CHERRY CREEK INNOVATION CAMPUS

Cherry Creek Schools CTE

CHERRY CREEK INNOVATION CAMPUS

2021-2022 Course Catalog

www.cherrycreekschools.org/CCIC

APPLY TO CCIC

CCIC WEBSITE

CCIC VIRTUAL TOUR

CCIC 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.

Concurrent Enrollment / Dual Enrollment (CE/DE) is an opportunity for students to earn high school and college credit simultaneously. Many courses in the Cherry Creek School District (CCSD) offer concurrent/dual 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.

CCIC REGISTRATION PROCESS

To register for CCIC courses:

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 course catalog to help 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 online application, opening on **January 19, 2021**. A link to the 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 5, 2021.** 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 5, 2021

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

CCIC CORE CLASSES

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

EngA

CP Innovator's English A - In this integrative English course, students demonstrate career & college readiness, developing leadership, reading, & 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 & responses in argumentative/persuasive form to further enhance knowledge of career-related issues & 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.

EngB

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.

EngC

CP Innovator's English C – This integrated English course teaches the fundamentals of writing and pathway or industry-specific technical documents with structure, organization, diction, style, revision, editing and mechanics. Students will write for specific industry-related purposes including, but not limited to: professional emails, training manuals, business proposals, blog creation and response, professional interviewing, podcast creation, and social media content writing. Finally, students will conduct research as necessary for the pathway and industry curriculum, gathering relevant information from multiple print sources related to the task. By the end of the course, students will be able to read, analyze, summarize, and apply technical information and plain language as appropriate for career preparation. * This course may offer CE Credit and be repeated.

MthA

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.

MthB

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.

MthC

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.

MthD

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.

LifSci

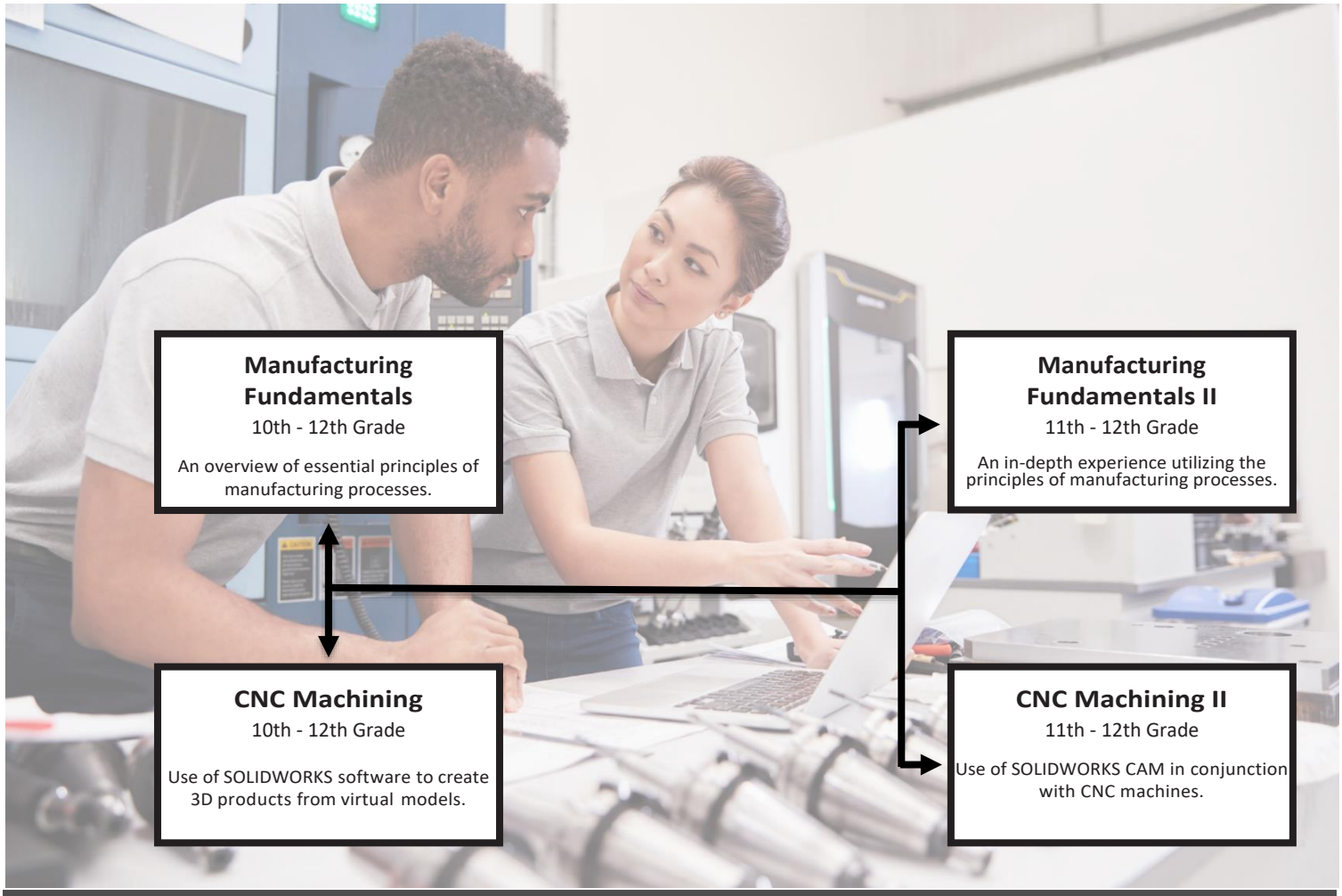
Innovator's Life Science - Students will use a full range of science and engineering practices to make sense of natural phenomena and solve problems that require an understanding of how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction.

PhySci

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.

ADVANCED MANUFACTURING



MANUFACTURING FUNDAMENTALS

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/ .5 MTH B	EST. FEES: $140

MthB

Prerequisites: N/A

Concurrent Enrollment: N/A

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

Course Description: This course is designed to provide students with the skills and knowledge to be effective in production environments as a machinist, CNC operator, or supervisor. Upon completion of this course, proficient students will demonstrate safety practices concerning machining technology, proper measurement and layout techniques, reading and interpreting drawings and blueprints, production design processes, and quality control procedures. Students will complete projects using various manufacturing techniques and build intermediate skills involving manufacturing techniques. Upon completion of this course, students will be knowledgeable about potential postsecondary education and career opportunities related to machining technology and will be prepared to enroll in more advanced machining courses in high school. Students will create real world projects using CNC Plasma Cutters, Water Jet Cutters Routers, Injection Molders and Vacuum Formers.

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

ADVANCED MANUFACTURING

CNC MACHINING

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/ .5 MTH B	EST. FEES: $140

Prerequisites: N/A

MthB

Concurrent Enrollment: N/A

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

Course Description: This course covers fundamentals of computer numerical control (CNC), basic programming, machine setup and operation of CNC machines. The course begins with manual programming practices so that the student will understand the programming code and its structure. G & M codes, control functions, the letter address system, and math issues related to CNC are included. Standard safety conventions will be introduced for safe programming practice. This course allows for the further development of CNC skills with hands-on instruction related to the CNC milling machines, and CNC turning centers. The lab work includes operation of CNC machines to demonstrate the programming skills.

