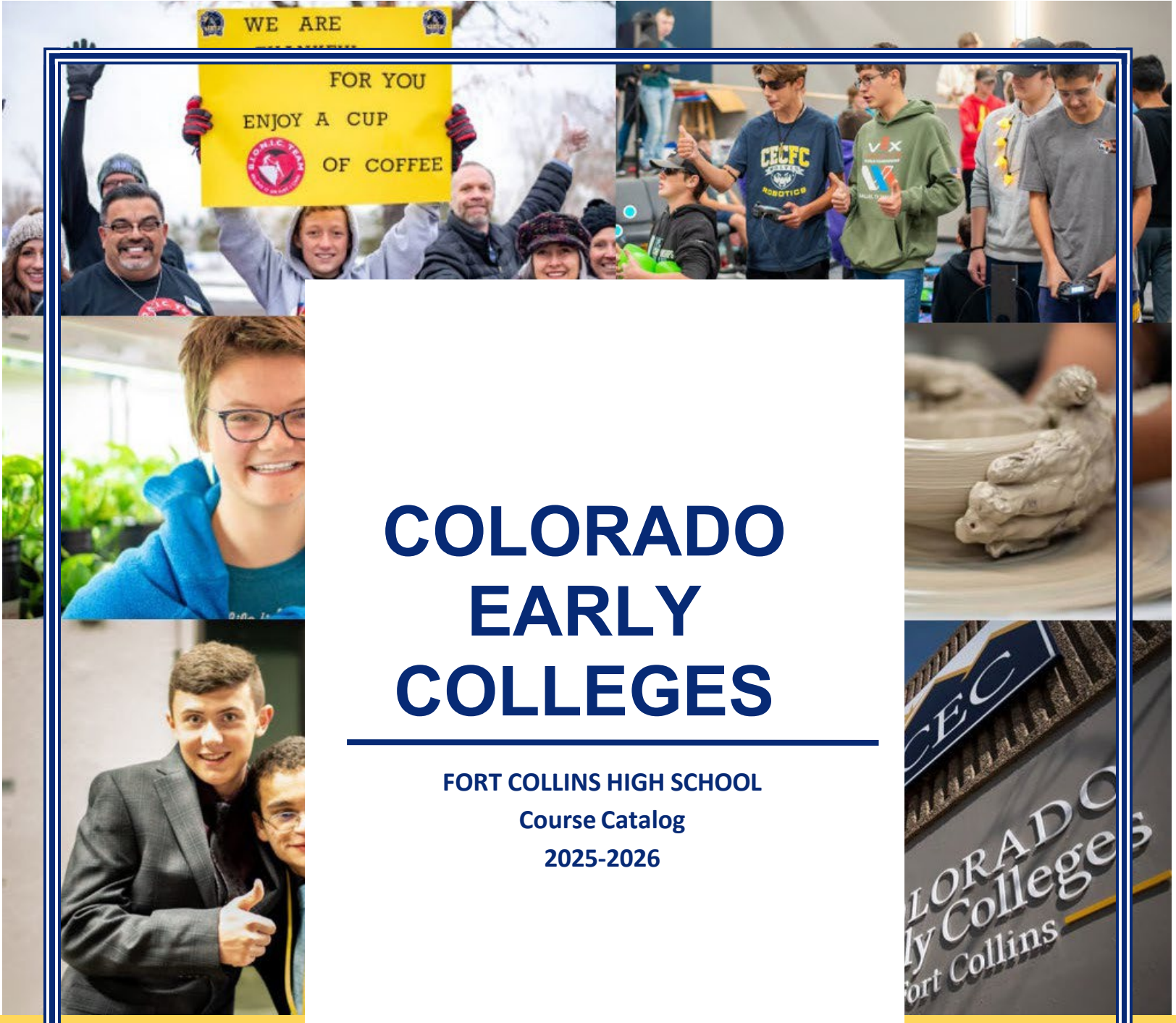

COLORADO EARLY COLLEGES

FORT COLLINS HIGH SCHOOL

Course Catalog

2025-2026

CEC COLORADO Early Colleges Fort Collins

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Description: This course is a continuation of the 060 class with a focus on fundamental skills. This course is designed to support students in a way that sets them up for success in college prep courses at CEC. 060.2 emphasizes reading strategies for both fiction and nonfiction texts, writing and communicating clearly for a variety of audiences and purposes, and overall academic skills like organization, accountability, and time management. 24
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Description: Examines techniques for creative writing by exploring imaginative uses of language through creative genres (fiction, poetry, and other types of creative production such as drama, screenplays, graphic narrative, or creative nonfiction) with emphasis on the student's own unique style, subject matter and needs. This is a statewide Guaranteed Transfer course in the GT-AH1 category. 26
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HIS 1210—US History to Reconstruction 35
HIS 1220—US History Since the Civil War ... 35
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Description: Investigates the major political, social, and economic developments, international relationships, scientific breakthroughs, and cultural trends that have shaped the various global regions, empires, and nation-states since the late nineteenth century. This course focuses on developing, practicing, and strengthening skills historians use while constructing knowledge and studying a diverse set of narratives through perspectives such as gender, class, religion, and ethnicity. This class meets the state requirement for learning about the Holocaust and Genocide. This is a statewide Guaranteed Transfer course in the GT-HI1 category. 35
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Note about offerings:

Some classes are only offered during the Fall or Spring semester. The courses described below are for reference only and may not be offered this semester. Semester course offerings are subject to change based on student interest and instructor availability. Please refer to the above list for courses offered and/or talk to your advisor with any concerns. CECFC is committed to providing course variety each semester.

College vs. College Prep credits:

1.0 Credit college course= 0.5 college prep level creditcredit college course= 1.0 college prep level credit

2.0 credit college course= 1.0 college prep level credit

3.0 credit college course= 1.5 college prep level credits

4.0 credit college course= 2.0 college prep level credits

Graduation Requirements

HIGH SCHOOL REQUIREMENTS

The CEC Governing Board has established the following graduation requirements for all students. The minimum requirement of 20 credits in the categories listed below will result in a high school diploma. All students must earn an associate degree, postsecondary credential, or at least 60+ college credits in addition to meeting the high school graduation requirements to be awarded a CEC diploma.

English:

- 4 credits
  - Completion of an Associate of Applied Science degree waives this requirement.

Math:

- 3 credits
  - Completion of an Associate of Applied Science degree waives this requirement.

Science:

- 2 credits
  - Laboratory classes in science must meet both process and content standards.
  - Required classes must be natural/physical science courses including but not limited to biology, chemistry, physics, astronomy, geology, and environmental science.
  - Completion of an Associate of Applied Science degree waives this requirement.

Social Sciences:

- 2 credits
  - Social Science credit includes the satisfactory completion of a civics/government course that encompasses information on both the history and culture of the United States and State of Colorado (C.R.S 22-1-104).
  - Students must also take a course that incorporates the new academic standards on Holocaust and Genocide studies as stated in Colorado Law (HB20-1336).

Academic Electives:

- 9 credits
  - Electives include the fine arts, technology, career and technical education, capstone, independent study, work-based learning, physical education, and core content electives in English, math, science, social studies, and world languages.
  - World language is highly encouraged for any student intending to continue their education at a four-year university. Students may also pursue the attainment of a Seal of Biliteracy at graduation in accordance with Colorado Senate Bill 17-123.
  - Electives must include a minimum of one .5 credit college/career readiness course. The successful completion of a 1000 level college course in English and math satisfies HEAR requirements and thus meets CEC graduation requirements only in English and math regardless of credits.

The Individual Career and Academic Plan (ICAP) will set out a course of study for each student based on completion of all requirements for graduation. Students are required to participate in and successfully complete the requirements and goals of the ICAP process. Full-time students transferring from other educational programs must meet CEC's graduation requirements to be awarded a CEC high school diploma.

Graduates must demonstrate, at a minimum, College and Career Readiness in English and math through one or more of the following approved options found on the Menu of College and Career-Ready Demonstrations Fact Sheet. Further guidance on postsecondary credentials and the Menu of Options can be found in the "CEC Guidance on Postsecondary Credentials and Menu of Options" document.

Exceptional Students:

Regardless of whether the course work for a student with an IEP is aligned with the Colorado Academics Standards or Extended Evidence Outcomes, CEC will provide accommodations to enable the student receiving special education services to reach the same standards as students without disabilities. However, CEC will not modify any standard that any student must demonstrate in college or career readiness on the Graduation Guidelines Menu of Options in the areas of English of math.

Associate Degree Partners

CEC Fort Collins High School works with many college partners to provide the best opportunities for our students. The two primary community colleges are our close neighbors, Aims Community College and Front Range Community College. These two institutions award our students their college degrees. The requirements for each school and each degree vary.

FRONT RANGE COMMUNITY COLLEGE

Front Range Community College Associate of Arts

Front Range Community College Associate of Science

Aims COMMUNITY COLLEGE

Aims Community College Associate of Arts

Aims Community College Associate of Science

Course Offerings

2025-26

CECFC offers a variety of courses designed to meet our students' needs. All courses are semester-long and offered on-campus between the hours of 7:45 a.m. and 3:30 p.m. Although we work hard to finalize the schedule in a timely manner, course offerings and times are subject to change. Courses designated with no numbers or numbers below 99 are college prep courses; courses designated with numbers above 1000 are college courses. All college courses are state guaranteed transfer courses, with the exception of courses notated with ^. Courses are listed in alphabetical order by department category type.

COLLEGE AND CAREER READINESS
Capstone* +
Career Foundations
Career Pathways
Independent Study* +
Work-Based Learning* +

ELECTIVES

ARTS - PERFORMING
Band
Cantabile Choir
Concert Choir
Guitar I
Guitar II
Jazz Band
Musical Theater
Orchestra
Tech Theater
Theater
MUS 1031 - Piano I^
MUS 1032 - Piano II^
MUS 1051 - Ensemble I Band^
MUS 1051 - Ensemble I Orchestra^
MUS 1052 - Ensemble II Band^
MUS 1052 - Ensemble II Orchestra^

ARTS - VISUAL
Adobe Suite*
Introduction to Film
Film II
Photography
Yearbook
ART 1002 - Visual Concepts 2-D Design^
ART 1201 - Drawing I^
ART 1703 – Ceramics I^

BUSINESS
BUS 1015 - Introduction to Business*^
BUS 2016 - Legal Environment of Business *^
BUS 2017 - Business Communication*^
MAR 1055 - Social Media for Marketing*^
CIS 1018 - Introduction to PC Applications*^

CERTIFICATIONS
Certification Labs* + (see Professional Pathways for complete listing)
MOS Specialist Certification

COMPUTER SCIENCE
AI and App Development*
Cybersecurity A*
Cybersecurity B*
CSC 1001 - Principles of Computing*^
CSC 1060 - Computer Science I*^

CONSTRUCTION AND ARCHITECTURE
Principles of Construction*
Carpentry

ENGINEERING AND TECHNOLOGY
Introduction to InnoLab
Computer Modeling and 3D Printing*
Drone Basics*
Engineering Innovation and Application*
Robotics 1A*
Robotics 1B*
Robotics 2*

HEALTH & FITNESS
Team Sports
PED 1001 - Conditioning Lab^
PED 1002 - Weight Training I^
PED 1003 - Weight Training II^

