

The Career Development Center

2020-2021 Course Catalog

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The Career Development Center (CDC) is located at 1200 S. Sunset in Longmont, Colorado and is the Career and Technical Education (CTE) center for the St. Vrain School District and is one of eight CTE centers in the state of Colorado. The CDC offers classes that provide real-world, hands-on experiences in pathways that are high-wage, high-growth, and high-demand. These pathways provide students with opportunities to acquire knowledge and skills linked with specific post-secondary programs leading to a two-year or four-year degree, and provide students with industry recognized certifications giving them a jump start in their careers.

GENERAL INFORMATION

Registration

All students must request courses online through [RevTrak](#). Students may request enrollment in any class at CDC (subject to prerequisites) and will be notified by their home high school the beginning of May if they are accepted. Attendance, grades, credit completion, and student ICAP's, are considered when making decisions, ensuring that students are placed in appropriate classes.

Daily Schedule

1. Classes normally meet every other day for two blocks (some meet everyday)
 - a. A 1&2; 8:10-10:58 AM or A 3&4; 11:32-2:20 PM
 - b. B 5&6; 8:10-10:58 AM or B 7&8; 11:32-2:20 PM
2. On monthly late start days, CDC will operate an "open lab" format where students may come in and work on projects or catch up on other work as assigned.

Transportation

SVVSD buses run from all home high schools to and from the CDC daily. This is a free service for all district high school students.

Credit

All CDC courses are considered practical arts electives and count towards graduation requirements.

Concurrent Enrollment (College Credit)

- Many CDC courses also qualify for concurrent (college) credit through Front Range Community College (FRCC), and Metropolitan State University (MSU).
- Benefits of concurrent enrollment include:
 - Earning college and high school credit at the same time.
 - Courses count for certification/degree requirements.
 - No tuition cost, as long as the course is *passed with a C or better*
 - A jumpstart towards a career
- Concurrent courses are offered in the following program areas:
 - Automotive Technology - All courses
 - Health Sciences - Exploration of Health Care, Medical Terminology
 - Interactive Media Technology - All courses
 - Culinary Arts - ProStart 1 & 2
 - Welding and Fabrication Technology - All courses
- All students enrolled in these classes need to complete registration paperwork for **both SVVSD and FRCC/MSU**
- **SVVSD Concurrent Enrollment Agreement:**
https://drive.google.com/a/svvsd.org/file/d/0B9uX8ZmVGqbTa0J5RDZSTkFIUHZFnkF4dWc1NldfRk9UZkVZ/view?usp=drive_web
- **Front Range Community College** - <https://www.frontrange.edu>
 - Apply now
 - Sign up for College Opportunity Fund (COF) Stipend
 - Register for classes
- **Metropolitan State University** - <https://msudenver.edu/>
 - Fill out paper or online application

Freshman Courses

- CDC has courses available for freshmen in the following Pathways:
- Agriscience
 - Introduction to Agriscience, Animal Science, Equine Science, Vet Science
 - Greenhouse I, Irrigation Technology, Landscape Management
- Automotive Technology
 - Maintenance and Light Repair
- Health Sciences
 - Exploration of Healthcare, Medical Terminology
- Engineering Technology
 - Introduction to Engineering, Design for Manufacturing, CAD Drafting II
- Culinary Arts
 - ProStart I
- Manufacturing Technology
 - Principles of Manufacturing

Please watch the CDC website for up-to-date information and for additional opportunities not listed in this printing: cdc.svvsd.org

Contact Kate Topham, CDC Counselor with any questions: 720-494-3964, or by email at topham_katherine@svvsd.org



AGRICULTURAL SCIENCES



Through agricultural education, students are provided opportunities for leadership development, personal growth, and career success. Agricultural education instruction is delivered through three major components: classroom/laboratory instruction (contextual learning), Supervised Agricultural Experience programs (work-based learning), student leadership organizations (National FFA Organization).