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

MthB

Concurrent Enrollment: N/A

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

Course Description: This course is designed to provide students with the skills and knowledge to be effective in production environments as a machinist, CNC operator, or supervisor. Upon completion of this course, proficient students will demonstrate safety practices concerning machining technology, proper measurement and layout techniques, reading and interpreting drawings and blueprints, production design processes, and quality control procedures. Students will complete projects using various manufacturing techniques and build intermediate skills involving manufacturing techniques. Upon completion of this course, students will be knowledgeable about potential postsecondary education and career opportunities related to machining technology and will be prepared to enroll in more advanced machining courses in high school. Students will create real world projects using CNC Plasma Cutters, Water Jet Cutters Routers, Injection Molders and Vacuum Formers.

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

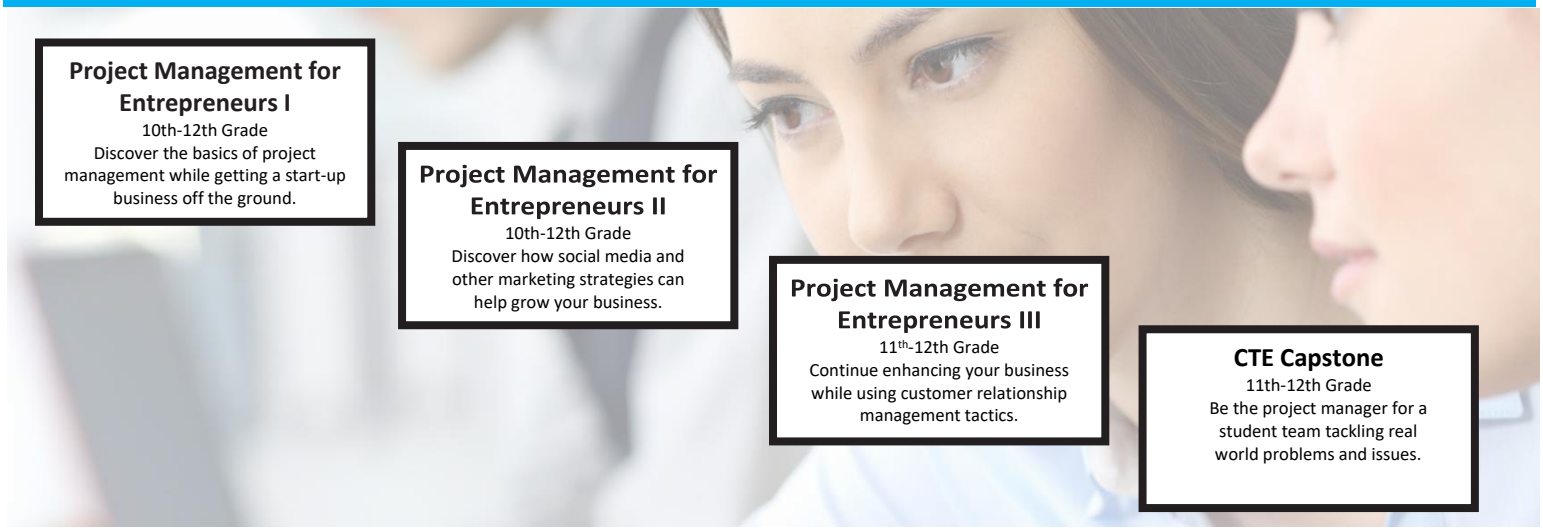
MthB

Concurrent Enrollment: N/A

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

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 and lathe setups and operations not covered in the basic CNC Machining. NIMS certification preparation and testing are included in course content.

BUSINESS SERVICES



PROJECT MANAGEMENT FOR ENTREPRENEURS I

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/ .5 ENG A	EST. FEES: $80

Prerequisites: N/A

ACC ARAPAHOE COMMUNITY COLLEGE — EngA

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

ACC ARAPAHOE COMMUNITY COLLEGE — EngB

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

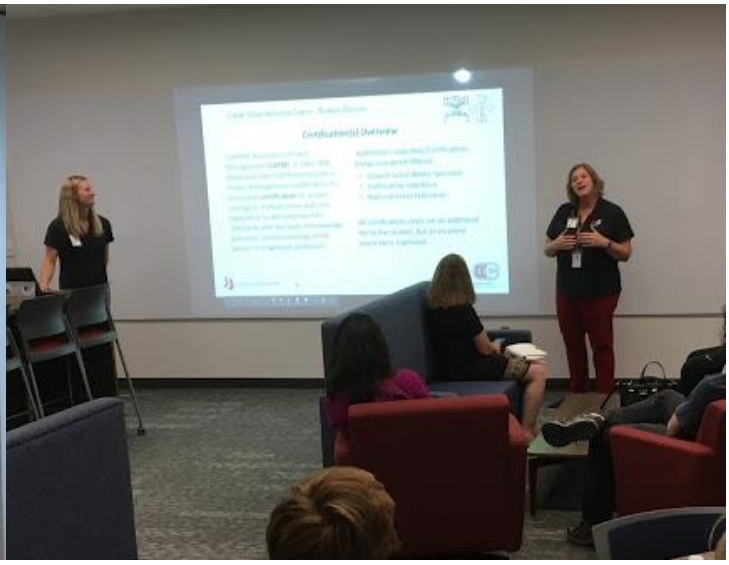
Prerequisites: Project Management for Entrepreneurs I & II

ACC ARAPAHOE COMMUNITY COLLEGE EngC

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 CCIC is eligible to take the CTE Capstone course.

ACC ARAPAHOE COMMUNITY COLLEGE EngC

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.

FUTURE EDUCATOR

Introduction to Future Educator EDHD 1030 & CLDE 1000 10th-12th grade	Child Development and Digital Teaching & Learning HDRF 1005 & INTE 2000 10th-12th grade	Early Childhood Education & Guidance ECED 1000 & ECED 1202 11th-12th grade	STEM Methods & Children's Literature STME 1000 & LCRT 2000 11th-12th grade

OVERVIEW

The Future Educator Pathway is a CTE Pathway that includes innovation, dual enrollment course work, and culminates in an established apprenticeship within CCSD. As an apprentice, students earn valuable experience and work hours in the Education pathway, working as a paraprofessional in a K-8 placement within Cherry Creek School District. Students can earn college credits, wages, paraprofessional certification, classroom hours and access to a professional network. Courses are available to all students, not just those interested in an Apprenticeship. University of Colorado Denver classes will require additional fees depending on number of credits taken per semester.

For more information about this innovative program, please visit www.cherrycreekschools.org/cte.

INTRODUCTION TO FUTURE EDUCATOR: EDHD 1030 & CLDE 1000

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: 1.0 CTE	EST FEES: N/A

Prerequisites: N/A

Dual Enrollment: University of Colorado Denver (EDHD 1030, CLDE 1000); additional fees required depending on number of credits taken per semester.