OTHER
Small Engine Repair
Woodworking I
Advanced Woodworking

SUPPORT SERVICES
Resource Lab/Room
Student Success

ENGLISH
English Language Development
LIT/COMP 060 - Fundamental English
LIT/COMP 060.2 - Fundamental English
LIT/COMP 090A - Foundational College Prep English
LIT/COMP 090B - Foundational College Prep English
LIT/COMP 095 - Comprehensive College Prep English
LIT/COMP 099 - Cumulative College Prep English
COM 1150 - Public Speaking
COM 1250 - Interpersonal Communication
ENG 1021 - English Composition I
ENG 1022 - English Composition II
ENG 1031 - Technical Writing I
ENG 2021 - Creative Writing I
LIT 1015 - Introduction to Lit

MATH
Geometry
Geometry A
Geometry B
Geometry Lab
MAT 060 - Pre-Algebra
MAT 090A - Algebra I
MAT 090B - Algebra I
MAT 090 Lab
MAT 099 - Algebra II
Personal Finance
MAT 1140 - Career Mathematics
MAT 1340 - College Algebra
MAT 1440 - Pre-Calculus
MAT 2410 - Calculus I
MAT 2420 - Calculus II
MAT 2431 - Calculus III/Engineer Applications

SCIENCE
Biology with Lab A
Biology with Lab B
Chemistry with Lab A
Chemistry with Lab B
Earth and Space Science A
Earth and Space Science B
Physical Science with Lab
Forensic Science
ANT 1005 - Biological Anthropology with Lab
BIO 1005 - Science of Biology with Lab
BIO 1111 - General College Biology I with Lab
CHE 1011 - Introduction to Chemistry I with Lab
CHE 1111 - General Chemistry I with Lab
ENV 1111 - Environmental Science with Lab
GEY 1111 - Physical Geology with Lab
GEY 1135 - Environmental Geology with Lab

SOCIAL SCIENCE AND HUMANITIES
Civics
Geography (HG)
ANT 1001 - Cultural Anthropology
ART 1110 - Art Appreciation
HIS 1120 - The World: 1500-Present (HG)
HIS 1210 - US History to Reconstruction
HIS 1220 - US History Since the Civil War (HG)
HIS 2015 - 20th Century World History (HG)
MUS 1020 - Music Appreciation
MUS 1023 - Survey of World Music
PHI 1011 - Introduction to Philosophy
PHI 1012 - Ethics
PHI 2005 - Business Ethics
PHI 2018 - Environmental Ethics
PHI 2020 - Philosophy of Death and Dying
PSC 1025 - American State and Local Government
PSY 1001 - General Psychology I
PSY 1002 - General Psychology II
PSY 2221 - Social Psychology
PSY 2440 - Human Growth and Development

WORLD LANGUAGE
Spanish I
Spanish II

Course Keys:
- (HG) – Indicates courses that include Holocaust/Genocide unit
- * Indicates Professional Pathway Courses
- + Indicates course that are approved as Alternative teacher-pupil instruction
- ^ Indicates college courses that will transfer but might transfer as an elective.

Career and Technical Education

BUSINESS LEADERSHIP
Microsoft Office Specialist Certifications
BUS 1015 - Introduction to Business
BUS 2016 - Legal Environment of Business
BUS 2017 - Business Communication and Report Writing
CIS 1018 - Introduction to PC Applications
MAR 1055 - Social Media for Marketing in Business

COMPUTER SCIENCE - CODING AND PROGRAMMING
AI and App Development
Cybersecurity
CSC 1001 - Principles of Computing
CSC 1060 - Computer Programming I
C++ Certification
Java Certification
Python Certification
Software Development Certification

COMPUTER SCIENCE - WEB AND GRAPHIC DESIGN
Adobe Suite Certification
HTML and CSS Certification
HTML5 App Development Certification
JavaScript Certification

CONSTRUCTION AND ARCHITECTURE
Autodesk - AutoCAD Certification
Autodesk - Revit Certification
Principles of Construction
Carpentry

ENGINEERING AND TECHNOLOGY
Autodesk – Fusion Certification
Computer Modeling and 3D Printing
Drone Basics
Engineering Innovation and Application
Robotics 1A
Robotics 1B
Robotics 2
Solidworks Certification

INFORMATION TECHNOLOGY - NETWORKING AND SECURITY
A+ Certification
Cybersecurity Analyst Certification
Linux+ Certification
Network+ Certification
Security+ Certification
Tech+ Certification

CTE CORE COURSES
ENG 1031 - Technical Writing
MAT 1140 – Career Mathematics

Course Descriptions

COLLEGE AND CAREER READINESS

Capstone

Description: This course is for students developing a Capstone Project, a multifaceted body of work that is school determined and serves as a culminating academic and intellectual experience for students. Capstone projects could include a portfolio of the student's best work –curriculum or research-based; feature a set of experiments organized around a central problem; and/or showcase a community service project or learning activity. This course is approved as an alternative teacher-pupil instruction class. Must be approved by the Head of School.
Prerequisites: None
Designation: College Prep
Credits: 0.5

Career Foundations

Description: Students will begin to develop skills that will help them be successful in their future careers such as written and oral communication skills, utilizing their strengths, and growing their professionalism abilities. Students will explore the Xello platform helping them identify career interests and aptitudes. Students will have the opportunity to begin earning their Microsoft Office Specialist Certification.
Required for all 9th grade students and recommended for new 10th grade students
Designation: College Prep
Credits: 1.0

Career Pathways

Description: Students will explore career pathways through three approaches in this course. The first is identifying the strengths, values, and interests the student has. Students will define and explore essential skills (soft skills) and understand what it means to have integrity, to be respectful, adaptable and reliable, and how it applies to them now and in the future. Students will become familiar with Xello and use assessments and lessons to narrow down career options and map out potential education and career pathways and will have opportunities to interview and meet a wide variety of professionals. Additionally, students will practice searching for jobs, creating a resume and cover letter, and interviewing.
Prerequisites: None
Designation: College Prep
Credits: 1.0

Independent Study

Description: Independent study allows the student to explore a topic of interest under the close supervision of a faculty or staff member. The course may include directed readings, pursuing an industry certification, applied work, assisting an instructor with a research project, carrying out an independent research project, or other activities deemed appropriate. This course is approved as an alternative teacher-pupil instruction class. Must be approved by the Head of School.
Prerequisites: None
Designation: College Prep
Credits: 0.5

Work-Based Learning

Description: Internships, Paid Work, On the Job Training, or Apprenticeships that align with a student's ICAP goal. Students must complete a minimum of 60 hours of work experience within the semester. Students are required to meet weekly with the WBL Coordinator and submit the number of hours worked each week. Work opportunities may be set up by the student, or they may seek help finding an opportunity from our WBL Coordinator. Students will be expected to sign and complete a work-based learning contract.
Prerequisites:
Designation: College Prep
Credits: 0.50 for 60 hours or 1.0 for 120 hours of work experience

ELECTIVES
ARTS - PERFORMING

Band
Description: Students in this class will cultivate and refine music ensemble performance skills, learn to read and interpret assigned musical parts, improve primary instrumental musical performance, collaborate with peers in a larger group, and learn a variety of musical performance techniques.
Prerequisites: Two years of prior band/orchestra/jazz band experience or two years of private lessons
Designation: College Prep
Credits: 1.0

Cantabile Choir
Description: This course is for students who already have shown some advanced skills and are able to take responsibility; It is designed around the rehearsal and performance of semester repertoire. Students in this course will be equipped with the ability to sing with good vocal health, proper diction, and posture proficiently. Students will be exposed to a broad range of musical genres and repertoire that they will have hands-on experience with rehearsing in class and performing for peers, family, and the general public.
Prerequisites: None
Designation: College Prep
Credits: 0.5

Concert Choir
Description: Choir is a performance-based singing class that develops sight-reading, pitch memory, basic music notation, proper tone quality, breath management and group performance techniques. Any student can join choir. You do not have to have prior experience. Participation in four concerts plus other special programs is required. This course may be repeated for additional credits. Students can choose to be in both choirs and receive credit for each.
Prerequisites: None
Designation: College Prep
Credits: 0.5

Guitar I
Description: This course is designed for students who are brand new at playing the guitar. Students will learn chords, individual note reading (tab), scales, and strumming/rhythm. Students are responsible for practicing outside of class time. No concerts are given. Students will need to provide their own acoustic guitar, tuner and capo. Be sure to bring your guitar on the first day of class! Class size is limited to 8 students.
Prerequisites: None
Designation: College Prep
Credits: 0.25

Guitar II
Description: This is a continuation of Guitar 1. Students will learn chords, tab, scales, strumming, along with alternate tuning, picking, and chord structure/set up for song writing. Prerequisite: students must have taken Guitar 1 or know basic first position chords on the guitar (A, E, G, C, D em, am). Practice outside of class time is a must. No concerts are given. Students will need to provide their own acoustic guitar, tuner, and capo. Bring your guitar on the first day of class! Class size is limited to 8 students.
Prerequisites: Guitar I
Designation: College Prep
Credits: 0.25

Jazz Band
Description: Provides opportunities for students to perform in ensembles. Ensembles will perform a diverse variety of musical styles in the jazz genre. Rehearsal techniques, performance skills, and professionalism are key components of this course.
Prerequisites: Two years of prior band/orchestra/jazz band experience or two years of private lessons
Designation: College Prep
Credits: 0.5

Musical Theater
Description: This audition-only class will rehearse and perform a musical in the late Spring semester. Students will learn acting, singing, staging, blocking, choreography, stage make-up, props, set design, sound and lights. Auditions are held in the fall. Students must have prior approval from the instructor to join the class. Actors, singers, and primary tech roles (sound, lights, stage manager) must enroll in the class in order to participate in the musical. Singers must enroll in at least 1 section of choir to maintain proper singing technique/vocal training.
Prerequisites: Audition only
Designation: College Prep
Credits: 0.5

Orchestra
Description: Students in this class will cultivate and refine music ensemble performance skills, learn to read and interpret assigned musical parts, improve primary instrumental musical performance, collaborate with peers in a larger group, and learn a variety of musical performance techniques.
Prerequisites: Two years of prior band/orchestra/jazz band experience or two years of private lessons
Designation: College Prep
Credits: 1.0

Tech Theater
Description: Students in Tech theater will bring the play and musical to life through set design, costumes/make-up, creating props, lighting and sound work, etc. It meets at the same time as the play/musical so students can see how the show develops throughout the semester. It is a great class for students who are interested in theater but may not be performers. Anyone interested in the musical who doesn't get a role should join tech.
Prerequisites: None
Designation: College Prep
Credits: 0.5

Theater
Description: This course explores the art of acting and tech theater through putting on a show. The curriculum will focus on how to craft a performance, what the role of an actor/the tech crew is, and work to producing a show. Students will put on a show to be performed in mid-November.
Prerequisites: None
Designation: College Prep
Credits: 0.5

MUS 1031—Music Class I (Piano)
Description: Applies the fundamentals of music to the voice or specific musical instruments. This course also introduces basic techniques, repertoire, and sight-reading.
Prerequisites: None
Designation: Front Range Community College
Credits: 2.0 (1.0)

MUS 1032—Music Class II (Piano)
Description: Applies the fundamentals of music to the voice or specific musical instruments. The course also introduces basic techniques, repertoire, and sight-reading.
Prerequisites: MUS 1031 or Instructor Approval
Designation: Front Range Community College
Credits: 2.0 (1.0)

MUS 1051 – Ensemble I (Band)
Description: Provides opportunities for students to perform in ensembles. Ensembles will perform a diverse variety of musical styles and genres. Rehearsal techniques, performance skills, and professionalism are key components of this course.
Prerequisites: Instructor Approval
Designation: Front Range Community College
Credits: 1.0 (0.5)