Pathway Requirements:

- Students may take coursework in either the animal or plant pathways.
- All students will develop personal, leadership, and career skills through FFA participation.
- All students will develop and maintain an individual Supervised Agricultural Experience Program and maintain online records through **The AET**.
- *All students wishing to take coursework within the Agricultural Sciences Pathway are required to take **Introduction to Agriscience, CTE 9302** as a prerequisite for any additional coursework.*

Introduction to Agriscience, CTE 9302

Introduction to Agriscience is designed to teach students with an interest in agriculture about the careers and opportunities in the industry and to give students a basic knowledge of all career pathways of agriculture: Animal, Plant, Natural Resources and Environmental Science, Agribusiness, Food Products, and Power, Structure, and Technology. Students will be introduced to the concepts and principles of agriculture in society, develop career and educational goals, as well as work on personal, leadership, and industry skills through their Supervised Agricultural Experience (SAE).

Grades 9-12; 1 Semester (Fall); 1.0 Practical Arts Credit; PreRequisite: N/A

Advanced Agriscience, CTE 9311 A&B

Advanced Agriscience is designed to further expose students to all aspects of the agriculture industry. Students will have the opportunity to focus their interests and work independently in order to be best prepared for careers and postsecondary education within the Agriculture industry. Students will analyze the concepts and principles of agriculture in society, revise their career and educational goals, enhance personal, leadership, and career skills, and evaluate their progress and plan for achievement through continued work within the SAE.

Grades 10-12; 2 Semesters; 2.0 Practical Arts Credit; PreRequisite: CTE 9302 & instructor approval

Agribusiness, CTE 9315 A&B

Agribusiness is designed to expose students to the vast opportunities available within business related careers. It will be taught as an independent study in order to fit any student's schedule; students are still required to attend during their scheduled blocks each day that school is held at CDC. Content areas include: Introduction to Business, Starting and Operating a Business, Financing, Sales and Marketing, Commodity

Trading, Economics, and Agricultural Law. Students will analyze the concepts and principles of agriculture in society, revise their career and educational goals, enhance personal, leadership, and career skills, and evaluate their progress and plan for achievement through continued work within the SAE.

Grades 10-12; 2 Semesters; 2.0 Practical Arts Credit; PreRequisite: CTE 9302 & instructor approval

Animal Science, CTE 9324

Animal Science is an advanced science-based course designed to introduce students to the production and management of agriculturally important animals. Students will understand industry and scientific terminology, analyze and identify external anatomy and internal body systems and physiology, including: nutritional needs, reproduction methods and processes, genetic influence, health, disease, and facility management. Students will use species-specific evaluation and selection methods. Students will analyze the concepts and principles of agriculture in society, revise their career and educational goals, enhance personal, leadership, and career skills, and evaluate their progress and plan for achievement through continued work within the SAE.

Grades 9-12; 1 Semester; 1.0 Practical Arts Credit; PreRequisite: CTE 9302

Equine Science, CTE 9325

Equine Science is an advanced science-based course designed to introduce students to the production and management of horses. Students will understand industry and scientific terminology, analyze and identify external anatomy and internal body systems and physiology, including: nutritional needs, reproduction methods and processes, genetic influence, health, disease, and facility management. Students will use species-specific evaluation and selection methods. Students will analyze the concepts and principles of agriculture in society, revise their career and educational goals, enhance personal, leadership, and career skills, and evaluate their progress and plan for achievement through continued work within the SAE.

Grades 9-12; 1 Semester; 1.0 Practical Arts Credit; PreRequisite: CTE 9302

Veterinary Science, CTE 9328

Veterinary Science is designed to expose students to all aspects of the veterinary field. The course will cover: Animals in Society and in Research, Veterinary Laws and Ethics, Business Management, Common Veterinary Medical Terminology and Equipment, Mathematical Applications in Veterinary Science, External and Internal Anatomy in Dogs, Cats, and Livestock, Animal Behavior, Veterinary Medical Practices in Animal Handling and Identification, Clinical Exams and Vital Signs, Blood Samples, Sutures, and Injections, Laboratory, Hospital and Surgical Procedures, and Pharmacology. Students will analyze the concepts and principles of agriculture in society, revise their career and educational goals, enhance personal, leadership, and career skills, and evaluate their progress and plan for achievement through continued work within SAE.

Grades 9-12; 1 Semester; 1.0 Science Credit; PreRequisite: CTE 9302.