Certifications: N/A

Course Descriptions: As the introductory course in the Future Educator pathway, this course combines EDHD 1030 (Early Field Experience & Seminar) and CLDE 1000 (Language, Identity & Power). In EDHD 1030, students will learn about working within the community to support children's learning. The experiences of Seminar, paired with work at a local school or community-based context, will help students develop theoretical grounding as a community based educator. In CLDE 1000, the 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.

FUTURE EDUCATOR

CHILD DEVELOPMENT & DIGITAL TEACHING AND LEARNING: HDRF 1005 & INTE 2000

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: 1.0 CTE	EST FEES: N/A

Prerequisites: N/A

Dual Enrollment: University of Colorado Denver (CLDE 1000); additional fees required depending on number of credits taken per semester.

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.

EARLY CHILDHOOD EDUCATION AND CHILD GUIDANCE: ECED 1000 & ECED 1202

GRADES: 11-12	LENGTH: 1 SEMESTER	CREDITS: 1.0 CTE	EST FEES: N/A

Prerequisites: Recommended completion of Introduction to Future Educator and teacher recommendation.

Dual Enrollment: University of Colorado Denver (ECED 1000, ECED 1202); additional fees required depending on number of credits taken per semester.

Certifications: N/A

Course Descriptions: This course combines ECED 1000 (Introduction to Early Childhood Education) and ECED 1202 (Child Guidance). In ECED 1000, students will receive an overview of early childhood education contexts and the historical roots of services to young children and families. Trends, resources, foundational standards of practice, professionalism and code of ethical conduct are examined. In ECED 1202, the course explores and applies classroom strategies to promote social competence, build classroom community and facilitate emotional regulation. An emphasis is on understanding development within group contexts, observing children's behavior and engaging with families to make decisions about learning.

STEM METHODS AND CHILDREN'S LITERATURE: STME 1000 & LCRT 2000

GRADES: 11-12	LENGTH: 1 SEMESTER	CREDITS: 1.0 CTE	EST FEES: N/A

Prerequisites: Recommended completion of Introduction to Future Educator and teacher recommendation.

Dual Enrollment: University of Colorado Denver (STME 1000, LCRT 2000); additional fees required depending on number of credits taken per semester.

Certifications: N/A

Course Descriptions: This course combines STME 1000 (STEM Methods) and LCRT 2000 (Rebels, Villains & Superheroes: How Children's Literature Shapes Our Identities). In STME 1000, the course provides an overview of STEM practices and philosophies in PK-12 education. STEM trends, foundations of practice, and resources are examined. In LCRT 2000, the course explores both classic and contemporary children's and adolescent literature and media in traditional and digital texts, specifically focusing on developing literary understandings, exploring perspectives and personal responses to literature, and inquiring into trends and issues.

HEALTH & WELLNESS

Introduction to Health Care
10th-12th Grade
Exploration of healthcare careers and content related to basic anatomy & physiology.

Suggested prerequisite for courses in the Health & Wellness pathway

Certified Nurse Aide
11th-12th Grade
Students prepare to perform patient care in a nurse aide role.

Behavioral Health Technician
11th-12th Grade
Students explore and apply basic principles of behavioral and mental health.

Introduction to PT & OT
11th-12th Grade
Course prepares students for patient care as a physical and occupational therapy aide.

Pharmacy Technician
12th Grade
Students learn the role and function of pharmacy technicians.

INTRODUCTION TO HEALTH CARE

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/ .5 LIFE SCI	EST. FEES: $34

Prerequisites: N/A

Concurrent Enrollment: Arapahoe Community College (HPR 123, HPR 124) – *Some sections*

LifSci

Certifications: Basic Life Support (BLS) through American Heart Association or American Red Cross CPR/FAS/AED

Course Description: Introduces health sciences with an overview of the five pathways that make up the health science cluster. The course addresses the foundation standards including health maintenance, employability skills, teamwork, healthcare systems, communications, and legal issues in healthcare. This course aligns with the Colorado Community College course Intro to Health Care (HPR 123) and Health Care Practices (HPR 124). Concurrent enrollment opportunities ***may*** be offered in some sections of this course.

CERTIFIED NURSE AIDE (CNA)

GRADES: 11-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/ .5 LIFE SCI	EST. FEES: $34

Prerequisites: N/A

LifSci

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.

HEALTH & WELLNESS

BEHAVIOR HEALTH TECHNICIAN

GRADES: 11-12	LENGTH: 1 YEAR	LENGTH: 1.0 CTE / 1.0 ENGLISH A	EST. FEES: $78

Prerequisites: N/A

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

EngA

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

Course Description: This course explores the basic principles of behavioral health in a behavioral health care setting. This course develops interpersonal and technical skills while working with clients in psychiatric care settings. Students obtain skills used daily by Behavioral Health Technicians (BHT's) such as therapeutic communication and relationship building and conducting psychoeducational therapy groups. Opportunities in the field may be available to students second semester. Additional fees will be required for off-campus experiences.

Suggested prerequisite: Introduction to Health Care (formerly Introduction to Health & Wellness)

INTRODUCTION TO PHYSICAL & 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)

LifSci

Certifications: N/A

Course Description: This course combines Introduction to Physical Therapy and Occupational Therapy. In PT, we explore the history of the profession including definition, development and areas of practice. The role of the APTA, the physical therapist assistant and the relationship between the physical therapist, PTA and other health care professionals are investigated. Includes current issues and trends including professionalism, ethics, quality assurance, communications and reimbursement issues such as Medicare, Medicaid, Worker's Compensation and commercial insurance. In OT, we explore career options in Occupational Therapy through discussion, observation and participation. Identifies the need for areas of occupation and the differences between health, illness, and wellness. Describes the history and philosophy of Occupational Therapy, and the roles, responsibilities and relationships between other health care professionals. Discusses ethical and legal implications of health care, and explore basic sociological issues.

Suggested prerequisite: Introduction to Health Care (formerly 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