MUS 1051 - Ensemble I (Orchestra)
Description: Provides opportunities for students to perform in ensembles. Ensembles will perform a diverse variety of musical styles and genres. Rehearsal techniques, performance skills, and professionalism are key components of this course.
Prerequisites: Instructor Approval
Designation: Front Range Community College
Credits: 1.0 (0.5)

MUS 1052 – Ensemble II (Band)
Description: Provides opportunities for students to perform in ensembles. Ensembles will perform a diverse variety of musical styles and genres. Rehearsal techniques, performance skills, and professionalism are key components of this course.
Prerequisites: Instructor Approval
Designation: Front Range Community College
Credits: 1.0 (0.5)

MUS 1052 - Ensemble II (Orchestra)
Description: Provides opportunities for students to perform in ensembles. Ensembles will perform a diverse variety of musical styles and genres. Rehearsal techniques, performance skills, and professionalism are key components of this course.
Prerequisites: Instructor Approval
Designation: Front Range Community College
Credits: 1.0 (0.5)

ARTS - VISUAL

Adobe Suite
Description: This is a self-paced course offering the full suite of Adobe platforms. These include Photoshop, Illustrator, InDesign, After Effects, Animate, Dream Weaver, and Premier Pro. Many students will be able to complete more than one certification in a semester.
Prerequisites: None
Designation: College Prep
Credits: 0.5
Industry Certification: Adobe Certified Professional

Introduction to Film
Description: This course is an exploration of film. The curriculum will focus on seeing and understanding film as an art and a reflection of our lives. This class is designed to assist students in analysis, writing, comprehension, and communication skills. Students will be asked to interpret, analyze, and explain various films. They will view films and discuss their thoughts with the class both verbally and through writing. They will also learn to understand film through writing. Students will learn how to write short films and the narrative structure/language of film. Students will focus on themselves as individuals and the world we live in through film analysis and screenwriting.
Prerequisites: None
Designation: College Prep
Credits: 0.5

Film II
Description: This course continues the work from Introduction to Film and focuses more on creating films. Students will choose a production role to focus on this semester and work with their peers on a film crew to create two films (a commercial for the school and a narrative film). Students will hone their craft, work with others, and grow as creators.
Prerequisites: Introduction to Film
Designation: College Prep
Credits: 0.5

Photography
Description: Students will learn basic photography and camera skills through photo challenges. They will also have the opportunity to work in Adobe Lightroom and Photoshop and earn a photoshop certification.
Prerequisites: None
Designation: College Prep
Credit Type: Elective
Credits: 0.5
Industry Certification: Adobe Certified Professional - Photoshop

Yearbook
Description: Our yearbook will be the product of the students who create it. The students will research yearbooks and develop a plan for the design, theme, layout, cover, copy, captions, etc. Based on their plan, the students will set goals in advance of deadlines. Throughout the semester, students will work hard to meet these goals and submit required materials by all deadlines set by the printer. Group and individual projects will help students hone their skills, resulting in a better final product. Students will have the opportunity to create a multimedia project of their choosing to demonstrate the skills they've learned over the semester.
Prerequisites: COMP 090 (Recommended)
Designation: College Prep
Credits: 0.5

ART 1002—Visual Concepts- 2-D Design
Description: Examines the basic elements of design, visual perception, and artistic form and composition as they relate to two-dimensional media.
Prerequisites: COMP/LIT 060
Designation: Front Range Community College
Credits: 3.0 (1.0)

ART 1201—Drawing I
Description: Investigates the various approaches and media that students need to develop drawing skills and visual perception.
Prerequisites: COMP/LIT 060
Designation: Front Range Community College
Credits: 3.0 (1.0)

ART 1703—Ceramics I
Description: Introduces traditional and contemporary approaches to ceramic form and processes, with an emphasis on hand building techniques, and a basic introduction to the potter's wheel. This course includes basic surface design, glaze, and kiln firing procedures.
Prerequisites: COMP/LIT 060
Designation: Front Range Community College
Credits: 3.0 (1.0)

BUSINESS

BUS 1015—Introduction to Business
Description: Introduction to business introduces the application of fundamental business principles to local, national, and international forums. This course examines the relationship of economic systems, governance, regulations, and law upon business operations. It surveys the concepts of career development, business ownership, finance and accounting, economics, marketing, management, operations, human resources, regulations, and business ethics.
Prerequisites: Concurrent LIT/COMP 095 recommended
Designation: Front Range Community College
Credits: 3.0 (1.0)

BUS 2016—Legal Environment of Business
Description: Emphasizes public law, regulation of business, ethical considerations, and various relationships existing within society, government, and business. Specific attention is devoted to economic regulation, social regulation, regulation, and laws impacting labor-management issues, and environmental concerns. Students develop an understanding of the role of law in social, political, and economic change.
Prerequisites: LIT/COMP 095 or higher recommended, Introduction to Business recommended
Designation: Aims Community College
Credits: 3.0 (1.0)

BUS 2017–-Business Communication and Report Writing
Description: Emphasizes effective business writing and cover letters, memoranda, reports, application letters, and resumes. This course includes the fundamentals of business communication and an introduction to international communication.
Prerequisites: LIT/COMP 095 or higher recommended, Introduction to Business recommended
Designation: Aims Community College
Credits: 3.0 (1.0)

CIS 1018—Introduction to PC Applications
Description: Introduces basic computer terminology, file management, and PC system components. Provides an overview of office application software including word processing, spreadsheets, databases, and presentation graphics. Includes the use of a web browser to access the Internet.
Prerequisites: None
Designation: Front Range Community College
Credits: 3.0 (1.0)
Industry Certification: Microsoft Office Specialist Associate, Expert level can be pursued after a student earns Associate level

MAR 1055–-Social Media for Business
Description: Focuses on the use of social media as a business strategy and how to match strategy with the goals of the business. This course compares social media marketing with traditional marketing and explores online best practices to further business goals. This course includes a simulated internship experience.
Prerequisites: Introduction to Business recommended
Designation: Aims Community College
Credits: 3.0 (1.0)
Industry Certification: Social Media Marketing Certification by Student

COMPUTER SCIENCE – CODING AND PROGRAMMING

AI and App Development
Description: This introductory course provides high school students with a foundational understanding of Artificial Intelligence (AI) and App Development. Designed for beginners, the course explores the essential concepts of AI, such as machine learning basics, data analysis, and simple algorithms, alongside an introduction to mobile app development. Students will learn how to design, build, and test their own apps while integrating basic AI elements like simple decision-making systems and basic automation.
Prerequisites: None
Designation: College Prep
Credits: 0.5

Cybersecurity A
Description: In this introductory high school course, students will explore the foundational concepts and skills needed to understand and navigate the world of cybersecurity. From understanding how personal data is protected to learning about potential threats like hacking, malware, and social engineering, this course provides a comprehensive overview of the digital security landscape. Students will develop practical knowledge on how to safeguard networks, devices, and sensitive information, all while gaining an understanding of the ethical considerations in cybersecurity. Students should plan to enroll in Cybersecurity B during the Spring semester.
Prerequisites: None
Designation: College Prep
Credits: 0.5

Cybersecurity B
Description: In this introductory high school course, students will explore the foundational concepts and skills needed to understand and navigate the world of cybersecurity. From understanding how personal data is protected to learning about potential threats like hacking, malware, and social engineering, this course provides a comprehensive overview of the digital security landscape. Students will develop practical knowledge on how to safeguard networks, devices, and sensitive information, all while gaining an understanding of the ethical considerations in cybersecurity.
Prerequisites: Cybersecurity A
Designation: College Prep
Credits: 0.5

CSC 1001—Principles of Computing
Description: Surveys computer science, formal logic, and computational thinking. This course explores the historical, gender equality, and cultural perspectives on the role of technology in society. This course includes programming in Python. This course improves written communication of arguments on ways in which technology influences our modern culture. This course will not require previous computer science or programming experience.
Prerequisites: None
Designation: Front Range Community College
Credits: 3.0 (1.0)
Industry Certification: Certified Entry Level Python Programmer, Associate Level Python Programmer may also be pursued

CSC 1060—Computer Programming I
Description: Introduces computer science and programming, focusing on algorithm development, data representation, logical expressions, sub-programs, and input/output (IO) operations through a high-level programming language. Includes intensive hands-on computer work to reinforce understanding and apply these concepts.
Prerequisites: CSC1001 or CSC1010 or CSC1019 or pre/co-req MAT1340
Designation: Front Range Community College
Credits: 4.0 (1.5)
Industry Certification: C++ Certified Entry Level Programmer

CONSTRUCTION AND ARCHITECTURE

Principles of Construction
Description: In this entry level and hands on construction class, students will learn jobsite safety and first aid, common construction measurements and calculations, how to use typical jobsite tools, what types of materials are commonly used on a construction site, and how to be employable in the trades. This course is designed to be 75% hands on as construction is learned best through experience.
Prerequisites: None
Designation: College Prep
Credits: 1.0, up to 1 credit for OSH 1310 possible through Front Range (Prior Learning Award)
Industry Certification: OSHA 10, Pre-Apprenticeship Certificate Training (PACT) CORE

Carpentry
Description: This course includes: carpentry tools identification and use; lumber identification and use; measurement; concrete forms; framing; shingling; exterior doors and windows; siding and trim; insulation; interior doors; and minor repairs. This course is designed to be 75% hands on as construction is learned best through experience.
Prerequisites: Principles of Construction
Designation: College Prep
Credits: 0.5
Industry Certification: Pre-Apprenticeship Certificate Training (PACT) Carpentry

ENGINEERING AND TECHNOLOGY

Computer Modeling and 3D Printing
Description: Through both individual and collaborative team activities, projects, and problems, students apply systems thinking and consider various aspects of engineering design including material selection, human-centered design, manufacturability and sustainability. Students develop skills in technical representation and documentation, especially through 3D computer modeling using Fusion. As part of the design process, students produce precise 3D- printed engineering prototypes using an additive manufacturing process. Student-developed testing protocols drive decision-making and iterative design improvements. It is recommended that students continue their learning and certification of Fusion in a certification lab.
Prerequisites: None
Designation: College Prep
Credits: 0.5

Drone Basics
Description: This course introduces students to rules and regulations required for them to pass the UAS Remote Pilot Certification. Students will have the opportunity for hands-on experience piloting a drone. Students that successfully complete this course will have the information necessary for them to pass the FAA's "Part 107" airman knowledge test. The FAA Part 107 is a set of rules for operating a drone commercially. Topics include but are not limited to: Certification Pathway, Drone Theory and Aeronautics, Regulations and Operating Rules, Airspace Classification, Weather, sUAS Loading and Performance, Crew Management, Radio Communications, Airport Operations, and Maintenance and Inspection Procedures.
Prerequisites: None, students must be 14 to take the certification exam but will not receive certification until they are 16. Certification must be renewed after two years.
Designation: College Prep
Credits: 0.5
Industry Certification: Drone Pilot Certification

Engineering Innovation and Application
Description: This course introduces students to engineering concepts that are applicable to a variety of engineering disciplines and empowers them to develop technical skills using engineering tools such as 3-D modeling software, hands-on prototyping equipment, programming software, and robotics hardware to bring their solutions to life. Students apply the engineering design process to solve real-world problems across a breadth of engineering fields such as mechanical, robotics, infrastructure, environmental sustainability, and product design and development. This course provides opportunities to develop planning and technical documentation skills, as well as in-demand, transportable skills such as problem solving, critical thinking, collaboration, communication, and ethical reasoning.
Prerequisites: Computer Modeling and 3D Printing or a Fusion certification required.
Designation: College Prep
Credits: 0.5