Greenhouse I and II, CTE 9351 A&B and CTE 9353 A&B

Introduces students to the biology of horticultural plants and basic horticultural practices while caring for the program's on-site greenhouse. Also emphasized are greenhouse design, systems, management, and the major greenhouse crops and their cultural needs. Students are responsible for planting, watering, and cultivating a variety of flowers, bedding plants and vegetables. Students will also analyze the concepts and principles of agriculture in society, revise their career and educational goals, enhance personal, leadership, and career skills, and evaluate their progress and plan for achievement through continued work within the SAE.

Grades 9-12; 2 Semesters; 2.0 Practical Arts Credits; PreRequisites: CTE 9302 or CTE 9351 A&B

AUTOMOTIVE TECHNOLOGY



Pathway Requirements:

- *Students wishing to take coursework within the Automotive Technology Pathway are required to take **Maintenance and Light Repair, CTE 9803** as a prerequisite for any additional coursework.*

Maintenance and Light Repair, CTE 9803 A&B **Industry Certificate(s) Available**

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.

Grades 9-12; 2 Semesters; 2.0 Practical Arts Credits; PreRequisite: N/A

FRCC: ASE 101, ASE 110, ASE 120, & ASE 123 ***These are Front Range Community College classes taught at CDC and require a separate enrollment and registration process for all students.***

Brake Systems, CTE 9802 **Industry Certificate(s) Available**

This course examines operation, diagnosis, service and repair of drum, disc, basic hydraulic, anti-lock, power assist units and machine operations of today's automobile brake systems. This class also teaches skills to perform service checks and procedures to automotive foundation braking systems and identify components and types of Anti Lock Braking Systems "ABS" as well as traction control systems.

Grades 10-12; 1 Semester; 1.0 Practical Arts Credit; PreRequisite: CTE 9803 A&B

FRCC: ASE 111 & ASE 210 ***These are Front Range Community College classes taught at CDC and require a separate enrollment and registration process for all students.***

Suspension and Alignment, CTE 9815 **Industry Certificate(s) Available**

This course examines: design, diagnosis, inspection, and service of suspension and steering systems used on light trucks and automobiles. Course includes power steering, Supplemental Restraint System "SRS" (or airbags) and all alignment procedures on industry standard equipment.

Grades 10-12; 1 Semester; 1.0 Practical Arts Credit; PreRequisite: CTE 9803 A&B

FRCC: ASE 140 & ASE 141 ***These are Front Range Community College classes taught at CDC and require a separate enrollment and registration process for all students.***

Engine Performance, CTE 9821 **Industry Certificate(s) Available** **This class meets every day**

Areas of instruction include intake and exhaust systems, ignition system diagnosis and service, fuel system diagnosis and service, carburetor diagnosis and service, fuel injection diagnosis and service, emission control diagnosis and service, and on-board diagnostic system and service.

Grades 11-12; 1 Semester; 2.0 Practical Arts Credits; PreRequisite: CTE 9803 A&B

FRCC: ASE 134, ASE 231, & ASE 233 ***These are Front Range Community College classes taught at CDC and require a separate enrollment for all students.***

Engine Repair, CTE 9825 **Industry Certificate(s) Available**

Instruction combines lecture and laboratory experiences in the removal and installation of the automotive engine, transmission, transfer case, and clutch assembly from and into front and rear wheel drive vehicles.

Grades 11-12; 1 Semester (Fall/Spring); 1.0 Practical Arts Credit; PreRequisite: CTE 9803

FRCC: ASE 130 & ASE 160 ***These are Front Range Community College classes taught at CDC and require a separate enrollment and registration process for all students.***

ENGINEERING TECHNOLOGY



Introduction to Engineering, CTE 84110 **Industry Certificate(s) Available**

This introductory course teaches students the principles and foundations of engineering across different disciplines while learning project management and engineering skills. Students will learn the engineering design process, prototyping, testing, and evaluating products, and reiteration and will develop solutions to both teacher and student directed challenges. They will also develop a solid foundation in Solidworks, a 3D CAD design software and will have the opportunity to receive their Certified Solidworks Associate (CSWA) certificate. This course provides the foundational learning for more advanced engineering coursework.

