Campus, and throughout Cherry Creek School District.

CORE CLASSES OFFERED AT CCIC

CCIC core content is integrated within our pathway curriculum and meets district core standards requirements for graduation.

CP Innovator's English A - In this integrative English course, students demonstrate career and college readiness, developing leadership, reading, and writing skills that will make them successful in the post-secondary realm. Students in this course also participate in many collaborative settings where they will use rhetorical strategies to reach a decision with others who have diverse ideas. To be successful, students must contribute to conversations in professional manners. Students write compositions and responses in argumentative/persuasive form to further enhance knowledge of career-related issues and inquiry, inviting cultural communication and diversity into their writing and conversations. Finally, students will also conduct short, sustained research as well as complete an APA research paper.

CP Innovator's English B - This course will provide the foundation for employment and prepare students for postsecondary success. It will also use an active learning approach in writing, reading, and communication processes to integrate topics into potential careers. Students will study rhetorical devices and their use in writing and speeches to inform or persuade an audience.

CP Innovator's Math Topics A - This course will extend students' proficiency in fundamental arithmetic topics to in-depth analysis of plane, solid, and coordinate geometry as they relate to both abstract mathematical concepts as well as real-world problem situations.

CP Innovator's Math Topics B - This course will extend students' proficiency in fundamental arithmetic topics to more advanced algebraic topics, including the application of trigonometric functions, standard deviation, matrix and vector analysis, logarithmic and exponential relationships, and linear systems.

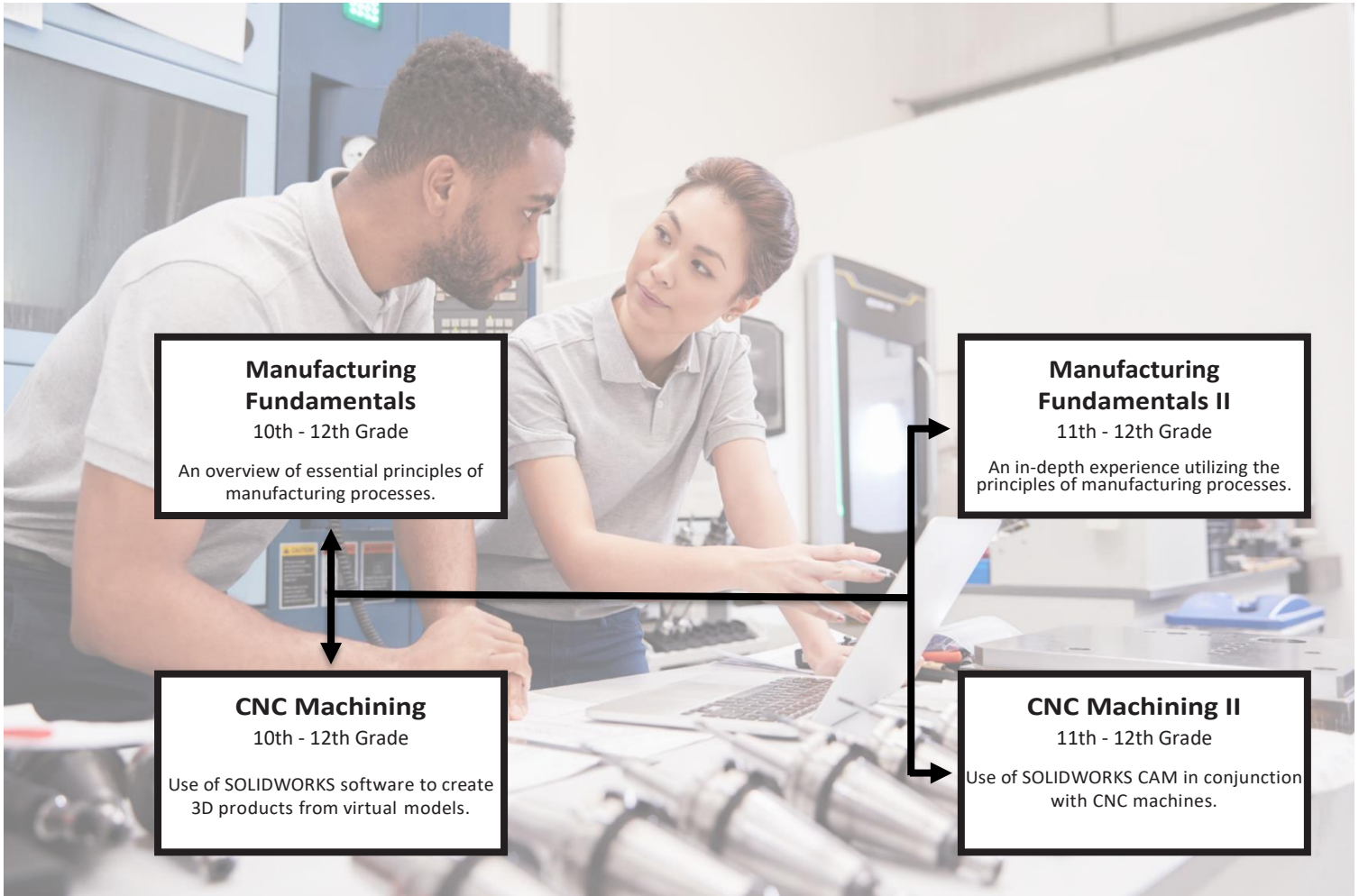
CP Innovator's Math Topics C - This course will extend students' proficiency in the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, and the analysis of potential solutions.

CP Innovator's Math Topics D – Innovator's Math D will expand on students' proficiency in number theory and discrete mathematics topics as it applies to technology. Topics may include number systems, basic combinatorics, modular arithmetic, and prime numbers. This course can be repeated for credit.

Innovator's Life Science - Students will use a full range of science and engineering practices to make sense of natural phenomena and solve problems that require an understanding of how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction.

Innovator's Physical Science - Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding structure, properties and interactions of matter.

* All CCIC core classes are NCAA approved.



MANUFACTURING FUNDAMENTALS

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/ .5 MTH B

EST. FEES: \$140

Prerequisites: N/A

Concurrent Enrollment: N/A

Certifications: National Institute of Metalworking Skills (NIMS) upon completion of pathway

Course Description: This course covers essential principles behind manufacturing processes and provides a working knowledge of a broad range of manufacturing procedures. Manufacturing Fundamentals includes instruction on hand tools, portable electric power tools, and the introduction to various computer-controlled production machines, including water jet cutters, routers, and plasma cutters. Brief experiences with plastic injection molding, vacuum-forming equipment, and composites production are also included. Featured equipment includes HAAS Automation, HyperTherm, Starrett, Plural Additive Manufacturing, Instron, Formech, Dewalt and JET.

Suggested prerequisites include CAD (Computer Aided Design) or CAD for Fabrication.



