

Career and Technical Education Center Course Offerings 2016-17

SKILLED TRADES & TECHNICAL SCIENCES

V01 Collision Repair 1

Level: 10-12

Course Length: 1 semester

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 15 Total (V01=10 credits; A55:Studio Art 1=5 credits)

Graduation Requirement: Practical Experience/Other & Fine Arts

This course is an overview and intermediate instruction in the use of air, electric, and hydraulic tools and equipment; paint spray equipment and techniques; parts alignment and replacement; frame repair, detailing, and shop management. Students learn basic skills and techniques in welding, structural and non-structural repair, plastic and adhesive repairs and prep for refinishing. Students also explore career pathways, post-secondary options, and career search techniques such as applications preparation, resume and cover letter writing, and interviewing skills.

V02 Collision Repair 2

Level: 10-12

Course Length: 1 semester

Prerequisites: ALG 1 A/B; LA9 A/B; V01; Collision Repair 1

Credits: 15 Total (V02=10 credits; A56:Studio Art 2=5 credits)

Graduation Requirement: Practical Experience/Other & Fine Arts

This course is an overview/review of advanced instruction in the use of air, electric, and hydraulic tools and equipment; paint spray equipment and techniques; parts alignment. Covers advanced instruction in the use of air, electric, and hydraulic tools and equipment; paint spray equipment and techniques; parts alignment, straightening, and replacement; and frame repair. Students learn advanced skills and techniques in welding, structural and non-structural and major-damage repair, plastic repair, and refinishing. Students continue studies and practice in shop management skills, customer service and repair cost estimating. They can specialize in a specific area of interest. Students also explore career pathways, post-secondary options, and career search techniques such as applications preparation, resume/letter writing, and interviewing.

V113 Auto Shop Services

Level: 10-12

Course Length: 1 semester

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 15 Total (V113=10 credits; L34:Public Spkg=5 credits; XMM:Money Mgt Online)

Graduation Requirement: Practical Experience/Other, Communications & Money Mgt.

The purpose of this Colorado Community College Career Technical Education Auto Program is to provide students with safety instruction in the shop and on the automobile. Emphasis is placed on the proper use and care of test equipment, precision measuring and machining equipment, gaskets, adhesives, tubing, wiring, jacks, presses, and cleaning equipment and techniques. The program is a general vehicle maintenance and repair program that covers engine sealing requirements and repair procedures; engine fasteners, bolt torque and repair of fasteners. The course will also cover cooling system and basic engine maintenance. Teaches students how to perform basic engine diagnosis to determine condition of engine. This will include engine support systems. Customer relations, workplace competencies and soft skills are learned. Customer Service, entrepreneurship, running a small business, Workplace Competencies/ Postsecondary and Workforce Readiness and soft skills are also a main focus. The lab experience continues to build upon the principles learned. This program offers a pathway to NATEF Certification.

V110 Suspension and Steering Systems

Level: 10-12

Course Length: 1 semester

Credits: 15 credits in V110

Prerequisites: ALG 1 A/B; LA9 A/B

Graduation Requirement: Practical Experience/Other

This is a Colorado Community College Systems approved Career and Technical Education beginning class, of specifics of the automotive field. Students learn the operation of automotive braking systems, tire & wheel balancing, and steering & suspension systems (alignments). This program focuses on steering and suspension systems and diagnostics. Knowledge and hands on practice is also included in wheel and tires, car inspections, basic electrical, basic brakes, wheel alignment, and customer relations and service. Students practice hands-on skills while repairing vehicles to industry standards. The program includes operation, diagnosis, and basic repair of disc brakes, drum brakes, and basic hydraulic systems. As students' progress, the program covers the operation and theory of the modern automotive braking systems, including operation, diagnosis, service, and repair of the anti-lock braking systems, power assist units and machine operations of today's automobile. Students continue studies and practice in shop management skills, customer service and repair cost estimating, specializing in a specific area of interest. Postsecondary and workforce readiness and soft skills are integrated throughout the program, and teamwork and leadership opportunities are practiced on a continuing basis. This program offers a pathway to NATEF Certification.

V89 Basic Welding

Level: 10-12

Course Length: 1 semester

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 15 Total (V89=10 credits; L31:Communication=5 credits)

Graduation Requirement: Practical Experience/Other & Communications

This course will instruct students in basic welding methods. It is an entry level course designed to teach the basics of several different welding and metal cutting methods. Students will learn about general shop and metal tool safety, as well as welding safety. The welding methods covered include: Oxy-Acetylene welding and cutting, GMAW / MIG / Flux-Core wire feed and SMAW (stick arc welding). Plasma Arc Cutting is introduced.