Introduction to InnoLab
Description: This course will allow students to build proficiency and confidence in hands-on activities. Over the semester, students will rotate through several 2–3-week modules, completing a small project that encompasses the learning objectives for that module. Topics include but are not limited to shop safety, basic power tool usage, woodworking, laser engraving, electronics and programming, CAD design and 3D printing. Students will also be introduced to the engineering design process.
Prerequisites: none
Designation: College Prep
Credits: 0.5

Robotics 1A

Description: Robotics 1A is an applied skills course for students that are seeking to gain fundamental knowledge in Robotics. This course will show students the Engineering Design Process, hands-on tool skills, how to work within a team structure, and basic construction and programming concepts with the VEX Robotics Medium. Students will undergo a series of robotic builds incorporated with in-class competitions and challenges. Students will gain the fundamental skills needed to progress towards higher levels of competition robotics.
Prerequisites: None
Designation: College Prep
Credits: 0.5

Robotics 1B

Description: Robotics 1B is a continuation of the Robotics fundamentals learned in Robotics 1A. In this course, students will undergo a more rigorous build experience as the project will focus on the VEX Robotics Competition Preparation. Students will develop a more in depth understanding of the VEX materials, construction, and programming. Students will also develop an understanding of the rules and regulations for VEX competition. Students will gain a better understanding on how a VEX competition operates for both Skills Challenges and Tournament gameplay. Record keeping of the design process and decisions made by the team will take place in the form of an Engineering Notebook.
Prerequisites: Robotics 1A or Middle School Robotics required
Designation: College Prep
Credits: 0.5

Robotics 2

Description: Robotics 2 is a competition level course that allows students to work on their VEX competition robots in a Student-Centered atmosphere. Programming, construction, and record keeping will continually be developed to a higher standard. Students will maintain a team structure throughout the VEX Robotics Competition Season. As a team, roles will be delegated as students begin to specialize in their field of interest (programming, managing, record keeping, driving, building, designing). Fundraising and sponsorship seeking will also be a large focus for our teams as funding for teams will need to be gathered by the members. This course is intended for students that want to take their robotic skills into real world settings where adversity and challenges are met head on with the Engineering Design Process and interpersonal soft skills. Competitions are not required for a grade in this course.
Prerequisites: Robotics 1B or Middle School Robotics required.
Designation: College Prep
Credits: 0.5

HEALTH AND FITNESS

Team Sports

Description: This course is designed to teach the fundamentals of a variety of team sports. We will work on specific aspects of each game, such as passing, shooting, dribbling, and moving to open space. We will learn rules and strategies for each sport. Sports may include and are not limited to: Basketball, Volleyball, Floor Hockey, Soccer, Flag Football, Kickball, and Handball.

Prerequisites: None

Designation: College Prep

Credits: 0.5

PED 1001 – Conditioning Lab

Description: Offers an independent self-paced format of conditioning exercises to meet individual needs. Emphasizes the value of lifetime fitness and its contribution to achieving personal health and wellness. Students utilize cardiorespiratory, muscular strength and endurance exercises to promote positive changes in health-related fitness components. Course is repeatable for credit with no limitations.

Prerequisites: None

Designation: Aims Community College

Credits: 1.0 (0.5)

PED 1002-Weight Training I

Description: Offers basic instruction and practice in weight training. Students utilize weight training equipment in accordance with their abilities and goals. Emphasizes weight training equipment orientation, correct lifting techniques, and basic program design for men and women. The course is repeatable for credit with no limitations**.**

Prerequisites: None

Designation: Aims Community College

Credits: 1.0 (0.5)

PED 1003-Weight Training II

Description: Offers guided instruction and independent practice in weight training for men and women. Students practice various weight training techniques in accordance with their abilities. Emphasizes physiological considerations, equipment orientation, correct lifting techniques, program design, and nutrition. The course is repeatable for credit with no limitations**.**

Prerequisites: None

Designation: Aims Community College

Credits: 2.0 (1.0)

OTHER Electives

Small Engine Repair
Description: Small Engine Repair is for students of all abilities to learn more about internal combustion engines. It blends theoretical and practical learning to develop a deeper understanding of the inner workings of small engines. Students will ultimately demonstrate their understanding by proposing and completing a project that practically applies to an engine.
Prerequisites: none
Designation: College Prep
Credits: 0.5
Industry Certification: EETC Principles of Small Engine Technology, 4 Stroke Engine

Woodworking I
Description: Woodworking I will cover basic concepts of woodworking, providing a student with the skills to complete progressively more intricate projects. We will be covering proper use of both power and hand tools, with a paramount focus on safe operation of these tools, as well as shop safety procedures. All students will have to pass a rigorous safety test before using any equipment and abide by strict safety rules in the shop.
Prerequisites: None
Designation: College Prep
Credits: 0.5

Advanced Woodworking
Description: Building on skills learned in the introductory woodworking course, Advanced Woodworking delves deeper into complex techniques and projects, focusing on precision craftsmanship and advanced joinery methods. Students will work with a variety of woods and materials to create both functional and artistic pieces, using professional tools and equipment. Emphasis is placed on project design, planning, and execution, as well as understanding the properties of different woods and materials. Students will also explore advanced finishing techniques, tool maintenance, and safety practices. This course offers students the opportunity to refine their woodworking skills through hands-on projects, fostering creativity and problem-solving while preparing for real-world woodworking applications.
Prerequisites: Woodworking I
Designation: College Prep
Credits: 0.5

SUPPORT SERVICES

Resource Lab/Room

Description: Resource Lab is a support class designed to help students to be successful in their other courses and at CECFC. Students will learn and work on the following: tracking and prioritizing work, establishing healthy academic habits, structuring a productive work environment, and specific academic support and/or tutoring when applicable.

Prerequisites: Teacher recommendation

Designation: College Prep

Credits: 0.5 M-F, 0.25 MWF/TR

Student Success

Description: Student Success is a support class designed to help students to be successful in their other courses and at CECFC. Students will meet with a small group and have individual check in time with a mentor to work on the following: tracking and prioritizing work, establishing healthy academic habits, structuring a productive work environment, and specific academic support and/or tutoring when applicable.

Prerequisites: None

Designation: College Prep

Credits: 0.25

ENGLISH

English Language Development
Description: The curriculum is designed to accelerate students' acquisition of the English language so that students can enter mainstream content courses as quickly as possible. The ELD department works to ensure that all English Learners, from newcomers to those who have lived here for several years, develop the literacy and language skills necessary to access the high school curriculum. We strive to prepare our students for the language demands of the post-secondary world, both in the workplace and in college.
Prerequisites: WIDA ACCESS
Designation: College Prep
Credits: 0.5

Literature and Composition 060—Fundamental English
Description: This course focuses on developing a strong foundation in both reading and writing-related skills in addition to academic skills such as organization and holding oneself accountable for quality and timely work. The focus will be on communicating in a clear, structured way both verbally and through written work as well as understanding communication from others. This communication will be practiced in many different modes focusing on the various ways reading, writing, listening, and speaking occur in our world.
Prerequisites: Placement based on NWEA MAP score, NextGen ACCUPLACER score, and/or teacher recommendation.
Designation: College Prep
Credits: 0.5

Literature and Composition 060.2—Fundamental English
Description: This course is a continuation of the 060 class with a focus on fundamental skills. This course is designed to support students in a way that sets them up for success in college prep courses at CEC. 060.2 emphasizes reading strategies for both fiction and nonfiction texts, writing and communicating clearly for a variety of audiences and purposes, and overall academic skills like organization, accountability, and time management.
Prerequisites: Composition and Literature 060; teacher recommendation
Designation: College Prep
Credits: 0.5

Literature and Composition 090A—Foundational College Prep English 1A
Description: This course provides an intensive introduction to college prep English work by establishing a foundation of skills needed for all reading and writing at CEC. Students will practice analytical reading skills in a variety of genres including short stories, poems, novels, and nonfiction. The focus will be on close reading, where students use specific passages from the text to develop and support their interpretations of literary works as well as recognize how texts function as a whole and the conventions of using communication in different settings. Students will focus on the devices used to achieve their own writing purposes and appeal to their audiences by composing various types of essays and learning the conventions and expectations of the typical college essay. Students will be challenged to grow not only in their reading and composition capabilities but also as students and individuals pursuing their individual pathways in life through various reading, writing, and discussion activities.
Prerequisites: Placement based on NWEA MAP score, NextGen ACCUPLACER score, OR successful completion of 060
Designation: College Prep
Credits: 0.5

Literature and Composition 090B—Foundational College Prep English 1B

Description: This course provides an intensive introduction to college prep English work by establishing a foundation of skills needed for all reading and writing at CEC. Students will practice analytical reading skills in a variety of genres including short stories, poems, novels, and nonfiction. The focus will be on close reading, where students use specific passages from the text to develop and support their interpretations of literary works as well as recognize how texts function as a whole and the conventions of using communication in different settings. Students will focus on the devices used to achieve their own writing purposes and appeal to their audiences by composing various types of essays and learning the conventions and expectations of the typical college essay. Students will be challenged to grow not only in their reading and composition capabilities but also as students and individuals pursuing their individual pathways in life through various reading, writing, and discussion activities.

Prerequisites: Successful completion of LIT/COMP 090A

Designation: College Prep

Credits: 0.5

Literature and Composition 095— Comprehensive College Prep English

Description: This course provides a comprehensive overview of all college prep English skill sets. Students will be challenged to analyze and evaluate texts at a more advanced level to prepare for college-level reading tasks and to articulate, in both speech and writing, interpretations of poems, short stories, novels, and plays. They will also practice writing skills including a focus on the sentence level as well as making intentional decisions to compose various genres of writing effectively. Students will focus on conducting research and thinking critically about how to gather, process, and use information to become thoughtful, productive citizens in the modern world.

Prerequisites: NWEA MAP scores, ACCUPLACER scores, and/or LIT/COMP 090 A/B

Designation: College Prep

Credits: 1.0

Literature and Composition 099—Cumulative College Prep English

Description: This course is a culmination of all college prep skill sets and is designed to assist students in becoming independently capable of college communication tasks and critical thinking. Students will be asked to refine their critical reading, analysis, and evaluation abilities with various fiction and nonfiction texts. They will also perfect writing skills including a focus on the sentence level as well as making intentional decisions to compose various genres of writing effectively. Students will focus their semester on a passion project which will serve as a capstone at the conclusion of college prep English coursework.

Prerequisites: LIT/COMP 095; teacher recommendation

Designation: College Prep

Credits: 1.0

COM 1150—Public Speaking

Description: Combines the basic theories of communication with public speech performance skills. Emphasis is on speech preparation, organization, support, audience analysis, and delivery.