CNC MACHINING

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/ .5 MTH B

EST. FEES: \$140

Prerequisites: N/A

Concurrent Enrollment: N/A

Certifications: National Institute of Metalworking Skills (NIMS) upon completion of pathway

Course Description: Computer Numeric Control (CNC) Machining provides students opportunities to work with various 3 Axis CNC milling machines and a CNC lathe. Students learn how to utilize SolidWorks 3D modeling software and SolidWorksCAM to transform a virtual model into a physical product. Students also learn how to use a HAAS and Tormach manufacturing equipment, Instron precision testing equipment, and Starrett precision measurement tools. Additional units of study introduce students to industrial grade, multi-material 3D printing, precision measurement, and quality control. Featured equipment includes HAAS AutoMation, HyperTherm, Starrett, Plural Additive Manufacturing, Instron, Formech, Dewalt and JET.

Suggested prerequisites include CAD (Computer Aided Design) or CAD for Fabrication.

MANUFACTURING FUNDAMENTALS II

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE/ 1.0 MTH B

EST. FEES: \$110

Prerequisites: Manufacturing Fundamentals and CNC Machining

Concurrent Enrollment: N/A

Certifications: National Institute of Metalworking Skills (NIMS)

Course Description: Fundamentals of Manufacturing II is a full year course that gives students a chance to expand on what was introduced in Fundamentals of Manufacturing I. This course concentrates on mass production and industry-level part-creation using CNC routers, plasma cutters and water jet cutters. Students also have access to injection molding, vacuum forming, composite materials and traditional tooling and hand operations. Students work individually as well as in teams to create real world industry design parts. NIMS certification preparation is an additional focus of the class.

CNC MACHINING II

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE/ 1.0 MTH B

EST. FEES: \$110

Prerequisites: Manufacturing Fundamentals and CNC Machining

Concurrent Enrollment: N/A

Certifications: National Institute of Metalworking Skills (NIMS)

Course Description: This course covers CAD/CAM systems, geometric modeling, process planning, tool path generation. Course content includes programming and production of complex parts. Projects focus on solid modeling for design and manufacturing applications as well as the use of commercial CAD/CAM software for automating the production cycle. Special content addresses CNC mill setups and operations not covered in the basic CNC Machining. NIMS certification preparation is an additional focus of the class.



BUSINESS SERVICES



Project Management for Entrepreneurs I

10th-12th Grade

Discover the basics of project management while getting a start-up business off the ground.

Project Management for Entrepreneurs II

10th-12th Grade

Discover how social media and other marketing strategies can help grow your business.

Project Management for Entrepreneurs III

11th-12th Grade

Continue enhancing your business while using customer relationship management tactics.

CTE Capstone

11th-12th Grade

Be the project manager for a student team tackling real world problems and issues.

PROJECT MANAGEMENT FOR ENTREPRENEURS I

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/ .5 ENG A

EST. FEES: \$80

Prerequisites: N/A

Concurrent Enrollment: Arapahoe Community College (ENP 105, MAN 241)

Certifications: Certified Associate Project Management (CAPM) upon completion of PM4EI and PM4EII (may be earned in grade 12 only)

Course Description: By definition, project management is a temporary endeavor undertaken to create a unique product, service, or result. Project Management for Entrepreneurs I explores the fundamentals of project management with an entrepreneurial slant. Business and marketing concepts, including organizational communication, human resources management, entrepreneurship, accounting, finance, and leadership are explored. The course investigates the concepts and applicability of project management within organizations by examining the unique nature of projects, the need for integrated decision-making, and the stages of the project life cycle. The creation of a unique product, service, or idea that solves a problem in your community is required. This process will include collaboration on a sales pitch and business plan adopting the Business Canvas Model.

Suggested Prerequisites include Introductory Business and/or Marketing Course.

PROJECT MANAGEMENT FOR ENTREPRENEURS II

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/ .5 ENG B

EST. FEES: \$80

Prerequisites: Successful Completion of Project Management for Entrepreneurs I

Concurrent Enrollment: Arapahoe Community College (MAR 106, ENP 205)

Certifications: Certified Associate Project Management (CAPM) upon completion of PM4EI and PM4EII (may be earned in grade 12 only)

Course Description: Project management is a rapidly growing profession. Between now and the year 2020, 1.57 million new project management jobs are projected to be created each year. Project Management for Entrepreneurs II presents a series of marketing challenges to teams of student project managers with the winners announced at the end of the semester. This course continues to prepare students in understanding how project management skills can assist in promoting an entrepreneurial venture. Students gain insights essential for using digital media to market their ideas, using innovative and financially responsible marketing strategies that are both traditional and non-traditional in nature.



BUSINESS SERVICES



PROJECT MANAGEMENT FOR ENTREPRENEURS III

GRADES: 11-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/ .5 ENG B

EST. FEES: \$80

Prerequisites: Project Management for Entrepreneurs I & II

Concurrent Enrollment: Arapahoe Community College (MAR 160, MAN 243)

Certifications: Certified Associate Project Management (CAPM) upon completion of PM4EI, PM4EII, & PM4EIII (may be earned in grade 12 only)

Course Description: This course enables students to understand how project management skills are necessary to build customer relations and service practice. Enrolled students learn how to problem solve and understand the importance of communicating with customers. Specific emphasis is given to managing customer expectations by building positive customer rapport and creating outcomes related to industry. In addition, this course examines Customer Relationship Management (CRM) and its application in marketing, sales, and service industry.



CTE CAPSTONE

GRADES: 11-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/ .5 ENG B

EST. FEES: \$100

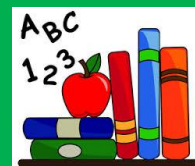
Prerequisites: Any CCIC student completing a pathway at the CCIC is eligible to take the CTE Capstone course.

A teacher recommendation may be required.

Concurrent Enrollment: Arapahoe Community College (MAN 224, MAN 128)

Certifications: Certified Associate Project Management (CAPM) upon completion of PM4EI and PM4EII (may be earned in grade 12 only)

Course Description: While working in teams, students who have completed any CCIC pathway will solve real world problems faced by our business partners who will act as project sponsors. The teams will then initiate, plan, execute, monitor and control, and close the project by presenting the sponsor with the deliverable and/or solution. All team members must be willing to improve their skills in collaboration, leadership, time management, teamwork, commitment, and perseverance.

**EDHD 1030**

11th-12th grade

Students participate in Early Field Experience and Seminar.

CLDE 1000

11th-12th grade

Explores the language, identity, and power in international contexts.

EDHD 1030 EARLY FIELD EXPERIENCE AND SEMINAR

GRADES: 11-12**LENGTH: 1 SEMESTER****CREDITS: .5 CTE****EST FEES: N/A****Prerequisites:** N/A**Concurrent Enrollment:** University of Colorado at Denver, EDHD 1030**Certifications:** N/A

Course Descriptions: Working within diverse community contexts to support children's learning requires the competencies explored in this course. The experiences of seminar, paired with practice-based mentoring in a local school or community setting, will help each student develop theoretical grounding as a community based educator.

CLDE 1000 LANGUAGE, POWER & IDENTITY

GRADES: 11-12**LENGTH: 1 SEMESTER****CREDITS: .5 CTE****EST FEES: N/A****Prerequisites:** N/A**Concurrent Enrollment:** University of Colorado at Denver, CLDE 1000**Certifications:** N/A

Course Description: This course explores the relationship between language, identity, and power in various international contexts. The course considers how legacies of inequality for particular communities are reflected in societal attitudes about languages and language users and subsequent language planning.