LifSci

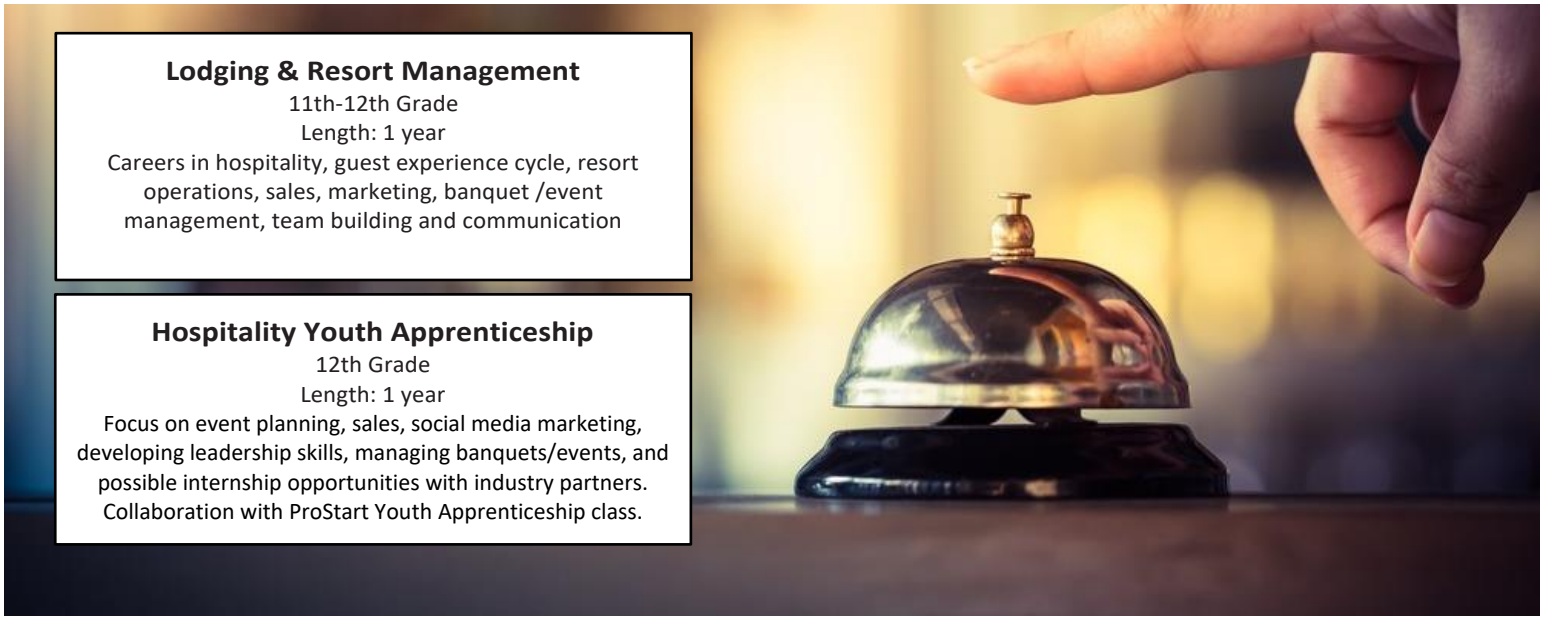
Certifications: Pharmacy Technician

Course Description: This course series is designed to help give students the knowledge and skills needed to work with a licensed pharmacist in a variety of clinical and retail settings. Students explore medical and pharmaceutical terminology, pharmaceutical calculations, pharmaceutical techniques, sterile compounding, pharmacy recordkeeping, and pharmacy law and ethics. Students also examine essential medical topics such as body systems, common diseases and conditions, microbiology, and medication errors. In the Pharmacy Technician 1 course students gain a foundational understanding of pharmacology and pharmaceutical care. They focus on laws and ethics, drug actions and interactions with the body, dosing and administration and medication errors.

Suggested prerequisite: Introduction to Health Care (formerly Introduction to Health & Wellness)

HOSPITALITY & TOURISM

LODGING & RESORT MANAGEMENT PATHWAY



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

Hospitality Youth Apprenticeship
12th Grade
Length: 1 year
Focus on event planning, sales, social media marketing, developing leadership skills, managing banquets/events, and possible internship opportunities with industry partners. Collaboration with ProStart Youth Apprenticeship class.

LODGING & RESORT MANAGEMENT

GRADES: 11-12	LENGTH: 1 YEAR	CREDITS: 1.0 CTE /1.0 ENG B	EST. FEES: $165

Prerequisites: N/A

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

EngB

Dual Enrollment: Metro State University of Denver (HTL 1010 & HLDR 1000), $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: This two-year industry-developed curriculum by the American Hotel and Lodging Educational Institute covers careers in hospitality and restaurant operations, customer service, sales, marketing, employability and soft skills, communication, guest experience cycle and food and beverage services. Successful participants in the program will have the opportunity to receive college credits, earn industry certifications and credentials, opportunity to participate in a mentored internship, and apply for industry scholarships. FCCLA is also an integral part of this course. In addition, CCIC students will have the opportunity to earn internship hours through our on-site cafe run through our ProStart program.

HOSPITALITY YOUTH APPRENTICESHIP

GRADES: 12	LENGTH: 1 YEAR	CREDITS: 1.0 CTE /1.0 ENG C	EST. FEES: $110

Prerequisites: Lodging & Resort Management

EngC

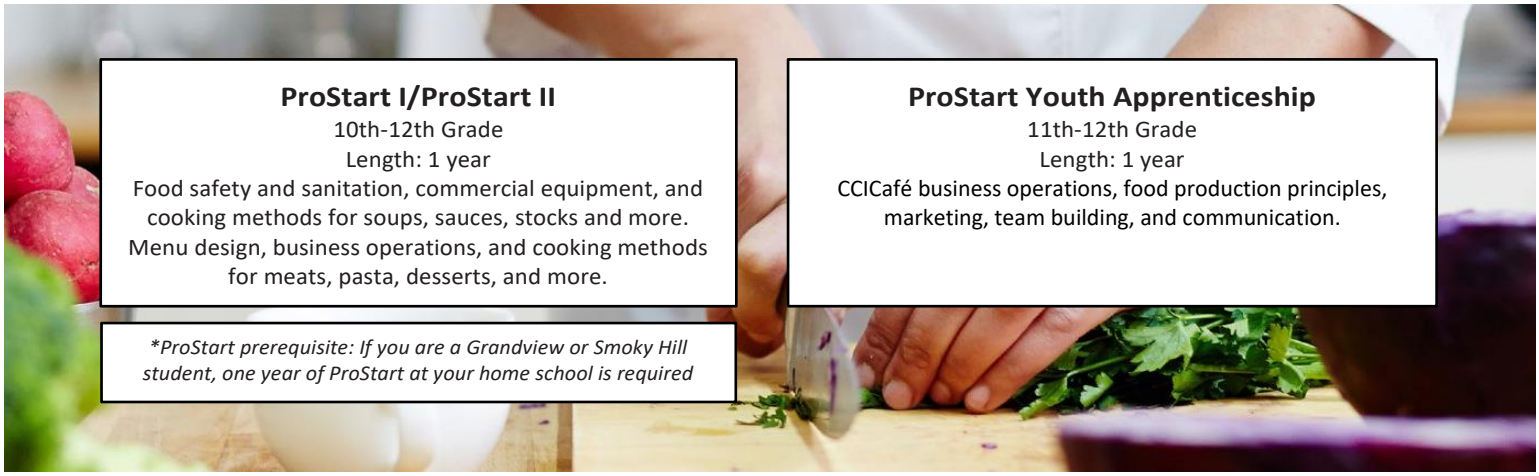
Dual Enrollment: N/A

Certifications: AHLEI Hospitality Manager: Leadership Training

Course Topics: This senior-level experience allows students to expand upon and apply the knowledge, skills, and abilities gained from the Lodging & Resort Management program. This class has a focus on developing leadership skills, event planning, social media marketing, sales, managing banquets/events, and possible internship opportunities with our pathway industry partners. Heavy collaboration with ProStart Youth Apprenticeship is included to organize our in-house events and student-run cafe. FCCLA is also an integral part of this course.