Grades 9-12; 1 Semester; 1.0 Practical Arts Credit; PreRequisites: N/A

Design for Manufacturing, CTE 9131

Industry partners are constantly challenged by the lack of understanding between their engineers and their manufacturing technicians. Design for Manufacturing bridges that gap by helping students develop the skills, strategies, and mindset in designing products in a way that can be realistically manufactured. Students will learn design principles, and machining and manufacturing processes in this class.

Grades 9-12; 1 Semester; 1.0 Practical Arts Credit; PreRequisite: CTE 84110

CAD Drafting II, CTE 9771 **Industry Certificate(s) Available**

Students will continue to explore computer design utilizing advanced features of Solidworks including simulation analysis. They will also learn CAM software for use with Computer Numerical Controlled (CNC) machines. Students completing this course will have the option to obtain the Certified Solidworks Professional (CSWP) and the CSWP-CAM certifications.

Grades 10-12; 1 Semester; 1.0 Practical Arts Credit; PreRequisite: CTE 84110

Mechatronics, CTE 9775 A&B

Mechatronics explores the combination of mechanical and electrical systems. Students will learn about mechanics principles, digital electronics, coding, programmable logic controls, hydraulics and pneumatics, and systems integration. This class will especially appeal to students interested in pursuing robotics and want to expand their knowledge beyond VEX or other basic robotics courses.

Grades 10-12; 2 Semesters; 2.0 Practical Arts Credits; PreRequisite: CTE 9771

Materials Engineering, CTE 9132

Materials Engineering is the study of the characteristics and uses of various materials that are utilized in science, technology, and manufacturing. Students will learn the properties of these materials along with how and why they are used for multiple purposes. The course will cover the structure and use of metals, polymers, plastics, glass, ceramics, concrete and other composites. Students will perform tests and experiments utilizing these materials.

Grades 10-12; 1 Semester; 1.0 Practical Arts Credit; PreRequisite: CTE 9131

Plastics Production, CTE 9133

This class will delve more in depth with the properties and application of plastics. Specifically, students will be introduced to and work with, three of the most common plastic production methods utilized in industry: 3D printing, thermoforming, and injection molding.

Grades 10-12; 1 Semester; 1.0 Practical Arts Credit; PreRequisite: CTE 9132

HEALTH SCIENCES



Pathway Requirements:

- *Students wishing to take coursework within the Health Sciences Pathway are required to take **Exploration of Healthcare, CTE 9515 and Medical Terminology & Clinical Skills, CTE 9516 as a prerequisite for any additional coursework.***
- *All students taking coursework in the Health Sciences pathway are required to participate in HOSA (Health Occupation Students of America)*

Exploration of Healthcare, CTE 9515

This is one of two introductory courses within the Health Science Pathway and consists of content from two FRCC classes. This course will cover the history, employee characteristics, computers, and legal and ethical issues within the industry, and students will be able to explore the numerous careers within the industry as well. They will also learn the computer technology, file management, and PC system components used in healthcare settings as well as the word processing, spreadsheets, and personal information management software used. It introduces the Electronic Health Record (EHR), its content, EHR software, EHR management, patient management and scheduling, and privacy and security of the EHR. Lastly, students will learn and apply the legal concepts utilized in medical careers, which will establish a foundation for ethical behavior and decision-making.

Grades: 9-12; 1 semester; 1.0 Practical Arts Credit; CoRequisite: CTE 9516

FRCC: HPR 106 - Law & Ethics for Health Professions & HPR 119 - Computers in Health Care

These are Front Range Community College classes taught at CDC with concurrent credit attached which require a separate enrollment and registration process for all students.

Medical Terminology & Clinical Skills, CTE 9516

This is one of two introductory courses within the Health Science Pathway and contains content from two FRCC classes as well. Students will demonstrate knowledge of medical terminology with an emphasis on combining complex prefixes, roots and suffixes and includes terms related to diagnostic tools of body systems, as well as commonly used medical abbreviations. They will also learn the pathophysiology for major body systems and apply medical terminology knowledge in interpreting the medical record. This second part of the course provides valuable hands-on experience with the basic clinical skills required for assisting with patient care, explaining the theory behind each skill as well as the proper technique for performing it. They will learn about the performance of blood-borne pathogens, Occupational Safety and Health Administration (OSHA) regulations, medical asepsis, procedural gloving, patient gowning, positioning, and taking of vital signs.