HEALTH & WELLNESS



Introduction to Health & Wellness

10th-12th Grade

Course includes exploration of healthcare careers and content related to basic anatomy, physiology, and medical terminology.

Suggested prerequisite for courses in the Health & Wellness pathway

Certified Nurse Aide

11th-12th Grade

Course prepares students to perform patient care in the role of a nurse aide.

Behavioral Health Technician

11th-12th Grade

Course explores and applies basic principles of behavioral & mental health.

Introduction to PT/OT

11th-12th Grade

Course prepares students for patient care as a PT/OT aide.

Pharmacy Technician

12th Grade

Students learn the role and function of pharmacy technicians.

INTRODUCTION TO HEALTH & WELLNESS

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/ .5 LIFE SCI

EST. FEES: \$85

Prerequisites: N/A

Concurrent Enrollment: Arapahoe Community College (HPR 123, HPR 124, Medical Terminology)

Certifications: American Red Cross CPR/FAS/AED

Course Description: An exploration of careers in healthcare, along with necessary leadership and employability skills. Students will learn basic human anatomy, physiology, medical terminology, Maslow's Hierarchy of Needs, CPR/First Aid, and Safety/AED certification.



CERTIFIED NURSE AIDE

GRADES: 11-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/ .5 LIFE SCI

EST. FEES: \$165

Prerequisites: N/A

Concurrent Enrollment: N/A

Certifications: Certified Nurse Aide

Course Description: Students learn effective skills to interact competently with clients, including sensitivity to clients' emotional, social and mental health needs, as well as appropriate documentation of clients' health assessment, physical condition, and overall well-being. Skills must meet requirements of the Colorado State Board of Nursing. Students will be required to pass a background check and drug screening.

Suggested prerequisite: Introduction to Health & Wellness.



BEHAVIOR HEALTH TECHNICIAN

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE/ 1.0 ENG

EST. FEES: \$98

Prerequisites: N/A

Concurrent Enrollment: Pueblo Community College (PTE 110, PTE 120)

Certifications: Behavioral Health Technician certificate of completion upon completion of course

Course Description: Explores basic principles of behavioral health and wellness care in a behavioral healthcare setting. This course develops interpersonal and technical skills while working with clients in psychiatric care settings.

Suggested prerequisite: Introduction to Health & Wellness



INTRODUCTION TO PHYSICAL AND OCCUPATIONAL THERAPY

GRADES: 11-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/ .5 LIFE SCI

EST. FEES: \$70

Prerequisites: N/A

Concurrent Enrollment: Arapahoe Community College (PTA 115)

Certifications: N/A

Course Description: Physical and Occupational Therapists help people who are injured, ill, or disabled regain skills needed for the activities of daily life. Physical and Occupational Therapy Assistants set up treatment plans and work under the Physical or Occupational Therapist. Students learn how to prepare materials and treatment rooms, assemble equipment, follow HIPAA guidelines, communicate in the workplace, and perform clerical tasks necessary for physical and occupational therapy aides.

Suggested prerequisite: Introduction to Health & Wellness

PHARMACY TECHNICIAN

GRADES: 12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE/ 1.0 LIFE SCI

EST. FEES: \$154

Prerequisites: N/A

Concurrent Enrollment: N/A

Certifications: Pharmacy Technician

Course Description: This course introduces students to the role and functions of a Pharmacy Technician. The content and skills covered are ethical conduct, communication skills, patient care, proper medication handling, medication ordering, patient confidentiality, regulatory compliance, basic anatomy, physiology, and medical terminology. Students will be required to pass a background check and drug screening.

Suggested prerequisite: Introduction to Health & Wellness



HOSPITALITY & TOURISM



LODGING & RESORT MANAGEMENT/PROSTART PATHWAYS

ProStart I/ProStart II

10th-12th Grade

Length: 1 year

Food safety and sanitation, commercial equipment, and cooking methods for soups, sauces, stocks and more. Menu design, business operations, and cooking methods for meats, pasta, desserts, and more.

ProStart Youth Apprenticeship

11th-12th Grade

Length: 1 year

CCICafé business operations, food production principles, marketing, team building, and communication.

**ProStart prerequisite: If you are a Grandview or Smoky Hill student, one year of ProStart at your home school is required*

Lodging & Resort Management

11th-12th Grade

Length: 1 year

Careers in hospitality, guest experience cycle, resort operations, sales, marketing, banquet /event management, team building and communication

LODGING & RESORT MANAGEMENT

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE /1.0 ENG B

EST. FEES: \$165

Prerequisites: N/A

Dual Enrollment: Metro State University of Denver (HLDR 1000 & HLDR 1500), \$50 additional fee per credit, 6 credits

Certifications: GOLD Certified Guest Service Professional, ServSafe Food Handler, Workforce Readiness Certificate, and CHTMP (Certified Hospitality & Tourism Management Professional). Includes a 100 hour internship.

Course Topics: Careers in hospitality, resort operations, sales, marketing, soft skills, communication, guest experience cycle, food and beverage services, hospitality leadership skills, communication, banquets and catered events, managing business operations, safety and security, sales, marketing, and human resources.

Suggested Prerequisites: Intro to Business, Marketing, or Leadership





HOSPITALITY & TOURISM



PROSTART I / PROSTART II

GRADES: 10-12

LENGTH: 1 YEAR

CREDITS: 2.0 CTE

EST. FEES: \$175

Prerequisites: N/A

*GHS/SHHS students only - one year of ProStart from home school required

Dual Enrollment: ProStart I - Metro State University of Denver (RST 1200); ProStart II - Metro State University of Denver (RST 1550), \$50 additional fee per Metro State University credit, 6 credits

Certifications: ServSafe Food Handler, Workforce Readiness Certificate, Gold Certified Guest Service Professional, ProStart National Certificate of Achievement

Course Topics: Careers in the foodservice industry, food safety & sanitation, commercial equipment, baking, cooking methods, marketing and management fundamentals, cost control, nutrition, meats, pasta, desserts, and sustainability in the industry. Students will also have the chance to work in the CCICafé alongside the ProStart Youth Apprenticeship students.

Suggested Prerequisites: Foods & Nutrition or Gourmet Foods



PROSTART YOUTH APPRENTICESHIP

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE/1.0 ENG

EST. FEES: \$175

Prerequisites: ProStart 1 and/or ProStart 2

Certifications: ServSafe Manager, Workforce Readiness Certificate, Gold Certified Guest Service Professional, ProStart National Certificate of Achievement, ServSuccess Certified Restaurant Professional