HOSPITALITY & TOURISM

PROSTART PATHWAY



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 1550); ProStart II - Metro State University of Denver (RST 2550), $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 (additional certifications available upon request)

Course Topics: This course from the National Restaurant Association Educational Foundation and Colorado Restaurant Foundation introduces students to a competency-based foodservice & hospitality management curriculum offered to students in grades 10-12. It is a study of culinary arts, restaurant and lodging management, employability skills, and business entrepreneurship coupled with paid mentored work internships in a broad spectrum of industry restaurant, foodservice, and lodging operations. Students who wish to obtain the national ProStart certification must complete a 400 - hour guided internship and pass the exams for both ProStart I & II. Successful participants in the program will have the opportunity to receive college credits, earn industry certifications and credentials, compete in the ProStart Invitational Competitions, and apply for industry scholarships. FCCLA is also an integral part of this course.

Suggested Prerequisites: Culinary Essentials I & II (formerly Foods & Nutrition or Gourmet Foods)

PROSTART YOUTH APPRENTICESHIP

GRADES: 11-12	LENGTH: 1 YEAR	CREDITS: 1.0 CTE/1.0 ENG C	EST. FEES: $175

Prerequisites: ProStart I and/or ProStart II

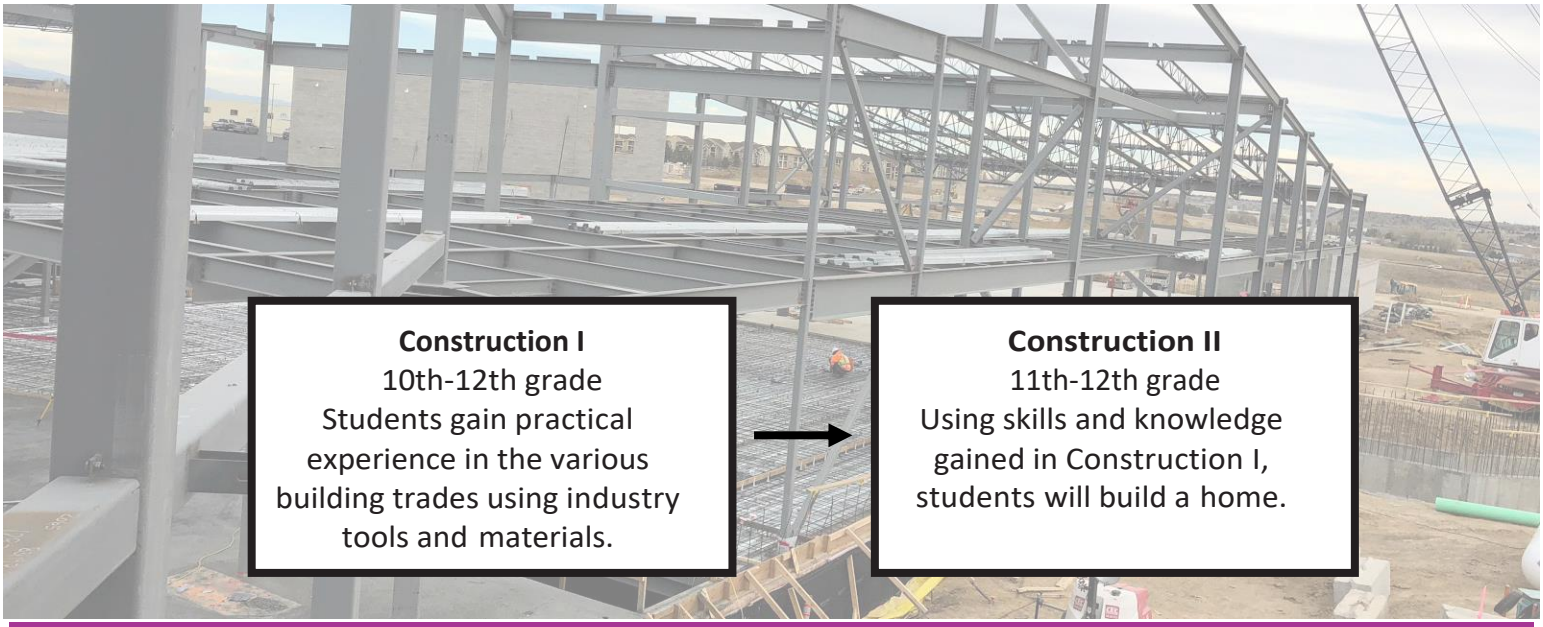
EngC

Dual Enrollment: N/A

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

Course Topics: This program combines work-based, on-the-job training with relevant technical education in the classroom. Students who participate in this program have the opportunity to earn industry credentials and the possibility of college credit. They also start on a career path that continues after high school graduation – whether that is a continuation of their apprenticeship along with college, college only, apprenticeship only, or other full-time employment. Students also leave the program with employability skills – like leadership, accountability, teamwork and responsibility – that they can take with them to positions in all industries. CCIC students will run the on-site cafe to complete their youth apprenticeship.

INFRASTRUCTURE ENGINEERING



CONSTRUCTION I

GRADES: 10-12	LENGTH: 1 YEAR	CREDITS: 1.0 CTE/ 1.0 MTH A	EST FEES: $90

MthA

Prerequisites: Algebra I

Concurrent Enrollment: N/A

Certifications: OSHA-10 Construction, Home Builders Institute Pre-Apprenticeship, 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