Grades 9-12; 1 semester; 1.0 Practical Arts Credit; CoRequisite: CTE 9515

FRCC: HPR 208 - Medical Terminology & MOT 136 Introduction to Clinical Skills

These are Front Range Community College classes taught at CDC with concurrent credit attached which require a separate enrollment and registration process for all students.

Anatomy and Physiology for Health Care, CTE 9517 A&B

This academically rigorous course builds upon concepts learned in biology and focuses specifically on human anatomy and physiology and is intended for students interested in any career within the healthcare industry. Through lecture, labs, dissections, and other activities, students will learn how the structures of the human body (anatomy) function and maintain homeostasis of the organism (physiology), as well as the pathophysiology of common diseases and injuries. The course utilizes the Anatomy in Clay curriculum and provides students an opportunity to participate in a cadaver lab. Students will also learn Hands Only CPR, First Aid, and Universal Precautions with Personal Protective Equipment. All twelve human body systems will be covered, as well as the different types of tissue and cell chemistry.

Grades 10-12; 2 Semesters; 2.0 Practical Arts Credits; PreRequisites: CTE 9515 & CTE 9516

Introduction to Sports Medicine, CTE 9552

Introduction to Sports Medicine is a one semester class that introduces students to athletic training procedures as they relate to the athlete, physical educator, coach, and athletic trainer. The course includes a history of the athletic training profession, ethics, proper documentation of injuries, taping, and the principles of athletic training. Topics covered in this class include an overview of all aspects of athletic training, prevention and treatment of common athletics-related injuries, as well as general anatomy and physiology review related to sports and athletics.

Grades 10-12; 1 semester; 1.0 Practical Arts Credit; Prerequisites: CTE 9515 & CTE 9516

Exercise and Health Science, CTE 9555 **Industry Certificate(s) Available**

The Exercise and Health Science course is for the individual who enjoys physical activity and is interested in learning the science and psychology involved in adopting an active and healthy lifestyle and working in the industry. Students acquire skills in strength training, cardiovascular training, fitness assessment, writing programs, motivation, and communication techniques. Students study human anatomy and physiology, energy production, exercise modalities, first aid and CPR skills, and medical terminology. Students will have the opportunity to use this knowledge and apply these skills during job shadowing in fitness, sports, and research facilities. On completion of course, students will be able to sit for the ACE certification exam.

(Student must be 18 years old by end of Senior Year)

Grade 12; 1 semester; 1.0 Practical Arts Credit; Prerequisite: CTE 9522

Dental Assisting I, CTE 9501 A&B

This class gives the student a basic understanding of the history of dentistry, dental team members' jobs, careers, infection control, the anatomy of the head, anatomy of the oral cavity, histology of the teeth structures, gum structures, oral hygiene, polishing, tooth decay, tooth names, numbers and positioning, impressions, whitening trays, communication skills, ethics, and laws.

Grades 10-12; 2 Semesters; 2.0 Practical Arts Credits; Prerequisite: CTE 9515 & CTE 9516

Dental Assisting II, CTE 9511 A&B **Industry Certificate(s) Available**

Dental Assisting II is designed to instruct students in the treatment rooms and laboratory on all aspects of the dental assistant's duties on the job including: instrument names and passing of them, mixing and passing materials, suctioning, charting, and digital imaging. The course fulfills the radiology and infection control requirements of the Colorado State Dental Practice Act for certification.

Grades 10-12; 2 Semesters; 2.0 Practical Arts Credits; PreRequisite: CTE 9501 A&B

Emergency Response, CTE 9521 **Industry Certificate(s) Available**

Emergency Response is a one semester course based on the National Transportation Safety Board recommendations for first responders and is geared for the student who wants in-depth knowledge and information in pre-hospital emergency care. These individuals, often called "first responders," include but are not limited to firefighters, law enforcement personnel, lifeguards, ski patrollers, emergency response teams, and athletic trainers. The course features lecture, discussion, decision-making activities, skill practice, and video demonstration.