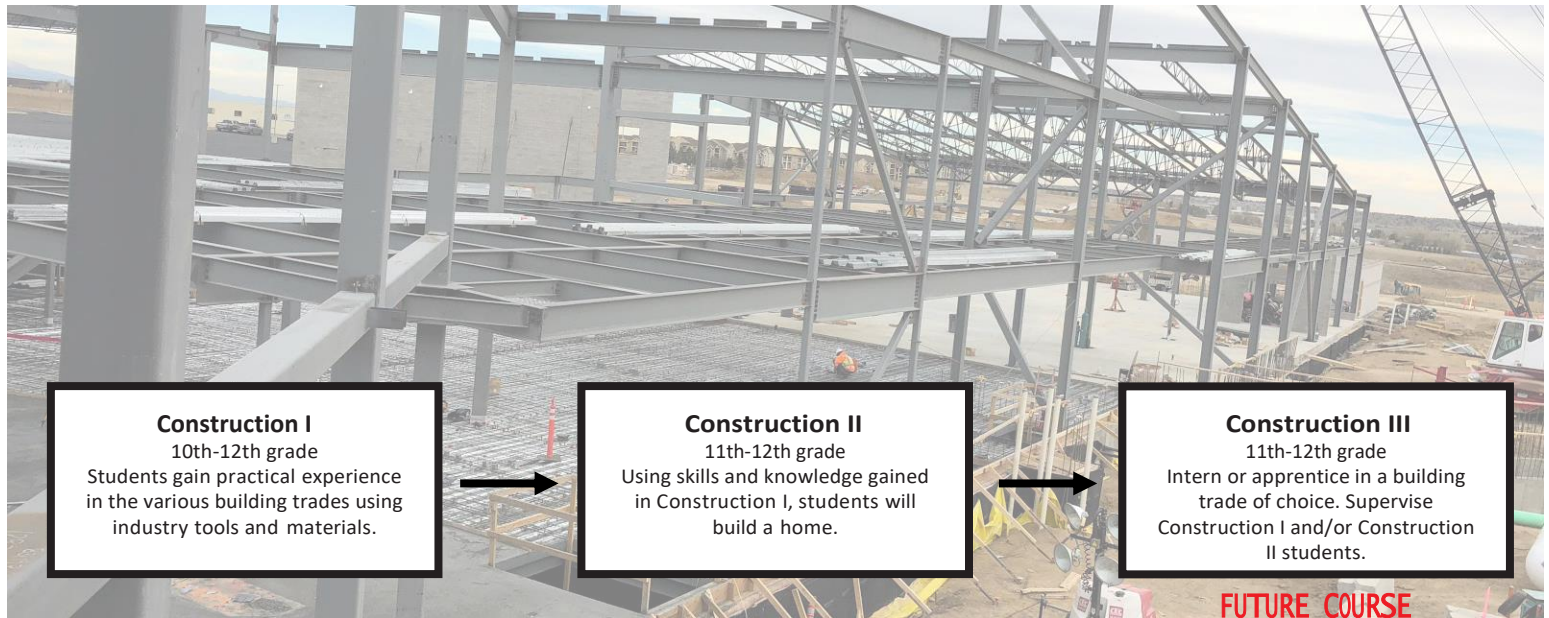
Course Topics: Expansion of topics learned in ProStart I/ProStart II with a focus on food production, food safety and sanitation, commercial equipment, baking, cooking methods, cost control, and more. Hours are earned through operating the CCICafé business on campus as well as jobs in the industry.

Suggested Prerequisites: Foods & Nutrition/Gourmet Foods/Catering, Intro to Business/Marketing





INFRASTRUCTURE ENGINEERING



CONSTRUCTION I

GRADES: 10-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE/ 1.0 MTH A

EST FEES: \$90

Prerequisites: Algebra I

Concurrent Enrollment: N/A

Certifications: OSHA-10 Construction, HBI PACT (Pre Apprenticeship Certificate Training), NCCER (National Center for Construction Education and Research)

Course Topics: Safety, construction math, hand and power tools, blueprints/drafting, electrical wiring, masonry, plumbing, carpentry, HVAC, drywall, foundations, footings, floors, roofing, stairs, windows, doors, and employability.

CONSTRUCTION II

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE/ 1.0 MTH A

EST FEES: \$90

Prerequisites: Algebra I, Construction I

Concurrent Enrollment: N/A

Certifications: National Center for Construction Education and Research (NCCER) Carpentry, Electrical, Plumbing Home Builders Institute Pre Apprenticeship Construction Training (PACT) Carpentry, Electrical, Plumbing

Course Description: Students will have more complicated practical experience with Carpentry, Electrical and Plumbing. Working in conjunction with the Associated General Contractors of Denver, students focus on various specifics of modular home building. The home's plumbing will include wastewater, domestic supply and fixture installation while the electrical aspects will focus on all facets of residential wiring, including rough wiring, installation of electrical fixtures and finish wiring. Carpentry for this year will include a more comprehensive understanding of framing, drywall, exterior siding, roofing, insulation, windows, doors, trim and cabinet installation.



IT PATHWAY



INTRODUCTION TO PROGRAMMING

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: 1.0 CTE

EST. FEES: \$30

Prerequisites: Algebra I (B or better)

Concurrent Enrollment: N/A

Certifications: N/A

Course Topics: Variables, operators, conditionals, iteration, arrays, classes & objects, inheritance, algorithms.

*CCHS, CTHS, EHS, GHS, OHS students interested in IT/STEAM pathway must take an introductory programming course at home high school.

DATA SCIENCE I: FOUNDATIONS

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/.5 MTH C

EST. FEES: \$30

Prerequisites: One of the following: Introduction to Programming, Introduction to Computer Science, AP Computer Science Principles, or AP Computer Science A

Concurrent Enrollment: N/A

Certifications: N/A

Course Topics: Collecting, cleaning, manipulating, and visualizing data with Python, R, and their appropriate libraries; data analysis tools, statistics, and appropriate knowledge of business (or related) operations for decision making with data.



IT PATHWAY

DATA SCIENCE II: MACHINE LEARNING

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/.5 MTH C

EST. FEES: \$30

Prerequisites: Data Science I: Foundations

Concurrent Enrollment: N/A

Certifications: N/A

Course Topics: This course provides a broad introduction to machine learning, data mining, and statistical pattern recognition. Topics include supervised learning, unsupervised learning, and best practices in machine learning.

CYBERSECURITY I: COMPUTER SYSTEMS

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: 1.0 CTE

EST. FEES: \$50

Prerequisites: One of the following: Introduction to Programming, Introduction to Computer Science, AP Computer Science Principles, or AP Computer Science A

Concurrent Enrollment: N/A

Certifications: CompTIA A+, TestOut PC Pro

Course Topics: Computer hardware (RAM, CPU, peripherals, etc.), operating systems (Windows, MacOS, Linux), software applications, computer networks and their security implications.

CYBERSECURITY II: NETWORKS & SECURITY

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/.5 MTH D

EST. FEES: \$50

Prerequisites: Cybersecurity I: Computer Systems

Concurrent Enrollment: N/A

Certifications: CompTIA Network+, TestOut Network Pro, CompTIA Security+, TestOut Security Pro

Course Topics: Design, implement, and troubleshoot issues in wired and wireless networks, security as applied to business operations, and basic cryptography methods.

CYBERSECURITY III: ETHICAL HACKING

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: 1.0 CTE

EST. FEES: \$30

Prerequisites: Cybersecurity I: Computer Systems and Cybersecurity II: Networks & Security

Concurrent Enrollment: N/A

Certifications: TBD

Course Topics: In this course, students will learn to evaluate the security posture of target systems by exploiting their weaknesses and vulnerabilities in an ethical, lawful, and legitimate manner. Students will utilize their findings to make recommendations for strengthening the security of these target systems. This course will be based on the industry-recognized Certified Ethical Hacker (Practical) certification and will prepare students for entry-level jobs in penetration testing and cybersecurity.