MthA

Prerequisites: Algebra I, Construction I

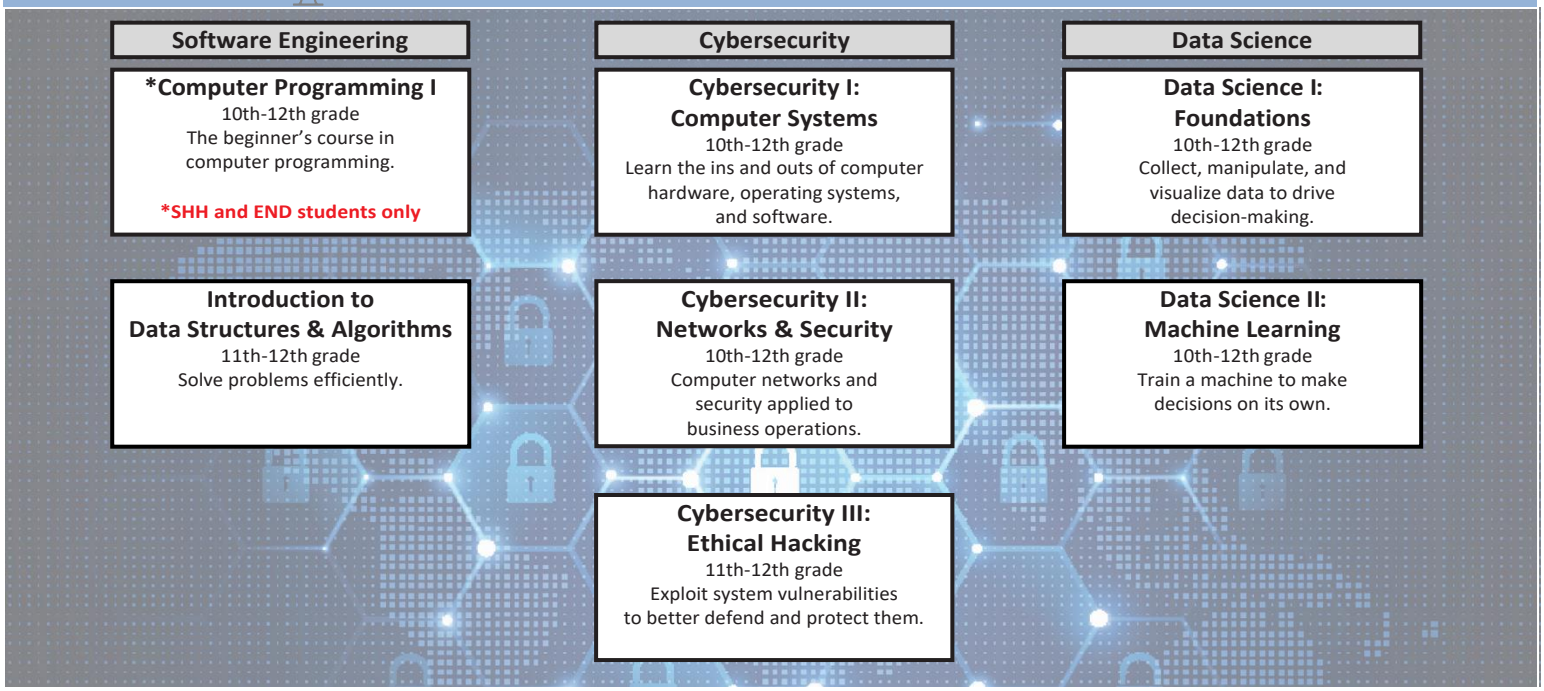
Concurrent Enrollment: N/A

Certifications: Home Builders Institute Pre-Apprenticeship: Carpentry, Electrical, Plumbing, and National Center for Construction Education and Research: 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/STEAM

IT PATHWAY



COMPUTER PROGRAMMING I

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: This course intended to teach students the basics of computer programming. The course places emphasis on practicing standard programming techniques and learning the logic tools and methods typically used by programmers to create simple computer applications. Upon completion of this course, proficient students will be able to solve problems by planning multi-step procedures; write, analyze, review, and revise programs, converting detailed information from workflow charts and diagrams into coded instructions in a computer language; and will be able to troubleshoot/debug programs and software applications to correct malfunctions and ensure their proper execution.

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

INTRODUCTION TO DATA STRUCTURES & ALGORITHMS

GRADES: 11-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/.5 MTH C	EST. FEES: $30

MthC

Prerequisites: AP Computer Science A (or equivalent)

Concurrent Enrollment: N/A

Certifications: N/A

Course Topics: This course will cover the different ways data can be stored to more efficiently solve computing problems. Students will be exposed to a variety of techniques for developing and analyzing algorithms. Topics in this course may include, but are not limited to arrays, lists, maps, sets, graphs, trees, recursion, asymptotic notation, and proof techniques.

IT/STEAM

IT PATHWAY

CYBERSECURITY I: COMPUTER SYSTEMS

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: 1.0 CTE	EST. FEES: $30

Prerequisites: One of the following: Computer Programming I *(formerly Introduction to Programming or 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: This course will give students hands-on experience with computer hardware, operating systems, and software. Students will also learn the essentials of computer networks and how the internet works. Along the way, students will be exposed to a variety of security implications that impact our computer systems and society today. At the end of this course, students will be prepared to take the TestOut PC Pro and CompTIA A+ exam, credentials that demonstrate their ability to be able to diagnose and troubleshoot a variety of IT-related issues. Cybersecurity I is a course intended to teach students the basic concepts of cybersecurity. The course places an emphasis on security integration, application of cybersecurity practices and devices, ethics, and best practices management. The fundamental skills in this course cover both in house and external threats to network security and design, how to enforce network level security policies, and how to safeguard an organization's information. Upon completion, proficient students will be able to demonstrate an understanding of cybersecurity concepts, identify fundamental principles of networking systems, understand network infrastructure and network security, and be able to demonstrate how to implement various aspects of security within a networking system.

CYBERSECURITY II: NETWORKS & SECURITY

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/.5 MTH D	EST. FEES: $30

Prerequisites: Cybersecurity I: Computer Systems

MthD

Concurrent Enrollment: N/A

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

Course Topics: In this course, students will dive deeper into networking and security concepts. Students will learn to design, implement, and troubleshoot issues for both wired and wireless networks. Students will also learn more about cryptography as well as security in business operations including risk management and disaster recovery. Students will be prepared to take the industry-recognized TestOut Network Pro, CompTIA Network+, and CompTIA Security+ exams. Cybersecurity II challenges students to develop advanced skills in concepts and terminology of cybersecurity. This course builds on previous concepts introduced in Cybersecurity I while expanding the content to include malware threats, cryptography, wireless technologies and organizational security. Upon completion of this course, proficient students will be able to demonstrate and understanding of cybersecurity ethical decisions, malware threats, how to detect vulnerabilities, principles of cryptology, security techniques, contingency plan techniques, security analysis, risk management techniques, and advanced methods of cybersecurity.

IT/STEAM

IT PATHWAY

CYBERSECURITY III: ETHICAL HACKING

GRADES: 11-12	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: N/A

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 certification and will prepare students for entry-level jobs in penetration testing and cybersecurity.

DATA SCIENCE I: FOUNDATIONS

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/.5 MTH C	EST. FEES: $30

Prerequisites: One of the following: Computer Programming I *(formerly Introduction to Programming or Introduction to Computer Science)*, AP Computer Science Principles, or AP Computer Science A

MthC

Concurrent Enrollment: N/A

Certifications: N/A

Course Topics: Students will learn the basic process of data science: collecting, manipulating, and visualizing data to drive decision making. Students will be exposed to each stage of the process from determining what constitutes good data to collect, techniques for cleaning and organizing it, tools that can be used for visualizing the data, the necessary statistical underpinnings for data analysis, and developing intellectual capital and communication skills for contextualizing and presenting key findings. Students will be exposed to a variety of tools useful in data science, which may include, but is not limited to Python and R programming languages, SQL, and machine learning APIs.