HEALTH SCIENCE, CRIMINAL JUSTICE AND PUBLIC SAFETY

V114 Introduction to Criminal Justice

Level: 10-12

Course Length: 1 semester

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 15 Total (V114=10 credits; L29:Technical Writing=5 credits)

Graduation Requirement: Practical Experience Other & LA Elective

Been watching a lot of cop shows lately? Have you wondered about the portrayal of officers on these shows? Can the police ever really bust through your front door or do they always have to knock first? What are the limits of police interrogation? Must the police always read a suspect their Miranda Rights when taken into custody? What the reality of police work is and how the three sections of the criminal justice system (law enforcement, the courts, and corrections) interact is the focus of this course. Not only will students learn about the realities of the criminal justice system and how the three branches work to achieve justice, they will also apply their knowledge in a practical way by investigating a mock crime scene, writing search and arrest warrants, arguing a Motion to Suppress Evidence in a criminal court, and other fun and practical procedures. Guest speakers from various criminal justice agencies in Colorado are also a main component of the class, so students become familiar with the variety of career opportunities within the criminal justice field and get a chance to learn, first hand, about the variety of agencies in Colorado that operate under the umbrella of Criminal Justice.

V84 Forensic Technology

Level: 10-12

Course Length: 1 semester

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 15 Total (V84=10 credits; FRCC class=5 credits)

Graduation Requirement: Practical Experience Other

Do you like a good mystery? Are you always first to figure out who did it and how they did it when you watch a movie or read a book? Here is your chance to become part of a team of forensic investigators. You will collect and analyze evidence from a crime scene. You must use logical thought processes and scientific inquiry skills as you trace the steps of the crime and determine whether or not the science accurately explains the crime.

This one semester course is designed to challenge students with topics such as fingerprinting, DNA analysis, blood typing and spattering, trajectories (for ballistics as well as blood spattering) comparative anatomy, and chemical analysis of drugs, poisons, and trace evidence. Students learn the basics of these sciences through lab experiments, and also get the opportunity to collect evidence at a mock crime scene as a part of their final exam. Learning about the careers involved with Forensic Science, and their use in courts as expert witnesses, and the reality of CSI shows, is explored as students play mock roles as experts in the field to solve crimes, and play roles as forensic experts in mock trials.

V101 Medical Anatomy and Physiology

Level: 10-12

Length: 1 semester

Credits: 15 Total (V101=10 credits; S15:Fundamentals of Anatomy=5 credits)

Prerequisites: ALG 1 A/B; LA9 A/B

Graduation Requirement: Life Science

This course provides students with an understanding of the U.S. health care system, an opportunity to explore entry level occupations in the healthcare field, and post-secondary education opportunities in medicine. In order to prepare students for healthcare occupations and related study, the course covers introductory medical terminology, anatomy and physiology, and the legal, ethical and cultural considerations in healthcare. Students will enjoy opportunities to visit local healthcare facilities, participate in an educational cadaver lab, and earn CPR and first aid certification.

S21 Microbiology and Infectious Disease

FRCC COLLEGE NOW class

Level: 10-12

Course Length: 1 semester

Credits: 15 Total (S21=10 credits; FRCC class=5 credits)

Prerequisites: ALG 1 A/B; LA9 A/B; S31 High School Biology

Graduation Requirement: Life Science

This Colorado Community College Career and Technical Education program is a new addition to the district and addresses topics in research areas that are presently undergoing paradigm shifts in both thought and practice. While the characterization and treatment of infectious diseases will be taught per current mainstream medical practice, some larger untoward consequences of standard approaches are brought into light per recent research. The new course will be run out of Arapahoe Campus, and will be available to students attending any of the home high schools. The course proposed will cover all units as presented in the syllabus, and will include the Career and Technical Education Post-Secondary Workforce Readiness piece as an addition.

V102 Sports Medicine

Level: 10-12

Length: 1 semester

Credits: 15 Total (V102=10 credits; L31:Communications=5 credits)

Prerequisites: ALG 1 A/B; LA9 A/B

Graduation Requirement: Health and Communications

This course is designed to teach students components of exercise science/sports medicine including: sports medicine related careers, prevention of athletic injuries, rehabilitation techniques (taping and wrapping), the healing process, therapeutic modalities, first aid, sports nutrition, sports psychology, and performance enhancement philosophies. Embedded throughout the course is medical terminology, anatomy and physiology related to sport activities.