STEAM PATHWAY

*Computer Aided Design I

10th-12th grade
Learn about creating CAD files to create physical objects.

**SHH, CCH & END students only*

Drone Pilot

10th-12th grade
Learn all concepts and skill required for FAA Part 107 Drone Pilot Certification.

Product Design I

10th-12th grade
Bring ideas from initial concept to tangible reality using design thinking and processes.

Advanced Robotics & Automated Systems

10th-12th grade
Design and program a robot to navigate land, sea, and space.

Virtual Reality

10th-12th grade
Develop virtual reality applications for both consumer and enterprise solutions.

Product Design II

10th-12th grade
Students will solve design problems by using the latest applications for direct digital fabrication.

COMPUTER AIDED DESIGN I (formerly CAD for Fabrication)

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/.5 MTH B

EST. FEES: \$100

Prerequisites: N/A

Concurrent Enrollment: N/A

Certifications: SOLIDWORKS Certified Associate - CSWA Mechanical Design (if not taken at home high school), SOLIDWORKS Certified Associate - CSWA-AM Additive Manufacturing (if not taken at home high school)

Course Topics: This course is an entry level design class developed to teach students how to use various drawing instruments to read and create technical drawings and 3D parts. This course is designed for students interested in exploring careers related to technical careers such as engineering and product design. Students will demonstrate their new skills through hands on projects and display how various software is used in industry. The course will culminate with students taking the Certified SolidWorks Associate exam, an industry level certification exam used to demonstrate a student's level of expertise using SolidWorks.

DRONE PILOT

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/.5 MTH B

EST. FEES: \$100

Prerequisites: N/A

Concurrent Enrollment: N/A

Certifications: FAA Small UAS Rule (Part 107)

Course Topics: Concepts in this course include drone components, drone operation, pilot skills, careers related to drones, and the regulations governing drone operation. At the conclusion of the course, students will be prepared to take the FAA Part 107 Drone Pilot Certification Exam.

PRODUCT DESIGN I

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/.5 PHY SCI

EST. FEES: \$100

Prerequisites: N/A

Concurrent Enrollment: N/A

Certifications: Society of Manufacturing Engineers ADDITIVE MANUFACTURING FUNDAMENTALS, SOLIDWORKS Certified Associate - CSWA Mechanical Design (if not taken at home high school)

Course Topics: Students that are interested in careers involving design, engineering and innovation. Student will utilize design thinking and the design process to research, conceptualize, design, prototype, and evaluate physical products. Students will develop their digital fabrication skills utilizing production machines. Students will design and create both as an individual and in collaborative groups, including working on/with projects directly from industry.



STEAM PATHWAY

PRODUCT DESIGN II

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/.5 PHY SCI

EST. FEES: \$100

Prerequisites: Computer Aided Design or similar Design course

Concurrent Enrollment: N/A

Certifications: SOLIDWORKS Certified Associate - CSWA-AM Additive Manufacturing (if not taken at home high school), SOLIDWORKS Certified Expert - CSWE Mechanical Design (if not taken at home high school), SOLIDWORKS Certified Professional - CSWP Mechanical Design (if not taken at home high school)

Course Topics: Students that are interested in careers involving design, engineering, and innovation. Students will explore and use the latest applications of direct digital fabrication. Emphasis will be placed on practical experience in utilizing departmental equipment to produce digital 3D files and output them to appropriate direct digital fabrication equipment. Students will solve design problems by applying knowledge of material properties, ergonomics, form vs. function, additive manufacturing (3D printing), principles of design, and elements of art. Students will design and create both as an individual and in collaborative groups, including working on/with projects directly from industry.

ADVANCED ROBOTICS & AUTOMATION SYSTEMS

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/ .5 MTH B

EST. FEES: \$100

Prerequisites: Introductory Robotics course or equivalent

Concurrent Enrollment: N/A

Certifications: N/A

Course Topics: Introduces industrial robotics as well as a survey of the technologies and equipment used in manufacturing automation and process control. Includes axis configurations, work envelopes, programming, troubleshooting, and maintenance. Incorporates a survey of automation topics including history, computer and hardwired controls, sensors and transducers, motors and actuators, fluid power, and PLC's.

VIRTUAL REALITY

GRADES: 10-12

LENGTH: 1 SEMESTER

CREDITS: .5 CTE/.5 MTH B

EST. FEES: \$100

Prerequisites: N/A

Concurrent Enrollment: N/A

Certifications: Unity Certified Associate, Unity Certified User: 3D Artist, Unity Certified User: Programmer

Course Topics: Students learn to develop VR applications in Unity, design Unity assets, create VR environments and animate with C# scripts. Students explore VR hardware and software. Students also identify industries where VR is a disruptive technology.





TRANSPORTATION



AUTOMOTIVE TECHNOLOGY

Maintenance and Light Repair (MLR) I

10th-12th Grade
Introduction to all things automotive



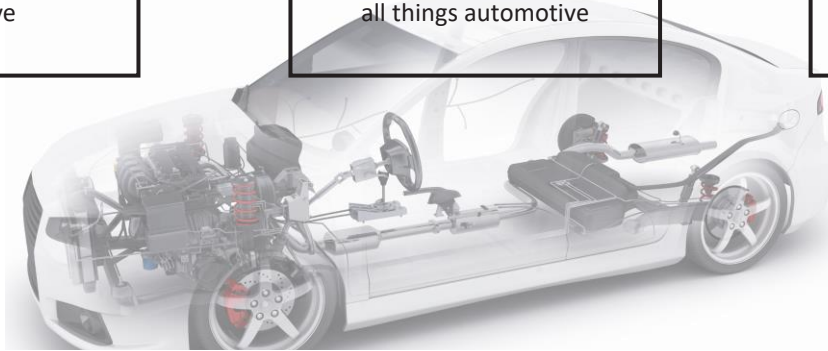
Maintenance and Light Repair (MLR) II

11th-12th Grade
Advanced concepts for all things automotive



Auto Service Technology MLR III

High Performance
12th Grade
Specialized projects and apprenticeship preparation



MAINTENANCE AND LIGHT REPAIR (MLR) I

GRADES: 10-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE/ 1.0 PHY SCI

EST FEES: \$95

Concurrent Enrollment: Arapahoe Community College (ASE 101, 103 & 122)

Certifications: Snap-on Certifications (Multimeter, Torque, Precision Measurement, Scanner and Diagnostics), ASE Student Automobile Certifications (Brake Systems, Suspension & Steering Systems, Electrical/Electronic Systems, and Engine Performance)

Course Topics: Automobile service and repair, shop safety, engine repair, automatic transmissions and transaxles, manual drivetrain and axles, suspension and steering, brakes, electrical and electronic systems, heating and air conditioning, and engine performance.