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

MthC

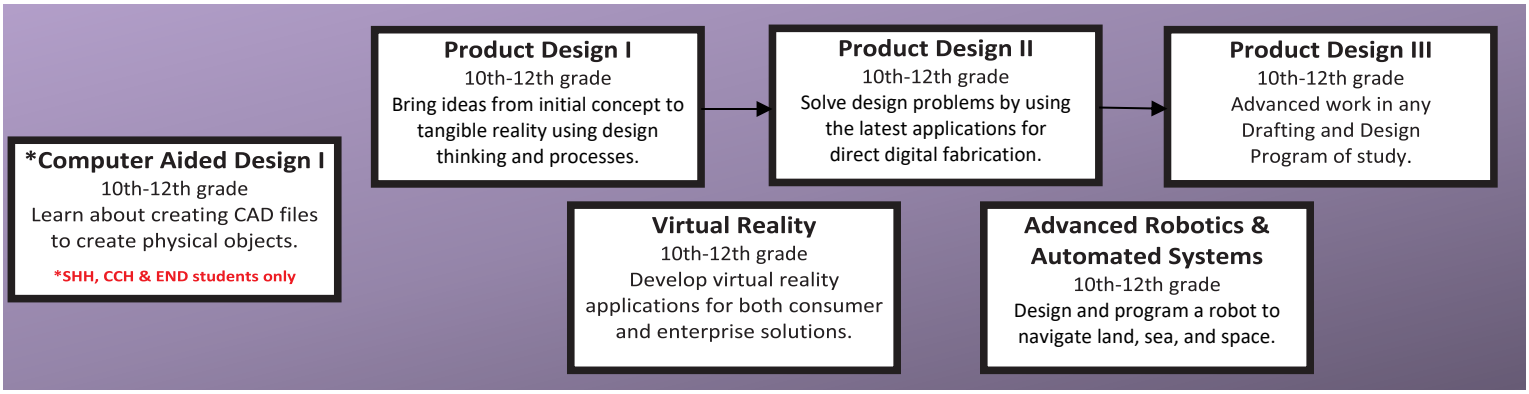
Concurrent Enrollment: N/A

Certifications: N/A

Course Topics: This course provides a broad introduction to machine learning, data mining, and statistical pattern recognition. Topics include: (i) Supervised learning (parametric/non-parametric algorithms, support vector machines, kernels, neural networks). (ii) Unsupervised learning (clustering, dimensionality reduction, recommender systems, deep learning). (iii) Best practices in machine learning (bias/variance theory; innovation process in machine learning and AI). The course will also draw from numerous case studies and applications, so that you'll also learn how to apply learning algorithms to building smart robots (perception, control), text understanding (web search, anti-spam), computer vision, medical informatics, audio, database mining, and other areas.

IT/STEAM

STEAM PATHWAY



COMPUTER AIDED DESIGN I

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/.5 MTH B	EST. FEES: $100

Prerequisites: N/A

Dual Enrollment: Metro State University of Denver (IND 1450), $50 additional fee per MSU credit, 3 credits

MthB

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. Focuses on basic computer aided drafting skills using the SolidWorks software. Includes file management, Cartesian coordinate system & dynamic input, drawing templates, drawing aids, linetype and lineweights, layer usage, drawing & editing geometric objects, polylines & splines, array, text applications, creating tables, basic dimensioning and help access.

PRODUCT DESIGN I

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/.5 PHY SCI	EST. FEES: $100

Prerequisites: N/A

Dual Enrollment: Metro State University of Denver (IND 1000), $50 additional fee per MSU credit, 1 credit

PhySci

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

Course Topics: Students that are interested in careers involving design, engineering and innovation. Students 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. This course is the professional practice of creating products that enhance the function, usability, value, and appearance of products with the goal of benefiting the user, manufacturer, community, and the environment. Also known as product design, industrial design education prepares students to design systems and tangible artifacts including, consumer and recreational products, medical and computer equipment, and transportation and environments. Both generalist and specialist, industrial designers tend to be part artist, part entrepreneur and engineer. This course is designed for students interested in careers in Industrial Design, Packaging Design, or Design Arts industry sector. Students will be introduced to industry standard tools, skills, and materials that they can manipulate as the primary means of manufacturing and package design. Students will explore basic applications of various tools to create projects in both digital and 3D format.

IT/STEAM

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

Dual Enrollment: Metro State University of Denver (IND 3660), $50 additional fee per MSU credit, 3 credits

PhySci

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

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. This course prepares students to design systems and tangible artifacts and deepen understanding of manufacturing and marketing processes. Students will advance development of industry-standard tools, skills, and material usage for product manufacturing and design in Industrial Design, Packaging Design, or Design Arts industry sector.

PRODUCT DESIGN III

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/.5 PHY SCI	EST. FEES: $100

Prerequisites: Product Design II

PhySci

Concurrent Enrollment: N/A

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

Course Topics: This course allows for advanced work in any Drafting and Design Program of Study. This advanced work can be individualized to the specific program of study to allow for specialized study for the student. It may include project based learning or preparation for the end of program industry certification. Specific content and course design will be determined by the instructor in collaboration with the individual student.

ADVANCED ROBOTICS & AUTOMATED SYSTEMS

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/.5 MTH B	EST. FEES: $100

Prerequisites: Introductory Robotics course or equivalent

MthB

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

MthB

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

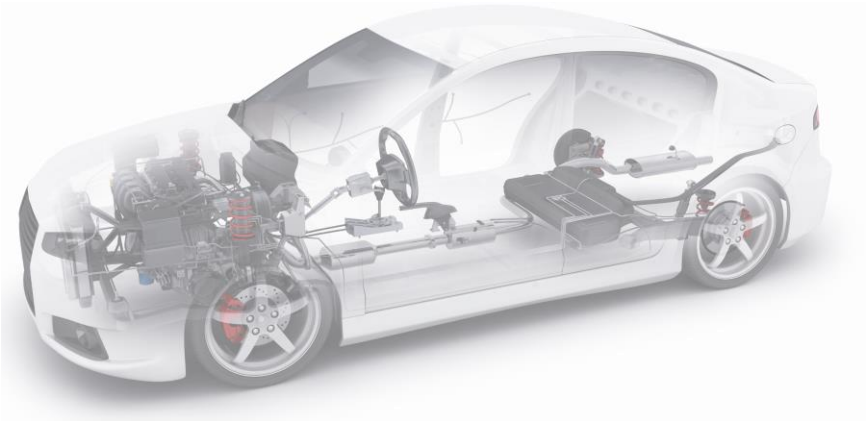
Maintenance and Light Repair (MLR) I
10th-12th Grade
Introduction to all things automotive.

→

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

Prerequisites: N/A

Concurrent Enrollment: Arapahoe Community College (ASE 101, 103, 122, 250, 264)*

ACC ARAPAHOE COMMUNITY COLLEGE

PhySci

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: Automotive Maintenance and Light Repair (MLR) explores automotive industry standards and terminology, career opportunities and classifications, shop operations and safety, tool identification and usage, diagnostic equipment identification and usage, automotive systems, tires and wheels, hydraulic braking systems, cooling systems, lubrication systems, and preventative maintenance. Also included is basic operation of automotive braking systems, operation, diagnosis and basic repair of disc, drum, and basic hydraulic braking systems. The basics of electrical systems, electronic systems, batteries, starting systems, charging systems, lighting systems, electrical instruments and accessories, and ignition systems will also be studied. This course focuses on the diagnosis and service of suspensions and steering systems and their components. Students who successfully complete all MLR courses will have the knowledge needed to pass the ASE certification exam for MLR. Students who pass the exam and meet the work-based requirement will be eligible and encouraged to enter the workforce as an ASE-Certified MLR Technician.

** Concurrent Enrollment credits can be taken in either MLR I or MLR II, but cannot be repeated*

TRANSPORTATION

AUTOMOTIVE TECHNOLOGY

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 I

Concurrent Enrollment: Arapahoe Community College (ASE 101, 103, 122, 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: MLR II is the second course in the Automotive Maintenance and Light Repair program of study and covers important skills and knowledge on becoming a professional service technician. The Maintenance and Light Repair II (MLR II) course prepares students for entry into Maintenance and Light Repair III. Students study automotive general electrical systems, starting and charging systems, batteries, lighting, and electrical accessories. Students who successfully complete all MLR courses will have the knowledge needed to pass the ASE certification exam for MLR. Students who pass the exam and meet the work-based requirement will be eligible and encouraged to enter the workforce as an ASE-Certified MLR Technician.