STEM, ARTS, DESIGN & INFORMATION TECHNOLOGY

V44 Multimedia and Graphic Design

Level: 10-12

Course Length: 1 semester

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 15 Total (V44=10 credits; A55:Studio Art 1=5 credits)

Graduation Requirement: Practical Exp/Applied Tech/Computer Science and Fine Arts

Industry Certifications: Adobe InDesign CS6, Adobe Photoshop CS6, Adobe Illustrator

This multimedia graphic design course includes digital design, digital photography, video production and sound applications. Students use digital technology to create multiple projects including print media, multimedia and video technology. Students learn practical applications of visual communication principles and processes by completing extensive hands-on projects.

V45 Multimedia 2D & 3D Design

Level: 10-12

Course Length: 1 semester

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 15 Total (V45=10 credits; L34:Public Speaking=5 credits)

Graduation Requirement: Pract Exp/Applied Tech/Computer Science & Comm

Industry Certification: Autodesk Maya

This multimedia graphic design course focuses on digital design processes and production, package production, 3D design and visualization, and digital animation. Students learn practical applications of visual communication principles and processes by completing extensive hands-on projects.

J86 Sound Design

Level: 10-12

Course Length: 1 semester

Credits: 15 Total (J86=10 credits; L46:Video & Film=5 credits)

Prerequisites: ALG 1 A/B; LA9 A/B

Graduation Requirement: Practical Experience/Other & Communications

Industry Certifications: Avid, Microsoft Outlook 2013, Microsoft OneNote 2013

This course explores the use of sound in multimedia production and audio storytelling. Students examine the principles of recording. The course will focus on how sound can enhance interactive productions and improve computer presentations. Students learn how to use the computer as a full audio editing studio. The course will also examine sound recording, music production and related careers in the entertainment industry. This course provides students the opportunity to explore and develop technical, creative and aesthetic skills used in the recording industry. Students will also engage in activities and learning that promotes Postsecondary and Workforce Readiness as per Colorado Community College PWR Essential Skills. Students will learn about various careers associated with this career cluster and participate in a local CTSO.

V108 Digital Film Production

Level: 10-12

Course Length: 1 semester

Credits: 15 Total (V108=10 credits; LE0:Film Lit=5 credits)

Prerequisites: ALG 1 A/B; LA9 A/B

Graduation Requirement: Practical Experience/Other & LA Elective

Industry Certification: Adobe Premier Pro

This course will offer an introduction to the principles and techniques of videotape production, including camera operation, basic script writing, lighting, sound and basic digital editing. Detailed examination of the pre-production, production, and post-production processes, as well as aesthetics, will be included. Students will also be expected to learn digital non-linear video editing. Students will capture, compress, edit, and manipulate video images using a personal computer. Assembly techniques including media management, editing tools, titles, and motion control; transitions and filters, and special effects are explored. Students will also engage in activities and learning that promotes Postsecondary and Workforce Readiness as per Colorado Community College PWR Essential Skills. Students will learn about various careers associated with this career cluster and participate in a local CTSO.

V61 Computer Information Systems 1

FRCC COLLEGE NOW class

Level: 10-12

Course Length: 1 semester

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 15 Total (V61=5 credits; L34:Public Spkg=5 credits; FRCC class=5 credits)

Graduation Requirement: PractExp/Applied Tech/Computer Science & Comm

Industry Certifications: Microsoft Word 2013, Microsoft Excel 2013

Introduction to microcomputer applications, minor computer set ups and installations, the internet, and operating systems. Training also includes microcomputer applications and beginning programming and operating systems and advanced coursework in computer set-ups, installations, troubleshooting, servers, imaging, hardware repair, networking, data recovery, and computer forensics (laws and processes). Coursework is provided through lecture, interactive online lessons, texts, videos and extensive hands-on applications.

V63 Web and Gaming Applications

FRCC COLLEGE NOW class

Level: 10-12

Course Length: 1 semester

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 15 Total (V63=5 credits; L29:Tech Writing=5 credits; FRCC class=5 credits)

Graduation Requirement: PractExp/Applied Tech/Comp Sci & LA Elective

Industry Certifications: Adobe Dreamweaver CS6, Microsoft Access 2013, Microsoft SharePoint 2013

This course incorporates training in flash game design, project management, and software. Students in this course learn the process of application development from writing a project document to testing the final product. There is also extensive web and game design instruction in Adobe Flash, Adobe Dreamweaver, and Adobe Fireworks. Students will work towards developing an online portfolio/resume for postsecondary and career success. Coursework is provided through lecture, interactive online lessons, texts, videos and extensive hands-on applications.