Prerequisites: ENG 1021 recommended

Designation: Aims Community College

Credits: 3.0 (1.0)

COM 1250—Interpersonal Communication

Description: Examines the communication involved in interpersonal relationships occurring in family, social, and career situations. Relevant concepts include self-concept, perception, listening, nonverbal communication, and conflict. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisites: LIT/COMP 090; LIT/COMP 095 recommended

Designation: Aims Community College

Credits: 3.0 (1.0)

ENG 1021—English Composition I
Description: Emphasizes the planning, writing, and revising of composition, including the development of critical and logical thinking skills. This course includes a wide variety of compositions that stress analytical, evaluative, and persuasive/argumentative writing. This is a statewide Guaranteed Transfer course in the GT-CO1 category.
Prerequisites: ACCUPLACER score; teacher recommendation
Designation: Front Range Community College
Credits: 3.0 (1.0)

ENG 1022—English Composition II
Description: This course introduces the student to the fundamental features of academic inquiry, reinforces student knowledge of source material and MLA format, and assists the student in becoming a stronger and more confident writer, arguer, thinker, and citizen. Students will draw on the knowledge and skills gained in ENG 1021 and refine the drafting and revising process, progressing along the continuum that began in ENG 1021. This is a statewide Guaranteed Transfer course in the GT-CO2 category.
Prerequisites: ENG 1021
Designation: Front Range Community College
Credits: 3.0 (1.0)

ENG 1031—Technical Writing I
Description: Develops skills one can apply to a variety of technical documents. Focuses on principles for organizing, writing, and revising clear, readable documents for industry, business, and government. This is a statewide Guaranteed Transfer course in the GT-CO1 category.
Prerequisites: LIT/COMP 095
Designation: Front Range Community College
Credits: 3.0 (1.0)

ENG 2021—Creative Writing I
Description: Examines techniques for creative writing by exploring imaginative uses of language through creative genres (fiction, poetry, and other types of creative production such as drama, screenplays, graphic narrative, or creative nonfiction) with emphasis on the student's own unique style, subject matter and needs. This is a statewide Guaranteed Transfer course in the GT-AH1 category.
Prerequisites: LIT/COMP 090; LIT/COMP 095 recommended
Designation: Front Range Community College
Credits: 3.0 (1.0)

LIT 1015—Introduction to Literature
Description: The purpose of Literature 1015 is to provide students with a general overview of literature. Lit 1015 asks students to read and analyze at a level that is consistent with a deeper understanding of the material and its broader purpose in society. It also asks students to articulate how such literature is created and why an author would choose specific devices to create meaningful effects for his audience. To gain this understanding over a broad spectrum, students will be asked to read multiple genres including fiction, drama, and poetry. Overall, students should use this class as an opportunity not just to learn about literature but to see how literature applies to society at large and why literature can serve such an important role in the general fabric of what a society becomes. This is a statewide Guaranteed Transfer course in the GT-AH2 category.
Prerequisites: LIT/COMP 090; LIT/COMP 095 recommended
Designation: Front Range Community College
Credits: 3.0 (1.0)

MATH

Geometry

Description: Geometry focuses on the properties and relationships of geometric shapes and figures. Students will explore concepts such as points, lines, angles, polygons, circles, and three-dimensional objects, using both formal proofs and real-world applications. Emphasis is placed on developing logical reasoning, problem-solving skills, and spatial visualization through hands-on activities, construction, and mathematical reasoning. Topics also include congruence, similarity, transformations, and the Pythagorean Theorem, providing a strong foundation for further study in mathematics and other related fields. This course is accelerated to cover all geometry standards in a single semester.

Prerequisites: Pre-Algebra or MAT 060

Designation: College Prep

Credits: 1.0

Geometry A

Description: This course covers half of the Geometry skills and standards and is paired with Geometry B which covers the second half of the skill set.

Prerequisites: Pre-Algebra or MAT 060

Designation: College Prep

Credits: 0.5

Geometry B

Description: This course covers the remaining Geometry skills and standards and should be taken after "Geometry A".

Prerequisites: Geometry A

Designation: College Prep

Credits: 0.5

Geometry Lab

Description: Supports skill development necessary for success within Geometry

Co-Requisite: Geometry A or Geometry B

Designation: College Prep

Credits: 0.25

MAT 060—Pre-Algebra

Description: This course teaches skills necessary for success in Algebra 1 and Geometry. The topics reviewed are fractions, integers, variables, equations, functions, graphing, rates/ratios, and exponents. Students will be paced through an online mathematical learning program, advancing as they master concepts. A strong emphasis will be placed on classroom and study habits that will help optimize learning, and students will learn to show their mathematical work in clear written form.

Prerequisites: None

Designation: College Prep

Credits: 0.5

MAT 090A—Algebra I A
Description: This course introduces students to foundational algebraic concepts, including the representation of linear and exponential relationships using graphs, tables, equations, and real-world contexts. Students will learn to manipulate expressions by factoring, distributing, multiplying polynomials, and expanding exponential expressions. The course also covers analyzing the slope of a line from various perspectives—graphically, numerically, contextually, and algebraically—and solving equations and systems of equations using multiple strategies. Students will explore arithmetic and geometric sequences, as well as functions such as square root, cube root, absolute value, piecewise-defined, step, and simple inverse functions. Function notation will be introduced, and students will develop skills to analyze two-variable data, distinguishing between association and causation while interpreting correlation in context. This course is paired with MAT 090B.
Prerequisites: MAT 060 or Applied Math and/or Geometry
Designation: College Prep
Credits: 0.5

MAT 090B—Algebra I B
Description: This course builds on foundational algebra concepts, focusing on representing and analyzing linear, quadratic, and exponential relationships through graphs, tables, equations, and real-world contexts. Students will refine their skills in manipulating expressions by factoring, distributing, multiplying polynomials, and expanding exponential expressions. The course includes in-depth analysis of the slope of a line from various perspectives and explores solving inequalities and systems of inequalities using multiple strategies. Students will study arithmetic and geometric sequences and apply exponential models to solve problems. Additionally, they will investigate functions such as square root, cube root, absolute value, piecewise-defined, step, and inverse functions, while also comparing distributions of one-variable data.
Prerequisites: MAT 090A
Designation: College Prep
Credits: 0.5

MAT 090 - Algebra 1 Lab
Description: Supports skill development necessary for success within Geometry
Co-Requisite: MAT 090A or MAT 090B
Designation: College Prep
Credits: 0.25

MAT 099—Algebra II
Description: This course's content includes vocabulary, systems, relations and functions, rational expressions and equations, inequalities, radical and complex numbers, and quadratic equations.
Prerequisites: Algebra I; Geometry
Designation: College Prep
Credits: 1.0

Personal Finance
Description: Surveys the basic personal finance needs of most individuals and introduces the personal finance tools useful in planning and instituting a successful personal financial philosophy. The course emphasizes the basics of budgeting, buying, saving, borrowing, career planning, investing, retirement planning, estate planning, insurance, and income taxes.
Prerequisites: This course is designed for 11th and 12th grade students
Designation: College Prep
Credits: 1.0

MAT 1140—Career Mathematics
Description: Covers material designed for career and technical students who need to study particular mathematical topics. Topics include measurement, algebra, geometry, statistics, and graphs. These are presented at an introductory level and the emphasis is on applications.
Prerequisites: MAT 090 and ACCUPLACER
Designation: Front Range Community College
Credits: 3.0 (1.0)

MAT 1340—College Algebra
Description: Focuses on a variety of functions and the exploration of their graphs. Topics include equations and inequalities, operations on functions, exponential and logarithmic functions, linear and non-linear systems, and an introduction to conic sections. This course provides essential skills for Science, Technology, Engineering, and Math (STEM) pathways. This is a statewide Guaranteed Transfer course in the GT-MA1 category.
Prerequisites: MAT 099 and ACCUPLACER
Designation: Front Range Community College
Credits: 4.0 (1.5)

MAT 1440—Pre-Calculus
Description: Extends algebraic concepts and explores the subject of trigonometry. Topics include polynomial, rational, logarithmic, and exponential functions, trigonometric and inverse trigonometric functions and their graphs, trigonometric identities, and applications. This course provides essential skills for Science, Technology, Engineering, and Math (STEM) pathways. This is a statewide Guaranteed Transfer course in the GT-MA1 category.
Prerequisites: MAT 1340
Designation: Front Range Community College
Credits: 5.0 (2.0)

MAT 2410—Calculus I
Description: Introduces single variable calculus and analytic geometry. Includes limits, continuity, derivatives, and applications of derivatives as well as indefinite and definite integrals and some applications. This is a statewide Guaranteed Transfer course in the GT-MA1 category.
Prerequisites: MAT 1420 OR MAT 1440
Designation: Front Range Community College
Credits: 5.0 (2.0)

MAT 2420—Calculus II
Description: Continues the study of single variable calculus which will include techniques of integration, analytic geometry, improper integrals, convergence of infinite numerical series, and power series. This is a statewide Guaranteed Transfer course in the GT-MA1 category.
Prerequisites: MAT 2410
Designation: Front Range Community College
Credits: 5.0 (2.0)

MAT 2431—Calculus III/Engineering Applications
Description: Focuses on the traditional subject matter of multivariable Calculus with an additional emphasis on word problems and problem-solving. Topics include vectors, vector-valued functions, partial derivatives, analytic geometry, multiple integrals, line integrals, Stokes', Divergence Theorems and Green's Theorems, and applications. A graphing calculator is required for this course. This is a statewide Guaranteed Transfer course in the GT-MA1 category.
Prerequisites: MAT 2420
Designation: Front Range Community College
Credits: 5.0 (2.0)

SCIENCE

Biology with Lab A

Description: During this course, students will practice cooperative, inquiry and project-based learning in the study of molecular and cellular biology including biochemistry, cell structure and function, the metabolic process of respiration and photosynthesis, cellular reproduction and the basic concepts of genetics. Laboratory experiences will encourage scientific thinking by following procedures, collecting and analyzing data.
Prerequisites: MAT 060
Designation: College Prep
Credits: 0.5

Biology with Lab B

Description: Students will explore large scale systems of biology: Ecology and Evolution. Students will examine how these systems interact and the processes that shape our environments. During this course students will practice cooperative, inquiry and project-based learning in the study of environmental and evolutionary biology. Laboratory experiences will encourage scientific thinking by collecting and analyzing data.
Prerequisites: Biology A (Micro)
Designation: College Prep
Credits: 0.5

Chemistry with Lab A

Description: Chemistry A is the first semester of a year-long course in Chemistry. During this course, students will practice cooperative, inquiry, and self-guided learning in the study of matter including matter and change, measurements, atomic theory, chemical bonding, nomenclature, and chemical reactions. The course will be structured around a mix of lectures, group activities, and labs. These activities will include working in small groups to provide the opportunity to reinforce the lecture material through various visual presentations and descriptions and receive help from the instructor. Laboratory experiences will encourage scientific thinking by following procedures, collecting, and analyzing data, and writing lab reports. Homework will emphasize the concepts being studied in class and provide opportunities for the student to use source material, including the textbook, to master the material. Successful completion of Chemistry A is the prerequisite for Chemistry B. This course sequence will prepare the student for higher level science courses including college biology and college-level general chemistry. The two-semester sequence is strongly recommended for any student planning to pursue a science or engineering degree.
Prerequisites: Geometry and MAT 090A OR Algebra 1 and concurrently enrolled in Geometry
Designation: College Prep
Credits: 0.5

Chemistry with Lab B

Description: Chemistry B is the second semester of a year-long course in Chemistry. During this course, students will practice cooperative, inquiry and self-guided learning in the study of matter including chemical reactions, stoichiometry, states of matter, the gas laws, properties of water and solutions, thermochemistry, acid-base chemistry, and nuclear chemistry. The course will be structured around a mix of lectures, group activities and labs. These activities will include working in small groups to provide the opportunity to reinforce the lecture material through various visual presentations and descriptions and receive help from the instructor. Laboratory experiences will encourage scientific thinking by following procedures, collecting, and analyzing data and writing lab reports. Homework will emphasize the concepts being studied in class and provide opportunities for the student to use source material, including the textbook, to master the material. Successful completion of Chemistry A and concurrent enrollment in Algebra II or higher are the prerequisites for Chemistry B. This course sequence best prepares the student for higher-level science courses including college biology and college-level general chemistry and is strongly recommended for any student seeking an Associate of Science degree or Bachelor of Science degree.
Prerequisites: Continuing progress in math sequence; Chemistry A with C or better
Designation: College Prep
Credits: 0.5