Grades 10-12; 1 Semester; 1.0 Practical Arts Credit; PreRequisites: CTE 9515 & CTE 9516

Emergency Medical Technician, CTE 9560 A&B **Industry Certificate(s) Available**

The Emergency Medical Technician course prepares the EMT student to provide pre-hospital assessment and care for patients of all ages who have a variety of medical conditions and traumatic injuries. The course features lecture, discussion, demonstration, and skill practice, as well as a supervised clinical experience. This course prepares students to take the National Registry Certification Test and for employment in industry.

(Student must be 18 years old by end of Senior Year)

Grade 12; 2 Semesters; 2.0 Practical Arts credits; Prerequisites: CTE 9515 & CTE 9516

Nursing Assistant, CTE 9531 **Industry Certificate(s) Available**

Nursing Assistant is for the 12th grade student interested in caring for others. Upon successful completion, students are prepared to take the written and skills exams for Colorado State Board of Nursing; Nurse Aide certification at a cost of \$123.00. This course includes basic theory and skills needed for working as a nursing assistant in a long-term care facility, home health care agency, or a hospital. Students will be trained in American Heart Association Basic Life Support (BLS) for the Healthcare Provider CPR. Time outside of class will be required for clinical experience.

(Students must be a senior in order to be accepted into the program.)

Grade: 12; 1.0 Semester; 1.0 Practical Arts Credit; PreRequisites: CTE 9515 & CTE 9516 and Anatomy and Physiology (Either at CDC or home high school)

INTERACTIVE MEDIA TECHNOLOGY



Introduction to Visual Communications, CTE 9038

In Introduction to Visual Communications students survey visual communications, its history, and its impact on society. Students will demonstrate an understanding of the graphic design and illustration fields today, as well as the tools and media used. It serves as the foundational course for graphic design and illustration majors by exposing students to the various products available within the Adobe suite.

Grades 9-12; 1 Semesters; 1.0 Practical Arts Credits; PreRequisite: N/A

FRCC: MGD 117 - Intro. to Visual Communications

These are Front Range Community College classes taught at CDC and require a separate enrollment and registration process for all students.

Adobe Photoshop, CTE 9029 **Industry Certificate(s) Available**

Photoshop concentrates on the high-end capabilities of Adobe Photoshop as an illustration, design, and photo retouching tool. Students explore a wide range of selection and manipulation techniques that can be applied to photos, graphics, and videos. The curriculum follows guidelines set by Adobe as part of their Adobe Certified Associate exams. At the end of this course, students have the opportunity to take the Adobe Certified Associate exam in Visual Communication Using Adobe Photoshop.

Grades 9-12; 1 Semester; 1.0 Practical Arts Credits; PreRequisite: CTE 9038

FRCC: MGD 111 - Photoshop I ***This is a Front Range Community College class taught at CDC and requires a separate enrollment and registration process for all students.***

Adobe Illustrator, CTE 9030 **Industry Certificate(s) Available**

Acquaints students with the processes of a vector-drawing program on the computer. Students learn how to use the tools to create digital artwork that can be used in web design, print media and digital screen design. The class covers relevant tools and techniques as well as industry standards, delivery methods, and output. At the end of this course, students are given the opportunity to take the Adobe Certified Associate exam to earn an industry recognized credential.

Grades 9-12; 1 Semester; 1.0 Practical Arts Credits; PreRequisite: CTE 9038

FRCC: MGD 112 - Adobe Illustrator I ***This is a Front Range Community College class taught at CDC and requires a separate enrollment and registration process for all students.***

Adobe InDesign, CTE 9031 **Industry Certificate(s) Available**

Introduces students to InDesign, a page layout program that integrates seamlessly with other Adobe design programs. InDesign delivers creative freedom and productivity to DTP. Class discussions and independent projects supplement hands-on classroom work. At the end of this course, students are given the opportunity to take the Adobe Certified Associate exam to earn an industry recognized credential.