HOSPITALITY, HUMAN SERVICES & EDUCATION

V54 ProStart 1

Level: 10-12

Course Length: 1 semester

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 15 Total (V54=10 credits; L29:Technical Writing=5 credits)

Graduation Requirement: Practical Experience/Other & LA Elective

Industry Certification: Food Handler

This course was developed by the National Restaurant Education Association for students interested in going into the restaurant or hospitality and lodging fields. Course combines culinary and management skills along with guest speakers and field trips in the industry. Students will develop culinary skills in food and workplace, safety, kitchen essentials, potatoes and grains, stocks, sauces, fruits and vegetables. Students will learn about the importance of communications and management essentials and how to build a career in the industry. Second semester students will have the opportunity to mentor with a chef or in a hotel as a paid work experience, outside school hours. To earn the National ProStart Certificate students must complete 400 paid work experience hours mentored by a chef/manager within the industry and pass the National ProStart Exam.

H39 Culinary Arts

Level: 10-12

Course Length: 1 semester

Credits: 15 Total (H39=10 credits; L31:Communications=5 credits)

Prerequisites: ALG 1 A/B; LA9 A/B

Graduation Requirement: Practical Experience/Other & Communications

This Colorado Community College System Career and Technical Education program covers the basics of Back of the House- introduction to food production principles; Students will learn the basic skills of food production for a commercial kitchen, restaurant or catering facility. Skill areas will include OSHA training; kitchen safety and sanitation and knife skills; vegetable preparation and breakfast cookery; starches, pastas, casserole and grains; introduction to baking and pastry making; intro to soups, sauces, desserts, entrees, salads and sandwiches, and Barista training. Students will rotate through service stations.

This course offers experience in an onsite restaurant/café type facility that would serve customers with food/meals/beverages prepared in the program kitchen. This restaurant area is referred to a “Front of House.” Students are exposed to Front of the House safety and sanitation; cashiering; catering, buffets, tableside cooking; food & beverage service; Customer relations. Students also have an opportunity to participate in catering outside events. Industry workforce readiness skills, communication, and writing techniques are also emphasized.

V79 Nail Technician

Level: 10-12

Course Length: 2 semesters plus summer session

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 38 Total (V79=28 cr; L29 Tech Writing=5 cr, L31:Comm=5cr)

Graduation Requirement: Practical Experience/Other, LA Elective & Communications

Industry Certification: Manicurist

This is a certificate program requiring 600 hours in nail care. Students learn theory, practice in manicuring, pedicuring, acrylic nails, fiberglass and nail art. Students are prepared for entry level jobs in the cosmetology industry. Students also explore career pathways, post-secondary options, and career search techniques such as applications preparation, resume/letter writing, and interviewing.

V81 Esthetician

Level: 10-12

Course Length: 2 semesters plus summer session

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 38 Total (V81=28 cr; L29 Tech Writing=5 cr, L31:Comm=5cr; XMM:Money Mgt)

Graduation Requirement: PractExp/Other, LA Elective, Comm. & Money Mgt

Industry Certification: Esthetician

This is a certificate program requiring 600 hours in skin care. Students learn theory, practice in facials, make-up, hair removal and basic skin care. Students are prepared for entry level jobs in the Cosmetology industry. Students also explore career pathways, post-secondary options, and career search techniques such as preparing applications, resume writing, resume/letter writing and interviewing.

V82 Hairstyling 1*

Level: 10-12

Course Length: 2 semesters plus additional hours through the school year

Prerequisites: ALG 1 A/B; LA9 A/B

Credits: 38 Total (V82=28 cr; L29 Tech Writing=5 cr, L31:Comm=5cr)

Graduation Requirement: Practical Experience/Other, LA Elective & Communications

Hairstyling 1 is a comprehensive introduction to the hairdressing industry that requires 600 clock hours. Students learn theory, practice in hair care, cutting, color, chemical texture, thermal styling, long hair & braiding, shampooing & scalp treatments, consultations, communication, infection. Students also explore career pathways, post secondary options, resume/letter writing, career search techniques, application prep, and interviewing, photoshoot, runway, salon tours, industry field trips, guest artists.

V83 Hairstyling 2*

Level: 11-12

Course Length: 2 semesters plus summer session

Prerequisites: ALG 1 A/B; LA9 A/B; V82 Hair Styling 1

Credits: V83=38 credits

Graduation Requirement: Practical Experience/Other & XMM: Money Mgt. Online

Industry Certification: Hairstylist

This is a certificate program requiring 600 hours in Hairstyling. Students learn theory, practice in hair care, cuts, color, perms and styling. Students are prepared for entry level jobs in the cosmetology industry. V82 and V83 equal this 1200 hour program. V82 must be taken prior to V83. Students also explore career pathways, post-secondary options, and career search techniques such as applications preparation, resume/letter writing, and interviewing.

*V82 600 hours and V83 600 hours equal the 1200 hour certificate program required by the state of Colorado for certificate testing.