Earth and Space Science A
Description: The Earth and Space Science A course focuses on the study of astronomy and geology. Students will explore the history of the Universe, stellar evolution, motions of orbiting objects, Earth's geologic history, plate tectonics, and Earth's surficial geologic processes. Additionally, students will develop science skills including interpreting graphs and data, writing independent parts of a lab report, unit conversions and solving simple algebraic equations, evaluating evidence, analyzing resources, and creating models of complex scientific phenomena.
Prerequisites: MAT 060
Designation: College Prep
Credits: 0.5

Earth and Space Science B
Description: The Earth and Space Science B course focuses on the study of climatology, Earth resources and sustainability. Students will explore Earth's feedback systems, energy and climate, impact of climate change, carbon and Earth's processes, interactions of organisms and Earth's systems, human impacts on Earth's systems, and environmental solutions. Additionally, students will develop science skills including interpreting graphs and data, writing independent parts of a lab report, unit conversions and solving simple algebraic equations, evaluating evidence, analyzing resources, and creating models of complex scientific phenomena.
Prerequisites: Earth and Space Science A
Designation: College Prep
Credits: 0.5

Forensic Science
Description: Forensic Science is an exciting and dynamic course that introduces students to the scientific principles and techniques used in solving real-world criminal cases. This hands-on class combines biology, chemistry, physics, and technology to explore the world of crime scene investigation. Students will learn about evidence collection, analysis of physical evidence (such as fingerprints, DNA, blood spatter, and trace materials), forensic toxicology, ballistics, and much more. Through case studies and practical lab exercises, students will develop critical thinking skills and an understanding of how science is applied in criminal investigations. By the end of the course, students will gain a deeper appreciation for the role of forensic science in the justice system, while building a strong foundation for those interested in careers in criminal justice, law enforcement, or medical science.
Prerequisites: MAT 060
Designation: College Prep
Credits: 0.5

Physical Science with Lab
Description: This course is designed to help students develop the skills and abilities necessary to be successful in science classes. The course will do so through the study of scientific measurement, data analysis focusing on chemistry and physics. Students will learn both general problem-solving and laboratory techniques, as well as specific concepts from each field, throughout several lectures and laboratory assignments in each section. Students will leave the course with a set of tools for future science classes as well as an indication of which sciences most appeal to their interests.
Prerequisites: MAT 060
Designation: College Prep
Credits: 1.0

ANT 1005—Biological Anthropology with Lab
Description: Focuses on the study of the human species and related organisms, and examines principles of genetics, evolution, anatomy, classification, and ecology, including a survey of human variation and adaptation, living primate biology and behavior, and primate and human fossil evolutionary history. This is a statewide Guaranteed Transfer course in the GT-SC1 category.
Prerequisite: NGW 246 Recommended Lit/Comp 095
Designation: Front Range Community College
Credits: 4.0 (1.5)

BIO 1005—Science of Biology with Lab
Description: Examines the basis of biology in the modern world and surveys the current knowledge and conceptual framework of the discipline. Explores biology as a science, a process of gaining new knowledge, and the impact of biological science on society. This course includes laboratory experience. Designed for non-science majors. This is a statewide Guaranteed Transfer course in the GT-SC1 category.
Prerequisites: NGW score 246 and AAF score 245 or QAS score 240
Designation: Front Range Community College
Credits: 4.0 (1.5)

BIO 1111—General College Biology I w/Lab
Description: Examines the fundamental molecular, cellular, and genetic principles characterizing plants and animals. Includes cell structure and function, and the metabolic processes of respiration, and photosynthesis, as well as cell reproduction and basic concepts of heredity. The course includes laboratory experience. This is a statewide Guaranteed Transfer course in the GT-SC1 category.
Prerequisites: NGW score 246 and AAF score 245 or QAS score 240
Designation: Front Range Community College
Credits: FR 5.0 (2.0)

CHE 1011—Introduction to Chemistry I with Lab
Description: Introduction to Chemistry I is a 5-credit course designed for non-science majors, students in occupational and health programs, and students with no chemistry background. Topics covered include the study of measurements, atomic theory, chemical bonding, nomenclature, stoichiometry, solutions, acids and bases, gas laws, and condensed states. Laboratory experiments will demonstrate the above concepts qualitatively and quantitatively. This course will also help students develop problem-solving techniques and gain a greater appreciation of the impact science has on our daily lives. This is a statewide Guaranteed Transfer course in the GT-SC1 category.
Prerequisites: NGW score 246 and AAF score 245 or QAS score 240
Designation: Front Range Community College
Credits: 5.0 (2.0)

CHEM 1111—General College Chemistry I with Lab
Description: Focuses on basic chemistry and measurement, matter, chemical formulas, reactions and equations, stoichiometry. This course covers the development of atomic theory culminating in the use of quantum numbers to determine electron configurations of atoms, and the relationship of electron configuration to chemical bond theory. The course includes gases, liquids, and solids and problem-solving skills are emphasized through laboratory experiments. This is a statewide Guaranteed Transfer course in the GT-SC1 category.
Prerequisites: NGW score 246 and pre-req MAT1340 and completion of CHE1011 or HS Chemistry
Designation: Front Range Community College
Credits: 5.0 (2.0)

ENV 1111—Environmental Science with Lab
Description: Introduces the basic concepts of ecology and the relationship between environmental problems and biological systems. This course includes interdisciplinary discussions on biology, chemistry, geology, energy, natural resources, pollution, and environmental protection. A holistic approach is used when analyzing how the foundations of natural sciences interconnect with the environment. This is a statewide Guaranteed Transfer course in the GT-SC1 category.
Prerequisites: NGW score 246 and AAF score 245 or QAS score 240
Designation: Front Range Community College
Credits: 4.0 (1.5)

GEY 1111—Physical Geology with Lab
Description: Introduces the major topics of geology. Course content encompasses Earth's materials, structure, and surface landforms. Geologic time and the geologic processes responsible for Earth's internal and external features are covered. This course includes laboratory experience. This is a statewide Guaranteed Transfer course in the GT-SC1 category.
Prerequisites: NGW score 246 and AAF score 245 or QAS score 240
Designation: Front Range Community College
Credits: 4.0 (1.5)

GEY 1135—Environmental Geology with Lab
Description: Environmental Geology introduces the subject of geology as it relates to human activities. Geologic hazards such as floods, landslides, earthquakes, and volcanoes are investigated. Mineral, energy, soil and water resources are discussed in terms of their geologic formation and identification, usage by society and associated environmental impacts. Land use issues, waste and pollution are also examined. This is a statewide Guaranteed Transfer course in the GT-SC1 category.
Prerequisites: NGW score 246 and AAF score 245 or QAS score 240
Designation: Front Range Community College
Credits: 4.0 (1.5)

SOCIAL SCIENCE AND HUMANITIES

Civics

Description: Students will study the history and civil government of the United States and of the state of Colorado. Topics include the history and contents of the Constitution, the functions of the three branches of government, structure of Colorado's government, and key events in Colorado history. Students will also discuss current events at the national and local levels. This course meets the state requirement of the study of Colorado government and politics.
Prerequisites: LIT/COMP 090 or higher recommended
Designation: College Prep
Credits: 1.0

Geography

Description: This course examines how climate and resources impact the movement and development of human societies. We will take a regional approach, studying how interactions between humans and their environment have impacted the characteristics of major world regions. Students will also learn to use geographic tools and resources to analyze Earth's human systems and physical features to investigate and address geographic issues. This class meets the state requirement for learning about the Holocaust and Genocide.
Prerequisites: None
Designation: College Prep
Credits: 1.0

ANT 1001 – Cultural Anthropology

Description: Examines the study of human cultural patterns, including communication, economics systems, social and political organizations, religion, healing systems, and cultural change. This is a statewide Guaranteed Transfer course in the GT-SS3 category.
Prerequisites: Accuplacer and LIT/COMP 095
Designation: Front Range Community College
Credits: 3.0 (1.0)

ART 1110—Art Appreciation

Description: Introduces the cultural significance of the visual arts, including media, processes, techniques, traditions, and terminology. This is a statewide Guaranteed Transfer course in the GT-AH1 category.
Prerequisites: LIT/COMP 090
Designation: Front Range Community College
Credits: 3.0 (1.0)

HIS 1120—The World: 1500-Present

Description: Explores peoples, groups, ideas, institutions, and trends that have shaped World History from 1500 to the present. Reflects the multiple perspectives of gender, class, religion, and ethnic groups in a broad global sense. Focuses on the common denominators among all people. This approach goes beyond political borders to provide a better appreciation for different cultures. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline. This class meets the state requirement for learning about the Holocaust and Genocide. This is a statewide Guaranteed Transfer course in the GT-HI1 category.
Prerequisites: Accuplacer Score of 246
Designation: Front Range Community College
Credits: 3.0 (1.0)

HIS 1210—US History to Reconstruction
Description: Explores trends within events, peoples - including Native American - groups, ideas, and institutions in North America and the United States to Reconstruction. This class focuses on developing, practicing, and strengthening skills historians use while constructing knowledge and studying a diverse set of narratives through perspectives such gender, class, religion, and ethnicity. This is a statewide Guaranteed Transfer course in the GT-HI1 category.
Prerequisites: Accuplacer Score of 246
Designation: Front Range Community College
Credits: 3.0 (1.0)

HIS 1220—US History Since the Civil War
Description: Explores events, trends, peoples, groups, cultures, ideas, and institutions in United States History, including the multiple perspectives of gender, class, and ethnicity, between the period of the American Civil War and the present. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline. This class meets the state requirement for learning about the Holocaust and Genocide. This is a statewide Guaranteed Transfer course in the GT-HI1 category.
Prerequisites: Accuplacer Score of 246
Designation: Front Range Community College
Credits: 3.0 (1.0)

HIS 2015—20th Century World History
Description: Investigates the major political, social, and economic developments, international relationships, scientific breakthroughs, and cultural trends that have shaped the various global regions, empires, and nation-states since the late nineteenth century. This course focuses on developing, practicing, and strengthening skills historians use while constructing knowledge and studying a diverse set of narratives through perspectives such as gender, class, religion, and ethnicity. This class meets the state requirement for learning about the Holocaust and Genocide. This is a statewide Guaranteed Transfer course in the GT-HI1 category.
Prerequisites: LIT/COMP 095
Designation: Aims Community College
Credits: 3.0 (1.0)

MUS 1020—Music Appreciation
Description: Introduces the study of music focusing on intelligent listening skills, the elements of music and their relationships, the musical characteristics of representative works and composers, common musical forms and genres of various Western historical periods. This is a statewide Guaranteed Transfer course in the GT-AH1 category.
Prerequisites: LIT/COMP 090
Designation: Front Range Community College
Credits: 3.0 (1.0)

MUS 1023 – Survey of World Music
Description: Provides an overview of music from around the globe including folk, ethnic, non-Western and popular styles. Develops basic listening skills and builds a historical/cultural context for world music styles to enable an understanding and appreciation of global music. This is a statewide Guaranteed Transfer course in the GT-AH1 category.
Prerequisites: LIT/COMP 090
Designation: Front Range Community College
Credits: 3.0 (1.0)