Grades 9-12; 1 Semester; 1.0 Practical Arts Credits; PreRequisite: CTE 9038

FRCC: MGD 114 - Adobe InDesign ***This is a Front Range Community College class taught at CDC and requires a separate enrollment and registration process for all students.***

Digital Video Production, CTE 9026 A&B **Industry Certificate(s) Available**

Digital Video Production combines the content of two FRCC courses. In the first semester students will get an introduction to the principles and techniques of video production, including: camera operation, basic script writing, lighting, sound, and basic digital editing. Detailed examination of three elements of filmmaking: pre-production, production, and post-production, as well as aesthetics, will be included. Second semester students will continue working on these elements, but with an emphasis on post production including: media management, editing tools, titles, motion control, transitions, and special effects. Students will make a variety of films in this class and are encouraged to enter a local film festival. The class covers relevant tools and techniques as well as industry standards, delivery methods, and output. Upon completion, students will be able to take the Adobe Certified Associate exam in Video Communication Using Adobe Premiere Pro.

Grades 9-12; 2 Semesters; 2.0 Practical Arts Credits; PreRequisite: N/A

FRCC: MGD 104 - Videography & MGD 164 - Digital Video Editing I ***These are Front Range Community College classes taught at CDC and require a separate enrollment and registration process for all students.***

MANUFACTURING TECHNOLOGY



Principles of Manufacturing, CTE 9130 A&B **Industry Certificate(s) Available**

In this introductory one-year course, students will gain knowledge and skills in the application, design, production and assessment of products, services and systems and how it applies to the manufacturing industry. The study of manufacturing allows students to reinforce, apply and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems and settings they would experience in the industry. Students will gain a foundation in industry areas such as 3D design software, blueprinting, mechanical engineering, optics, electrical systems, fabrication, and machining. In addition to applied academic and technical knowledge and skills, students will gain an understanding of career opportunities available in manufacturing and what employers require to gain and maintain employment in these careers, as well as the opportunity to receive industry level certification.

Grades 9-12; 2 Semesters; 2.0 Practical Arts Credits; PreRequisite: N/A

Advanced Manufacturing, CTE 9134 A&B **||New Course||** **Industry Certificate(s) Available**

In this one-year course, students will advance in skills obtained in Principles of Manufacturing. This second year of manufacturing focuses heavily on four advancement areas of study: Electronics, Optics, Machining, and Welding. During this year, students will gain hands on experience in the four areas of study and develop projects related to current industry trends. Students in Advanced Manufacturing will have various opportunities for industry level certifications. Students will partner with local businesses to gain hands on experience through tours, guest speakers, and projects.

Grades 9-12; 2 Semesters; 2.0 Practical Arts Credits; PreRequisite: CTE 9130 A&B

PROSTART AND CULINARY ARTS



Students are able to earn a National ProStart Certification of Achievement by completing ProStart 1 and ProStart 2 with a "C" or better, pass both national exams with a "C" or better, complete 400 work experience hours, and meet the guidelines of the ProStart Competency Checklist.

Prostart I, CTE 9672 A&B **Industry Certificate(s) Available**

ProStart gives students a platform to discover new career opportunities by providing hands-on training and relevant industry experience. This nationally certified, competency-based program covers all facets of the hospitality industry and includes instruction in food preparation, lodging, customer service, and business management. By completing ProStart Level 1, students master fundamental management and culinary

skills needed for success – like leadership, accountability, teamwork and responsibility. Skill areas will include, but are not limited to: Communication, Interviewing & Resumes, Industry Careers, Customer Service, Workplace and Food Safety, Fruits & Veggies, Stocks, Sauces, & Soups, Cooking Methods, and Potatoes & Grains. Students rotate through production and service stations while serving the community at the Sunset Cafe, our on-site restaurant, and will be able to earn the ServSafe Food Handler Certification.

Grades 9-12; 2 Semesters; 2.0 Practical Arts Credits; PreRequisite: N/A

MSU: RST 1550 - Food Fundamentals ***This is a Metropolitan State University class taught at CDC with concurrent credit attached and requires a separate enrollment and registration process for all students.*

Prostart II, CTE 9673 A&B **Industry Certificate(s) Available**

ProStart gives students a platform to discover new career opportunities by providing hands-on training and relevant industry experience. This nationally certified, competency based program covers all facets of the industry and includes instruction in: food preparation, lodging, customer service, and business management. Skill areas will include, but not limited to Breakfast Food & Sandwiches, Nutrition, Cost Control, Salads & Garnishing, Purchasing & Inventory, Meat, Poultry, & Seafood, Marketing, Desserts & Baked Goods, Sustainability in the Industry, and Global Cuisine. Students also learn guest relations along with how to keep accurate financial records for the profit and loss of the operation. Students are rotated through production and service stations, while serving the community at our restaurant, the Sunset Cafe.