MAINTENANCE AND LIGHT REPAIR (MLR) II

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE/ 1.0 PHY SCI

EST. FEES: \$95

Prerequisites: MLR 1

Concurrent Enrollment: Arapahoe Community College (ASE 250, 264)

Certifications: Snap-on Certifications (Wheel Service & Alignment, Advanced Scanner Diagnostics, Pro-Cut on-car Rotor Machining, Battery Starting and Charging), ASE Student Automobile Certifications (Brake Systems, Suspension & Steering Systems, Electrical/Electronic Systems, and Engine performance)

Course Topics: Advanced concepts in automobile service and repair, shop safety, engine repair, automatic transmissions and transaxles, manual drivetrain and axles, suspension and steering, brakes, electrical and electronic systems, heating and air conditioning, and engine performance.

AUTO SERVICE TECHNOLOGY MLR III HIGH PERFORMANCE

GRADES: 12

LENGTH: 1 YEAR

CREDITS: 2.0 CTE

EST. FEES: \$95

Prerequisites: Maintenance and Light Repair I and II or equivalent coursework

Concurrent Enrollment: N/A

Certifications: Continuation of Snap-on Certifications (Wheel Service & Alignment, Advanced Scanner Diagnostics, Pro-Cut on-car Rotor Machining, Battery Starting and Charging), ASE Student Automobile Certifications (Brake Systems, Suspension & Steering Systems, Electrical/Electronic Systems, and Engine performance)

Course Topics: Advanced diagnostic techniques including high performance concepts, Skills USA, apprenticeship preparation.



TRANSPORTATION



TWO YEAR ACCELERATED AVIATION MAINTENANCE PATHWAY

YEAR 1

ACCELERATED

General Aircraft Maintenance I
(Half Day, Every Day, Semester 1)
11th-12th grade
This class is the foundation of the Aviation Maintenance program.

ACCELERATED

General Aircraft Maintenance II
(Half Day, Every Day, Semester 2)
11th-12th grade
This course is a continuation of ACCELERATED General Aircraft Maintenance I.

SUMMER

Airframe I
11th-12th grade

Introduction to Airframe Studies.

YEAR 2

ACCELERATED

Airframe II
(Half Day, Every Day, Semester 1)
11th-12th grade

Continuation of aircraft structures and systems.

ACCELERATED

Airframe III
(Half Day, Every Day, Semester 2)
11th-12th grade

Continuation of aircraft structures and systems.

SUMMER

Airframe IV
12th grade

Completion of the FAA required hours for Airframe education and exam preparation.

ACCELERATED GENERAL AIRCRAFT MAINTENANCE I & II

GRADES: 11-12	LENGTH: 1 Year (meets daily)	CREDITS: 2.0 CTE/ 1.0 MTH B/ 1.0 PHY SCI	EST. FEES: \$150
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Prerequisites: Completion of CCIC Math Assessment

Concurrent Enrollment: N/A

Certifications: Snap-on Multimeter

Course Description: This course covers basic subjects, such as mathematics for aviation, basic physics for aviation, and basic electricity. In addition, this course will provide a foundation for further studies in the aviation maintenance pathway including the FAA coursework and required hours for General Aviation Mechanics.

AIRFRAME I (SUMMER)

GRADES: 11-12	LENGTH: 7.5 hrs/day, 20 days	CREDITS: 1.0 CTE	EST. FEES: \$100
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Prerequisites: General Aircraft Maintenance I & II

Concurrent Enrollment: N/A

Certification: Snap-on Torque and Snap-on Precision Measurement

Course Topics: This course builds on General Aircraft Maintenance I & II. This course will cover wood structures, aircraft coverings, non-metallic structures, and aircraft finishes. The FAA requires 750 total hours for Airframe Maintenance. This summer session is 150 of those hours.

ACCELERATED AIRFRAME II & III

GRADE: 11-12	LENGTH: 1 Year (meets daily)	CREDITS: 3.0 CTE/ 1.0 MTH B	EST. FEES: \$ 150
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Prerequisites: General Aircraft Maintenance I & II, Airframe I

Concurrent Enrollment: N/A

Certifications:

Course Topics: In Airframe II & III, students will continue their study of Airframe Maintenance. Topics include aircraft sheet metal, electrical systems, hydraulic and pneumatic power systems, fuel systems, water and waste systems, and landing systems. The FAA requires 750 total hours for Airframe Maintenance. This year-long course provides 492 of those hours.



TRANSPORTATION



TWO YEAR ACCELERATED AVIATION MAINTENANCE PATHWAY

AIRFRAME IV (SUMMER)

GRADES: 12	LENGTH: 7.5 hrs/day, 20 days	CREDITS: 0.5 CTE/ 0.5 PHY SCI	EST. FEES: \$100
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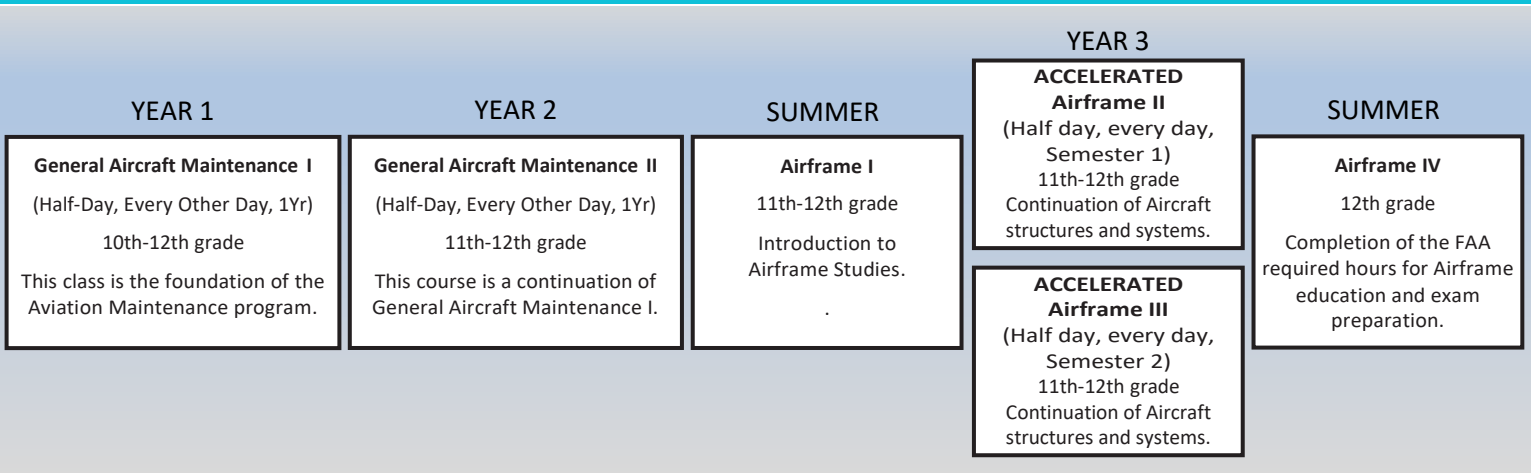
Prerequisites: General Aircraft Maintenance I & II, Airframe I, II, & III

Concurrent Enrollment: N/A

Certifications:

Course Topics: This course is the conclusion of Airframe Maintenance and the remaining 750 hours required by the FAA prior to testing. Topics for the class include instrument systems, communication and navigation systems, and inspection processes.