PHI 1011— Introduction to Philosophy
Description: Introduces significant theoretical and practical questions and emphasizes understanding the meaning and methods of philosophy. Includes: the human condition, logic, reality, knowledge, freedom, history, ethics, and religion. This is a statewide Guaranteed Transfer course in the GT-AH3 category.
Prerequisites: LIT/COMP 095
Designation: Aims Community College
Credits: 3.0 (1.0)

PHI 1012—Ethics
Description: Examines human life, experience, and thought to discover and develop the principles and values for pursuing a more fulfilled existence. This course examines ethical theories designed to both justify moral judgments, as well as apply these ethical theories to a selection of personal and social issues in the world today. This is a statewide Guaranteed Transfer course in the GT-AH3 category.
Prerequisites: LIT/COMP 095
Designation: Aims Community College
Credits: 3.0 (1.0)

PHI 2005—Business Ethics
Description: Examines major ethical theories and then applies ethical decision-making criteria to various moral issues and challenges in a business environment. This course will include issues such as job discrimination, worker's rights, consumerism, advertising, whistleblowing, product safety, responsibility to the environment, as well as compassionate and fair responsibility to society. This is a statewide Guaranteed Transfer course in the GT-AH3 category.
Prerequisites: LIT/COMP 095
Designation: Aims Community College
Credits: 3.0 (1.0)

PHI 2018 – Environmental Ethics
Description: Analyzes theories of the value of the natural world. Topics may include the relation between scientific and moral principles; theories of the moral worth of persons, animals, plants, and other natural objects; historical, religious, and cultural influences on conceptions of nature; alternative accounts of human relationships and responsibilities to nature; and the connection between moral and political values and economic policies. This is a statewide Guaranteed Transfer course in the GT-AH3 category.
Prerequisites: LIT/COMP 095
Designation: Aims Community College
Credits: 3.0 (1.0)

PHI 2020 – Philosophy of Death and Dying
Description: Explores the major philosophical questions surrounding death and dying, the metaphysical arguments for and against the existence of the soul, life after bodily death, the major ethical theories and their relation to issues of physician-assisted suicide, care for the dying, the grieving process, death as expressed in aesthetics and contemporary society, as well as the existential contributions concerning meaning of life and the meaning of death. This is a statewide Guaranteed Transfer course in the GT-AH3 category.
Prerequisites: LIT/COMP 095
Designation: Aims Community College
Credits: 3.0 (1.0)

PSC 1025—American State and Local Government
Description: Emphasizes the structure and function of state, county, and municipal governments including their relations with each other and with national government. This course meets the state requirement of the study of Colorado government and politics. This is a statewide Guaranteed Transfer course in the GT-SS1 category.
Prerequisites: LIT/COMP 095
Designation: Aims Community College
Credits: 3.0 (1.0)

PSY 1001—General Psychology I
Description: Focuses on the scientific study of behavior including motivation, emotion, physiological psychology, stress and coping, research methods, consciousness, sensation, perception, learning and memory. This is a statewide Guaranteed Transfer course in the GT-SS3 category.
Prerequisites: LIT/COMP 095 or higher recommended
Designation: Aims Community College
Credits: 3.0 (1.0)

PSY 1002—General Psychology II
Description: Focuses on the scientific study of behavior including cognition, language, intelligence, psychological assessment, personality, abnormal psychology, therapy, life span development, sex, gender, sexuality, and social psychology. This is a statewide Guaranteed Transfer course in the GT-SS3 category.
Prerequisites: LIT/COMP 095 or higher recommended
Designation: Aims Community College
Credits: 3.0 (1.0)

PSY 2221- Social Psychology
Description: Focuses on the behavior of humans in a wide variety of social settings and the social influences humans have on each other in those settings. This is a statewide Guaranteed Transfer course in the GT-SS3 category.
Prerequisites: LIT/COMP 095 or higher recommended
Designation: Aims Community College
Credits: 3.0 (1.0)

PSY 2440—Human Growth/Development
Description: Examines human development from conception through death, emphasizing physical, cognitive, emotional, and psychosocial factors. This is a statewide Guaranteed Transfer course in the GT-SS3 category.
Prerequisites: LIT/COMP 095 or higher recommended
Designation: Aims Community College
Credits: 3.0 (1.0)

WORLD LANGUAGES

Spanish I

Description: Spanish I is a semester long course that focuses on the development of students' communicative competence and their understanding of the cultural products, practice, and perspectives of the Spanish-speaking world. Communicative competence is divided into three modes: speaking and writing as an interactive process in which students learn to communicate with other Spanish speakers (Interpersonal mode); reading, listening, and viewing as a receptive process in which comprehension is developed (Interpretive mode); and speaking and writing in a presentational context in which students are focused on organization of thoughts and awareness of their audience when delivering information (Presentational mode). Students communicate in real-life contexts where grammar and vocabulary are integrated according to various real-life situations in which they are required to function. Many of these tasks also connect to other content areas. Through the language learning process, students develop an understanding of how their own language is structured and how their own culture has unique aspects. Emphasis is placed on the use of Spanish in the classroom as well as on the use of authentic materials to learn about the culture. An important component of this course is the use of Spanish beyond the classroom in order to apply it in the real world.
Prerequisites: COMP/LIT 060
Designation: College Prep
Credits: 1.0

Spanish II

Description: Spanish II is a semester long course that focuses on the development of students' communicative competence and their understanding of the cultural products, practice, and perspectives of the Spanish-speaking world. Communicative competence is divided into three modes: speaking and writing as an interactive process in which students learn to communicate with other Spanish speakers (Interpersonal mode); reading, listening, and viewing as a receptive process in which comprehension is developed (Interpretive mode); and speaking and writing in a presentational context in which students are focused on organization of thoughts and awareness of their audience when delivering information (Presentational mode). Students communicate in real-life contexts where grammar and vocabulary are integrated according to various real-life situations in which they are required to function. Many of these tasks also connect to other content areas. Through the language learning process, students develop an understanding of how their own language is structured and how their own culture has unique aspects. Emphasis is placed on the use of Spanish in the classroom as well as on the use of authentic materials to learn about the culture. An important component of this course is the use of Spanish beyond the classroom in order to apply it in the real world.
Prerequisites: Spanish I
Designation: College Prep
Credits: 1.0

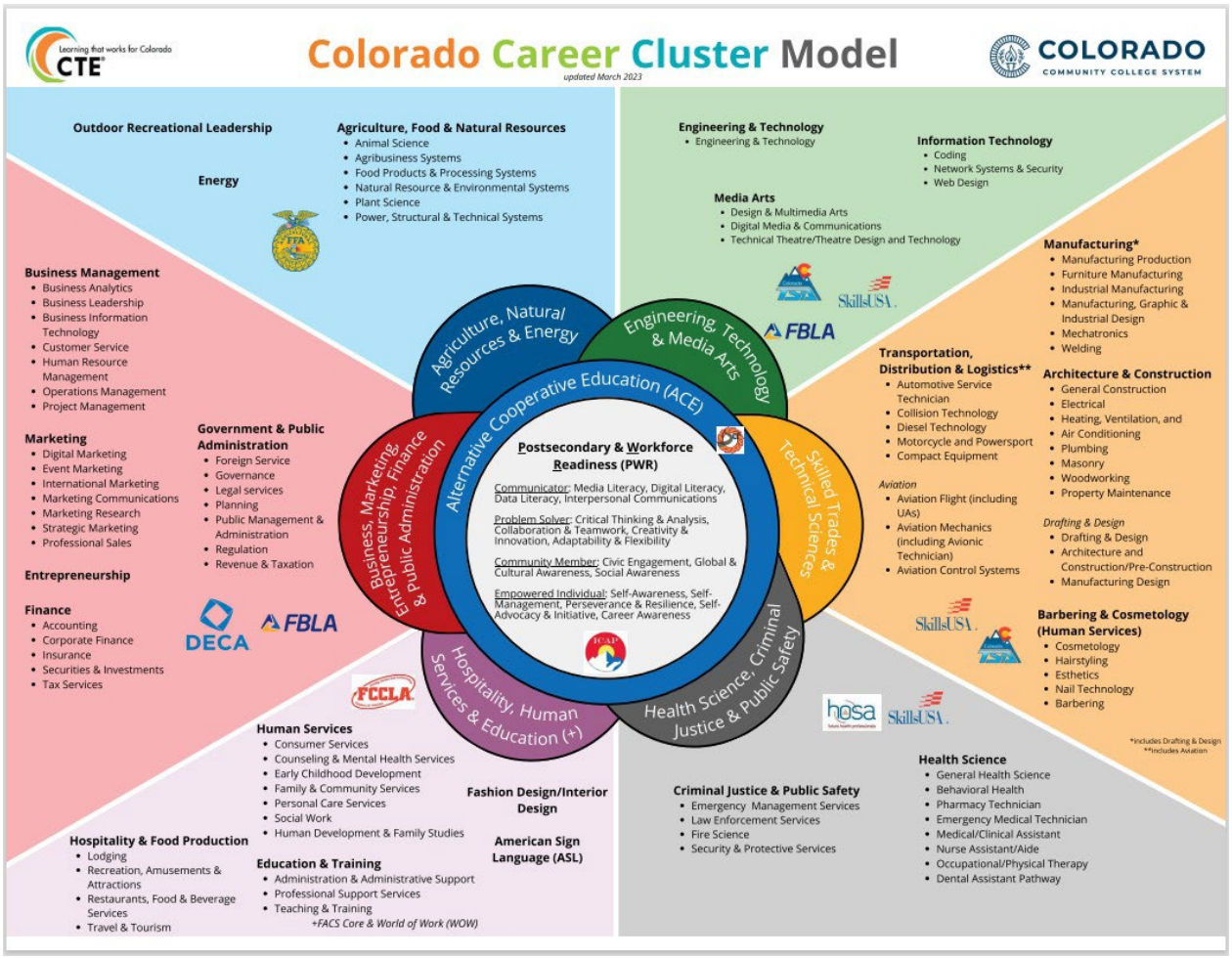
CAREER AND TECHNICAL EDUCATION

What is a CTE Program?

Career and technical education (CTE) consist of pathways teaching specific career skills to students in middle school, high school, and post-secondary institutions. In Colorado, CTE is split into 17 career clusters that meet the criteria of being high-wage, high skill, and high-demand careers. CECFC has CTE pathways in Business, Construction, Engineering, Health Sciences, Computer Science, Web and Graphic Design, and IT Networks and Security.

Structure of a CTE Program

CTE programs consist of a sequence of courses (pathway) that are designed to teach students the skills they need to be successful academically and in the workplace in that career cluster. All programs have a sequence of four or more courses that students can take while at CECFC. All our pathways start with an introductory course suitable for most 9th grade students. All our pathways include the opportunity to earn industry recognized certification. The level four course for most pathways is a work-based learning experience that exposes students to what work in that field would be.



Business Leadership

Business, Finance and Marketing

Possible Careers:

Sales Representative
Web Developer
Business Teacher
General Manager
Marketing Manager
Operations Manager
Sales Manager
Business Administrator
Customer Service Rep.

Why This Pathway?

In recent years, Weld and Larimer Counties have accounted for nearly half of Colorado's total population growth. With our booming economy, there has never been a better time to pursue business leadership in preparation for a management career or to operate your own small business. There are over 33 million small businesses in the United States, with 43% of those owned and operated by women. Currently, about 20% of small businesses are owned by racial minorities.