** Concurrent Enrollment credits can be taken in either MLR I or MLR II, but cannot be repeated*

AUTO SERVICE TECHNOLOGY MLR III HIGH PERFORMANCE

GRADES: 12	LENGTH: 1 YEAR	CREDITS: 2.0 CTE	EST. FEES: $95

Prerequisites: Maintenance and Light Repair (MLR) I and II or equivalent coursework

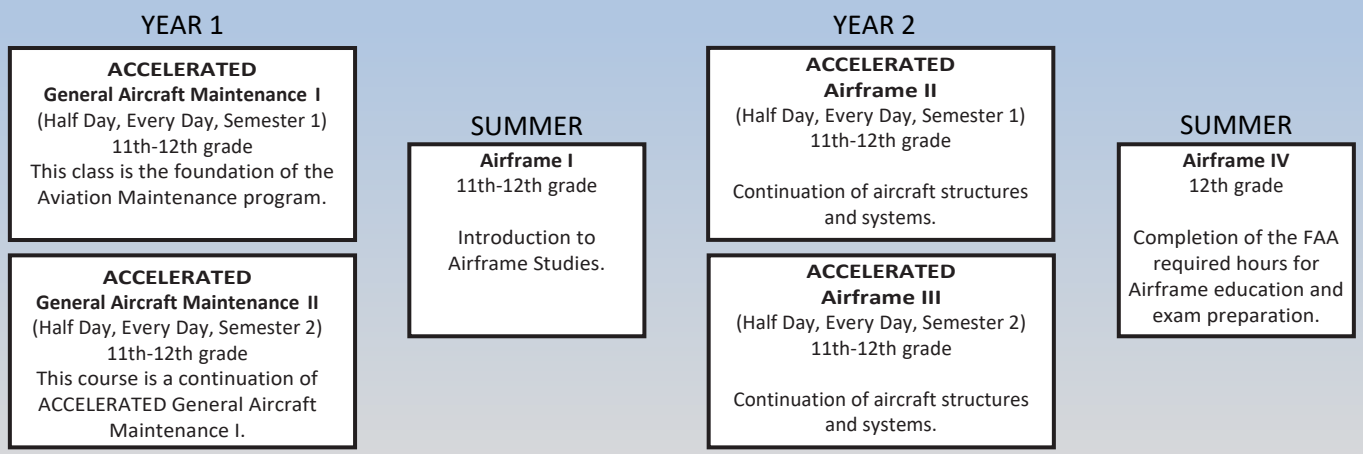
Concurrent Enrollment: N/A

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: Students learn advanced diagnostic techniques including high performance concepts, Skills USA, and Do you love automotive technology, but want to know more about how to make cars go fast? Do you have a mechanical mind, and don't just love working with cars, but want to maximize horsepower to achieve top speed at the race track? Does this sound like you? In our Automobile High Performance class, you will be part of a team that: Builds a high-performance engine and runs it on a specialized test stand, is exposed to all aspects of engine machining, learns how to tune engines for maximum output and drivability using various data acquisition tools, takes part in an off-site engine dynamometer run, learns to improve performance of engines and maintain peak performance of racing engines, and learns aspects of high-performance chassis, brake and suspension modifications including those on our in-house NASCARs. In addition, students will have opportunities to compete in our SkillsUSA program. Students study and service suspension and steering systems and brake systems. Students who successfully complete all MLR courses will have the knowledge needed to pass the ASE certification exam for MLR. Students who pass the exam and meet the work-based requirement will be eligible and encouraged to enter the workforce as an ASE-Certified MLR Technician.

TRANSPORTATION

TWO YEAR ACCELERATED AVIATION MAINTENANCE PATHWAY



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

MthB PhySci

Prerequisites: Completion of CCIC Math Assessment

Concurrent Enrollment: N/A

Certifications: Snap-on Multimeter, Snap-on Torque, Snap-on Torque Measurement

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

Prerequisites: General Aircraft Maintenance I & II

Concurrent Enrollment: N/A

Certification: N/A

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

MthB

Prerequisites: General Aircraft Maintenance I & II, Airframe I

Concurrent Enrollment: N/A

Certifications: N/A

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

Prerequisites: General Aircraft Maintenance I & II, Airframe I, II, & III

PhySci

Concurrent Enrollment: N/A

Certifications: N/A

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

YEAR 1	YEAR 2	SUMMER	YEAR 3	SUMMER
General Aircraft Maintenance I (Half-Day, Every Other Day, 1Yr) 10th-12th grade This class is the foundation of the Aviation Maintenance program.	**General Aircraft Maintenance II** (Half-Day, Every Other Day, 1Yr) 11th-12th grade This course is a continuation of General Aircraft Maintenance I.	**Airframe I** 11th-12th grade Introduction to Airframe Studies. .	**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.	**Airframe IV** 12th grade Completion of the FAA required hours for Airframe education and exam preparation.

GENERAL AIRCRAFT MAINTENANCE I

GRADES: 10-12	LENGTH: 1 Year	CREDITS: 1.0 CTE/ 1.0 MTH B	EST. FEES: $75

Prerequisites: Completion of CCIC Math Assessment

MthB

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

Prerequisites: General Aircraft Maintenance I

PhySci

Concurrent Enrollment: N/A

Certifications: Snap-on Torque, Snap-on Torque Measurement

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

Prerequisites: General Aircraft Maintenance I & II

Concurrent Enrollment: N/A

Certification: N/A

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

Prerequisites: General Aircraft Maintenance I & II; Airframe I is recommended

MthB

Concurrent Enrollment: N/A

Certifications: N/A

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

Prerequisites: General Aircraft Maintenance I & II, Airframe I, II, & III

PhySci

Concurrent Enrollment: N/A

Certifications: N/A

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.

TRANSPORTATION

AVIATION FLIGHT PATHWAY

AVIATION FUNDAMENTALS

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: 5 CTE/.5 MTH B	EST. FEES: $100

Prerequisites: N/A

Dual Enrollment: Metro State University of Denver (AES 1100), $50 additional fee per MSU credit, 6 credits

MthB

Certification: FAA Private Pilot Knowledge Examination preparation

Course Topics: This course presents the fundamentals of aviation for the beginning student which 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. It prepares the student for the Federal Aviation Administration (FAA) Private Pilot Knowledge examination.

DRONE PILOT

GRADES: 10-12	LENGTH: 1 SEMESTER	CREDITS: .5 CTE/.5 MTH B	EST. FEES: $100

Prerequisites: N/A

MthB

Concurrent Enrollment: N/A

Certifications: FAA Remote Pilot Certification (Part 107)

Course Topics: Concepts in this course include drone components, drone operation, drone pilot skills, drone pilot careers, airspace, weather, airport operations, authorizations and waivers and the regulations governing drone operations. At the end of the course students will be prepared to take the FAA Remote Pilot Exam (Part 107). This course would be an applied applications course and could include instruction in aerial photography for commercial purposes, recording instrumentation, topics in inspection for industrial purposes, and data analytics.