Grades 10-12; 2 Semesters; 2.0 Practical Arts Credits; PreRequisite: CTE 9672 A&B

MSU: RST 2550 - Food Preparation Science

***This is a Metropolitan State University class taught at CDC with concurrent credit attached and requires a separate enrollment and registration process for all students.*

Baking and Pastry, CTE 9680

In addition to reviewing and continued practice of safety and sanitation procedures, students will be introduced to basic baking terminology and measurement, baking percentages and ratios, ingredients, quick bread/yeast/lamination dough, cakes, chocolates, pies, pastries, cookies, planning and organization of bakery production, and dessert artistry.

Grades 10-12; 1 Semester; 1.0 Practical Arts Credits; PreRequisite: CTE 9672 A&B

WELDING AND FABRICATION TECHNOLOGY



Welding and Fabrication I CTE 9901 A&B

Welding and Fabrication I provides the foundational understanding of welding and welding processes. In this course students will learn industry based safety standards and become familiar with the following welding processes: Oxyacetylene welding, torch cutting, ARC and MIG welding. Students will become familiar with basic blueprint reading, weld symbols, welding-related math, and measurement. As their skill level is developed, small projects will be introduced throughout the year. Students will have the opportunity to engage in the SkillsUSA student organization, which incorporates leadership, service learning, and competitions to demonstrate skill level attainment.

Grades 10-12; 2 Semesters; 2.0 Practical Arts Credit; PreRequisite: N/A

FRCC WEL 100, WEL 101, & WEL 103 ***These are Front Range Community College classes taught at CDC and require a separate enrollment and registration process for all students.***

Welding and Fabrication II, CTE 9911 A&B **Industry Certificate(s) Available**

Welding and Fabrication II students will have the opportunity to refine what they learned in Level I as well as become proficient in more advanced welding processes such as SMAW, GMAW, and GTAW. Students will practice utilizing the various positions associated with each, and demonstrate proficiency through both visual and destructive testing techniques. In addition, they will identify welding symbols on drawings, read detail drawings, identify physical characteristics and mechanical properties of metal, explain pre and post heating of metals, and identify equipment and filler metals utilized in these processes. Through the course of the

year, students will have the opportunity to create more advanced welding projects for the community as well as engage in the SkillsUSA student organization, which incorporates leadership, service learning, and competitions to demonstrate skill level attainment.

Grades 10-12; 2 Semesters; 2.0 Practical Arts Credit; PreRequisite: CTE 9901

FRCC WEL 104, & WEL 110 ***These are Front Range Community College classes taught at CDC and require a separate enrollment and registration process for all students.***

Welding and Fabrication III, CTE 9921A&B **Industry Certificate(s) Available**

In this course the student will build upon their prior learning in Level II and can expect to engage in more advanced welding processes. These processes include plasma cutting and FCAW and TIG welding utilizing alloys such as aluminum and stainless steel. Advanced blueprint reading, drawing and design, specifications, billing of materials, and Welding Procedure Specifications (WPS) will also be covered. Students will engage in advanced layout and fabrication processes to create projects for the community and engage in the SkillsUSA student organization, which incorporates leadership, service learning, and competitions to demonstrate skill level attainment.

Grades 11-12; 2 Semesters; 2.0 Practical Arts Credit; PreRequisite: CTE 9911 ***These are Front Range Community College classes taught at CDC and require a separate enrollment and registration process for all students.***

INTERNSHIPS

CTE Internship, CTE 9999

Students participating in a CDC program area are eligible to participate in industry specific internships of their choice. Internships can be either paid or unpaid. Students may earn up to .5 elective credit for every 60 hours spent on the internship. Contact Kate Topham, CDC Counselor to schedule an appointment at (303) 772-3333 or by email at topham_katherine@svvsd.org

Grades 10-12; 1 semester; 0.5+ Elective Credit; Prerequisite: N/A