THREE YEAR AVIATION MAINTENANCE PATHWAY



GENERAL AIRCRAFT MAINTENANCE I

GRADES: 10-12	LENGTH: 1 Year	CREDITS: 1.0 CTE/ 1.0 MTH B	EST. FEES: \$75
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Prerequisites: Completion of CCIC Math Assessment

Concurrent Enrollment: N/A

Certifications: : Snap-on Multimeter

Course Topics: This course is an introduction to foundational subjects, such as mathematics for aviation, physics for aviation, and basic electricity. In addition, this course will provide for further studies in the aviation maintenance pathway including the FAA coursework and required hours for General Aviation Mechanics.

GENERAL AIRCRAFT MAINTENANCE II

GRADES: 11-12	LENGTH: 1 Year	CREDITS: 1.0 CTE/ 1.0 PHY SCI	EST. FEES: \$75
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Prerequisites: General Aircraft Maintenance I

Concurrent Enrollment: N/A

Certifications: Snap-on Multimeter

Course Topics: This course builds on the subjects addressed in General Aircraft Maintenance I and completes the 400 hours necessary to begin Airframe. The class prepares students for the General Aircraft Maintenance portion of the FAA Part 147 Aviation Mechanics exam.



TRANSPORTATION



THREE YEAR AVIATION MAINTENANCE PATHWAY

AIRFRAME I (SUMMER)

GRADES: 11-12	LENGTH: 7.5 hrs/day, 20 days	CREDITS: 1.0 CTE	EST. FEES: \$100
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Prerequisites: General Aircraft Maintenance I & II

Concurrent Enrollment: N/A

Certification: Snap-on Torque and Snap-on Precision Measurement

Course Topics: This course builds on General Aircraft Maintenance I & II. This course will cover wood structures, aircraft coverings, non-metallic structures, and aircraft finishes. The FAA requires 750 total hours for Airframe Maintenance. This summer session is 150 of those hours.

ACCELERATED AIRFRAME II & III

GRADE: 11-12	LENGTH: 1 Year (meets daily)	CREDITS: 3.0 CTE/ 1.0 MTH B	EST. FEES: \$ 150
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Prerequisites: General Aircraft Maintenance I & II; Airframe I is recommended

Concurrent Enrollment: N/A

Certifications:

Course Topics: In Airframe II & III, students will continue or start their study of Airframe Maintenance. Topics include aircraft sheet metal, electrical systems, hydraulic and pneumatic power systems, fuel systems, water and waste systems, and landing systems. The FAA requires 750 total hours for Airframe Maintenance. This year-long course provides 492 of those hours.

AIRFRAME IV (SUMMER)

GRADES: 12	LENGTH: 7.5 hrs/day, 20 days	CREDITS: 0.5 CTE/ 0.5 PHY SCI	EST. FEES: \$100
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Prerequisites: General Aircraft Maintenance I & II, Airframe I, II, & III

Concurrent Enrollment: N/A

Certifications:

Course Topics: This course is the conclusion of Airframe Maintenance and the remaining 750 hours required by the FAA prior to testing. Topics for the class include instrument systems, communication and navigation systems, and inspection processes.



CTE DISTRICT COURSES

These courses are available to all Cherry Creek School District students, and take place in various locations. Registration process for CTE District course varies. Please see course description for more information.



ARTS & DESIGN

DIGITAL COMMERCIAL PHOTOGRAPHY

GRADES: 10-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE

EST. FEES: \$75

LOCATION: CHERRY CREEK HIGH SCHOOL

This dynamic, hands-on, project-oriented photography class challenges students to think critically, learn professionalism, and produce critically acclaimed art. Assigned projects prepare students to strengthen their creative eye and see life from a different perspective. Students learn both film and digital photography, use a darkroom and learn the industry standard professional software: Adobe Photoshop and Lightroom. Students will explore career possibilities, develop a resume, and meet photographers, all while preparing for college and industry. The course will include understanding the commercial photography business, composition theory, digital ethics, and competitive events where students produce a portfolio and earn concurrent enrollment credit. If course is not offered at home high school, transportation is the responsibility of the student.

Day/Time: Cherry Creek High School, Monday – Friday, 7th Period

If course is available at home high school, follow home high school registration process. If not, complete the CTE Application.





CAREER CONNECTIONS

CAREER EXPLORATION

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE

EST. FEES: \$25

LOCATION: Cherokee Trail, Eaglecrest, Overland and Smoky Hill

Career Exploration is a yearlong program designed to connect students with career pathways by partnering with businesses in the community. Through experiences including job readiness training, job tours, job shadowing, career days and internships, students will have the opportunity to explore career pathways and develop work readiness skills. Goals for the program include: placing students in career pathway experiences, preparing students for the workforce, locating entry level job opportunities, exposing students to post high school training in career interest areas, and partnership with Denver metro employers to provide work-ready employees. This course takes place during the regular school day at Cherokee Trail, Eaglecrest, Overland and Smoky Hill high schools. If course is not offered at home high school, transportation is the responsibility of the student.

To register for this course, complete the CTE Application.

EXECUTIVE INTERNSHIP

GRADES: 12

LENGTH: SEE BELOW

CREDITS: 1.0 CTE

EST. FEES: \$15

LENGTH: 100 INTERNSHIP HOURS DURING FALL, SPRING OR SUMMER SEMESTER

The Executive Internship program will provide an opportunity for selected students to have experience in a career field that they would like to pursue after graduation. An academic internship is a form of firsthand learning that integrates knowledge and theory learned in the classroom with practical application and skill development in a professional setting. This work/learning arrangement is overseen by the Internship Coordinator for CCSD. Within the internship, students can expect to do various online work assignments, attend meetings, and complete projects. Students should be above average academically and/or especially talented in a career area they wish to pursue. Professional success also depends on the level of student's maturity, responsibility and reliability. Internships are unpaid. Transportation is the responsibility of the student. **This program is selective. Additional application materials, information meeting attendance, and an interview are required.**

To register for an internship, complete the CTE Application. Upon receipt of your confirmation email, you will be directed to the Internship Application.

CAREERWISE APPRENTICESHIP

GRADES: 11-12

LENGTH: SEE BELOW

CREDITS: 1.0 CTE

EST. FEES: N/A

LENGTH: HOURS VARY BY APPRENTICESHIP

Cherry Creek School District will work collaboratively with CareerWise Colorado and industry partner to create an apprenticeship program unique to individual student interests and abilities. In addition to the onsite apprenticeship, students will attend monthly seminars and complete online activities throughout the semester. Eligibility depends on the application and interview process through CareerWise Colorado, in accordance with student's maturity, reliability, commitment, and graduation status. Transportation is the responsibility of the student. **This program is selective. Additional application materials, information meeting attendance, and an interview are required.**

To register for a CareerWise Apprenticeship, go to www.careerwisecolorado.org to complete the application. Once approved through CareerWise, you will be contacted by CCSD Apprenticeship Coordinator to discuss next steps.



COSMETOLOGY I

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 4.0 CTE

EST. FEES: \$650.00

LOCATION: COLORADO'S FINEST HIGH SCHOOL OF CHOICE

The Cosmetology program is a robust course that will prepare you to provide beauty services such as shampooing, cutting, coloring, styling, facials, manicures and pedicures. This program prepares students to pass the state-licensing exam given by the Colorado Barber/Cosmetology Board. To be considered for this program, you must attend a parent meeting and orientation in February. Transportation is the responsibility of the student. Course begins approximately August 13, 2020.

The \$650.00 fee includes: cosmetology kit (used 1st and 2nd year), uniform and consumables.

Mandatory Student/Parent Site Visit and Orientation at Colorado's Finest High School of Choice (must attend one):
February 3, 2020 from 4:30 – 5:30pm
February 26, 2020 from 4:30 – 5:30pm

Anticipated session times:

Monday – Friday: Morning Session 7:30 – 11:30am

Monday – Friday: Afternoon Session 12:00 – 4:00pm

To register for this course, complete the CTE Application.

COSMETOLOGY II

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 4.0 CTE

EST. FEES: \$75.00

LOCATION: COLORADO'S FINEST HIGH SCHOOL OF CHOICE

Cosmetology II is a certificate program requiring 1,500 hours which equals 50 credits in cosmetology, hairstyling, nail technology and esthetics. Students will learn theory, practice in hair care, cuts, color, perms, styling, nail technology and skin care. Students are prepared for supervised clinical practice and entry-level jobs in the cosmetology field. Students also explore career pathways, post-secondary options and career research techniques such as application preparation, resume/letter writing and interviewing process. Transportation is the responsibility of the student. Course begins approximately August 13, 2020. Pre-requisite: Cosmetology I

The \$75.00 fee includes: consumables.

Anticipated session times:

Monday – Friday: Morning Session 7:30 – 11:30am

Monday – Friday: Afternoon Session 12:00 – 4:00pm

To register for this course, complete the CTE Application.



COSMETOLOGY

ESTHETICS

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 5 CTE

EST. FEES: \$350.00

LOCATION: COLORADO'S FINEST HIGH SCHOOL OF CHOICE

Estheticians, also called Esthiologists or skin-care specialists, strive to make their clients to look and feel younger and more attractive. They cleanse and beautify skin with facials and full-body treatments; apply makeup; remove facial or body hair with hot wax; give head and neck massages and may, with special training, perform microdermabrasion to remove imperfections and signs of age. Many are required to sell skin care products; those who run their own shops are often entrepreneurs involved in all phases of business management and marketing. To be considered for this program, you must attend a parent meeting and orientation in February. Transportation is the responsibility of the student. Course begins approximately August 13, 2020.

The \$350.00 fee includes: esthetics kit, uniform and consumables.

Mandatory Student/Parent Site Visit and Orientation at Colorado's Finest High School of Choice (must attend one):

February 3, 2020 from 4:30 – 5:30pm

February 26, 2020 from 4:30 – 5:30pm

Anticipated session times:

Monday – Friday: Morning Session 7:30 – 11:00am

Monday – Friday: Afternoon Session 12:00 – 3:30pm

To register for this course, complete the CTE Application.





CRIMINAL JUSTICE

INTRODUCTION TO CRIMINAL JUSTICE

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE

EST. FEES: \$20

LOCATION: CHEROKEE TRAIL, CHERRY CREEK, GRANDVIEW, OVERLAND AND SMOKY HILL

This Criminal Justice course concentrates on potential careers in the criminal justice system and law enforcement in general. Students will learn about the agencies and processes involved in the criminal justice system: the legislature, the police, the prosecutor, the public defender, the courts, and corrections. The course includes an analysis of the roles and problems of the criminal justice system in a democratic society, with an emphasis upon inter-component relations and checks and balances. Field trips to local criminal justice and law enforcement agencies support student learning experiences. This course aligns with Colorado Community College Intro to Criminal Justice (CRJ 110). Course offered at: Cherokee Trail, Cherry Creek, Grandview, Overland and Smoky Hill. If course is not offered at home high school, transportation is the responsibility of the student.

If course is available at home high school, follow home high school registration process. If not, complete the CTE Application.

CRIME SCIENCE

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE

EST. FEES: \$20

LOCATION: CHEROKEE TRAIL, GRANDVIEW, OVERLAND AND SMOKY HILL

This Criminal Justice course will concentrate on forensics, crime scene, investigative techniques, and law enforcement in general. It will also explore how constitutional and procedural law assists the criminal investigation process. The course features basic procedures in crime scene management to include photography and preparing initial reports and sketches, processing evidence, and related criminalistics procedures. It covers interviewing suspects, witnesses, and victims, including the recording of identifications and descriptions. Field trip to local criminal justice agencies will support student learning experiences. This course aligns with Colorado Community College Criminal Investigation (CRJ 127). Course offered at: Cherokee Trail, Grandview, Overland and Smoky Hill. If course is not offered at home high school, transportation is the responsibility of the student.

If course is available at home high school, follow home high school registration process. If not, complete the CTE Application.



HEALTH AND WELLNESS

EPIC MEDICAL CAREERS

GRADES: 11-12

LENGTH: SEMESTER

CREDITS: 0.5 CTE

EST. FEES: \$40

LOCATION: CHERRY CREEK HIGH SCHOOL, OVERLAND AND SMOKY HILL

In the Epic Medical Careers class, students are introduced to career opportunities through a unique series of lectures by medical professionals. Students will hear from professionals from the medical community such as a plastic surgeon, bio-chemical warfare emergency room doctor, a nurse at Denver Health discussing infectious diseases, a genetic counselor, a pediatrician, X-Ray and optical technicians, as well as professionals from the business (medical sales) and the legal (a lawyer who represents doctors) careers related to medicine. Students are presented information about each specialty along with the education and other requirements for the many career options. Students may participate in field trips to see how medical professionals are learning as well as be a part of an emergency room simulation, labor/delivery simulation, and a cadaver lab, to which students will see the human body and internal organs. Course offered at: Cherry Creek, Overland and Smoky Hill. If course is not offered at home high school, transportation is the responsibility of the student.

If course is available at home high school, follow home high school registration process. If not, complete the CTE Application.



TRANSPORTATION

AVIATION FUNDAMENTALS

GRADES: 11-12

LENGTH: 1 YEAR

CREDITS: 1.0 CTE

EST. FEES: \$150

LOCATION: METROPOLITAN STATE UNIVERSITY SOUTH CAMPUS

Aviation Fundamentals, in partnership with Metropolitan State University Aviation and Aerospace, includes a study of the airplane and its components, aerodynamics, basic aircraft systems, the airport environment, air traffic control procedures, Federal Aviation Regulations, the basic elements of air navigation including radio navigation, and a review of aviation weather. This college level course is taught by a MSU professor and prepares the student for taking the Federal Aviation Administration Private Pilot Knowledge examination. Students will be enrolled in the 6 credit hour MSU course Aviation Fundamentals (AES 1100). To be considered for this program, you must attend a parent meeting and orientation in February. Transportation is the responsibility of the student.

Additional application materials, program orientation and qualifying scores are required.

Mandatory Student/Parent Open House at MSU South Campus (must attend one):

February 13, 2020 at 6:00pm

February 26, 2020 at 6:00pm

Anticipated session times:

Monday, Wednesday, Friday: 2:00 – 3:30pm

To register for this course, complete the CTE Application.