Level 1 ⇨ Levels 2 & 3 ⇨ Level 4

Level 1

- BUS 1015: Introduction to Business
- CIS 1018: Introduction to PC Apps
- Microsoft Office Certification Lab

Levels 2 & 3

- BUS 2017: Business Communication
- BUS 2016: Legal Environment of Business
- MAR 1055: Social Media Marketing for Business

Level 4

- Work Based Learning

Engineering & Technology

Possible Careers:

Structural Engineer
Landscape Architect
Drafters
Biomedical Engineers
Surveyors
Civil Engineers
Computer Engineers
Mechanical and Electrical Engineers
Aerospace Engineers

Why This Pathway?

Engineers not only dream big, but have the special skill set of designing something with ingenuity and then problem solving to make sure their designs function as intended. This industry often includes entry level paid internship and apprenticeship opportunities. Many engineering technicians have median salaries around $65,000 and most engineers have a median salary well over $100,000. With the growth Northern Colorado is experiencing, the demand for various types of engineers has never been higher.

Level 1 ⇨ Levels 2 & 3 ⇨ Level 4

Level 1	Levels 2 & 3		Level 4
Computer Modeling and 3D Printing	Engineering Innovation & Application	Fusion Certification Lab	ACE Mentor Internship
Introduction to InnoLab	Robotics 2	Solidworks Certification Lab	Work Based Learning
Robotics 1			

Construction & Architecture

Possible Careers:

Carpenter
Electrician
Plumbing and HVAC Tech
Architect
Structural Engineer
Site Superintendent
Heavy Machine Operator
Program Manager
Iron and Steel Worker
General Contractor

Why This Pathway?

Construction is a great industry for people to build their own future. There are many entry level opportunities, including some that require post-secondary education, but many that do not. For those that prove themselves on job, there are endless opportunities for growth and promotion. It is common in this industry for someone to start out at the journeyman or apprentice level and eventually own and operate their own business using the skills they learned on the job.

Level 1 ⇨ Levels 2 & 3 ⇨ Level 4

Level 1

- Principles of Construction
- OSHA 10 Certification

Levels 2 & 3

- Pre-apprenticeship Carpentry
- AutoCAD Certification Lab

Level 4

- ACE Mentor Internship
- Work Based Learning

Computer Science

Web & Graphic Design

Possible Careers:

Wed Designer
Computer Animator
Mobile App Designer
Computer Graphic Artist
Interface Designer
Computer Systems Analyst
Special Effects Artist
Web Developer
Creative Director
Freelance Marketing

Why This Pathway?

If the opportunity to get paid for having creative freedom daily isn't enough, there are many other reasons why web and graphic design is a great career path. The demand for web design industry careers is expected to grow by 13% by 2020-2030, resulting in 17,900 new jobs created each year. Entry level designers start around $42,000 annually. Experienced designers make nearly $80K a year and web developers make even more using their added knowledge of coding. You can work for a small business or be employed by large companies like Walt Disney or Amazon.

Level 1 ⇨ Levels 2 & 3 ⇨ Level 4

Level 1

- AI and App Development
- Adobe Suite Certification Lab

Levels 2 & 3

- JavaScript Certification Lab
- HTML 5 Certification Lab
- HTML and CSS Certification Lab

Level 4

- Work Based Learning

Computer Science

Coding

Possible Careers:

Computer Programmer
Software Devoloper
Mobile App Designer
Software Architect
Video Game Creator
Computer Engineer
Virtual Reality Designer
Computer Support
Artificial Intelligence Creator

Why This Pathway?

In Colorado, the average annual salary for positions in the computer science industry is over $100,000. Most of these positions require post-secondary certification, a bachelor's degree or a master's degree. You could work for a Fortune 500 company like Apple or Google, or you could have your own start-up. In fact, a new tech company launches every 72 hours in Colorado! Common threads of employees in this industry are creativity and problem solving.

Level 1 ⇨ Levels 2 & 3 ⇨ Level 4

Level 1	Levels 2 & 3		Level 4
AI and App Development	Cybersecurity	Python Certification Lab	Work Based Learning
CSC 1001: Principles of Computing	CSC 1060: Computer Programming I	Java Certification Lab	
	C++ Certification Lab	Software Development Certification Lab	

Information Technology

Networking and Security

Possible Careers:

Cybersecurity Analyst
Network Administrator
IT Project Manager
Database Administrator
Network Engineer
Digital Forensics Analyst
Cyber Defense Responder
Systems Research Scientist

Why This Pathway?

Over 100 cybersecurity companies exist in Colorado. Our state is also home to the National Cybersecurity Center and several major military bases, including the Air Force Academy and NORAD. Everyone from financial institutions to schools and healthcare facilities hire Informational Technology professionals at an average salary of over $100,000. Most of these positions require a bachelor's or master's degree, however, some entry level positions hire IT positions with only a certification or associate's degree.

Level 1 ⇨ Levels 2 & 3 ⇨ Level 4

Level 1

- Tech+ Certification Lab
- Cybersecurity

Levels 2 & 3

- A+ Certification Lab
- Network+ Certification Lab
- Security+ Certification Lab
- Cybersecurity Analyst Cert. Lab
- Linux+ Certification Lab

Level 4

- Work Based Learning

CERTIFICATION LABS

Our certification labs are taught at specific times. Students are expected to attend (i.e. attendance is not optional), and attendance will be recorded by the instructor during every scheduled period. One certification lab section is considered as a supplemental online course and is self-paced. These courses are delivered via a personalized, web-based learning management system. The platform delivers a meaningful learning experience and provides users with a customized study schedule and detailed instructional content, including practice activities and exams. These classes will have minimum weekly progress requirements that will be tracked and graded. The end goal of these courses is to earn an industry recognized credential/certificate. Many courses in this format also count toward PLA credit (Prior Learning Award) at our local community colleges. We offer the following courses in our certification labs:

- **A+** (informational Technology-Network Systems and Technology Pathway)
- **Adobe Suite, All certifications available** (Computer Science-Web and Graphic Design Pathway)
- **Autodesk – AutoCAD** (Construction and Architecture Pathway)
- **Autodesk – Fusion** (Engineering and Technology Pathway)
- **C++, Entry Level and Associate Level Programmer** (Computer Science-Coding and Programming Pathway)
- **Cybersecurity Analyst** (Informational Technology-Network Systems and Technology Pathway)
- **HTML5 Application Development** (Computer Science-Web and Graphic Design Pathway)
- **HTML and CSS** (Computer Science-Web and Graphic Design Pathway)
- **Java** (Computer Science-Coding and Programming Pathway)
- **JavaScript** (Computer Science-Web and Graphic Design Pathway)
- **Linux+** (Informational Technology-Network Systems and Technology Pathway)
- **Microsoft Office Specialist Associate and Expert** (Business Leadership Pathway)
- **Network+** (Informational Technology-Network Systems and Technology Pathway)
- **Python, Entry Level and Associate Level Programmer** (Computer Science-Coding and Programming Pathway)
- **Security+** (Informational Technology-Network Systems and Technology Pathway)
- **Software Development** (Computer Science-Coding and Programming Pathway)
- **Solidworks** (Engineering and Technology Pathway)
- **Tech +** (Informational Technology-Network Systems and Technology Pathway)

In addition to the possible certifications earned in certification labs, we also offer the following certifications embedded in traditionally taught courses:

- Adobe Photoshop
- Certified Entry Level Python Programmer
- C++ Certified Entry Level Programmer
- Drone Pilot (Part 107)
- EETC Technician - 4 Stroke Engine
- OSHA 10
- PACT Core and PACT Carpentry

Students may also participate in the following Mentor Program course.

- ACE - Architecture, Construction and Engineering (Construction and Architecture Pathway & Engineering and Technology Pathway)

CERTIFICATION LAB COURSE DESCRIPTIONS

A+ Certification
Description: A+ Certification is a self-paced course where students will improve upon their skills learned in IT Fundamentals. Students will learn how to identify, use, and connect hardware, install and support the Windows operating system, install and connect laptops and mobile devices, troubleshoot PC and mobile device issues, explain types of networks and connections, compare and contrast cloud computing concepts, and identify and protect against security vulnerabilities. To complete certification, students should enroll in PC Professional B in the following semester.
Prerequisites: Tech+ Required
Designation: College Prep, up to 4 credits for CNG 1020 possible through Front Range (Prior Learning Award)
Credits: 0.5
Industry Certification: Students must pass two exams, Core 1 and Core 2, to earn their A+ Certification.

Adobe Suite Certifications
Description: CEC offers the full suite of Adobe certifications, engaging students in a variety of print, video, animation and web media. Students can choose from: Photoshop, Illustrator, InDesign, Animate, Premiere Pro, Dreamweaver, and After Effects.
Prerequisites: None
Designation: College Prep
Credits: 0.5
Industry Certification: Adobe Certified Professional

Architecture, Construction and Engineering Mentor Program
Description: Work with students from Poudre School District and mentors from local architecture and design firms to design a local construction project. Past projects have included designing a library to be built in Ft. Collins and designing an addition to the concourses at Denver International Airport. Each year the project changes! Students learn about every step of the design process including site layout, civil engineering, landscape design, mechanical engineering, electrical engineering, structural engineering and building design.
Prerequisites: Credit for this is earned as Work Based Learning credit so students should enroll in Work Based Learning. The mentor program typically requires students to meet off campus during 1st period on Thursdays during the Spring semester. No school transportation is provided.
Designation: College Prep
Credits: Up to 1.0 Work-Based Learning Credits

Autodesk – AutoCAD Certification
Description: Autodesk AutoCAD is a self-paced course that utilizes a learn-by-doing approach using video instruction and tutorials, immersing the student in the role of a mini golf course designer working for a fictional mini golf course design firm called Emerald Isle Mini Golf. Students will be creating designs for an overall site plan including four mini golf holes, landscaping, clubhouse, pathways, water features, and parking lot.
Prerequisites: Principles in Construction and Carpentry Technology recommended
Designation: College Prep
Credits: 0.5, up to 3 credits for CAD 1101 possible through Front Range (Prior Learning Award)
Industry Certification: Autodesk Certified Used (ACU) – AutoCAD

Autodesk – Fusion Certification
Description: Fusion is a self-paced course that utilizes a learn-by-doing approach, immersing the student in the role of a toy designer for a fictional toy company. Throughout the course, students will learn and apply skills in Fusion by: Creating and editing 2D sketches, creating 3D models from 2D sketches, creating engineering drawings to document designs, creating and editing organic designs using T-Spline modeling, using direct modeling techniques to edit designs, assembling and adding motion to components, analyzing interference between components and performing motion studies and applying advanced modeling techniques.
Prerequisites: Computer Modeling and 3D Printing recommended
Designation: College Prep
Credits: 0.5
Industry Certification: Autodesk Certified Used (ACU) – Fusion

C++ Certification
Description: C++ is an object-oriented programming language, often considered ideal for large-scale applications, and is a superset of the C language. It offers developers the ability to define custom data types, perform low-level programming, and access memory, enabling efficient code execution. While C++ is more complex than Java, which is based on it and optimized for networked applications, both languages require significant learning. C++ supports generic programming through templates and is used in fields like system software, game development, embedded systems, and scientific computing. It is platform-independent, running on Linux, Mac, and Windows, and offers a standard library with useful coding utilities.
Prerequisites: None
Designation: College Prep
Credits: 0.5
Industry Certification: C++ Certified Entry Level Programmer, and C++ Associate Level Programmer

Cybersecurity Analyst Certification
Description: Add to your cybersecurity skills in this self-paced, upper-level course. Students will learn how to improve security operations and how to identify and analyze malicious activity. Students will implement and analyze vulnerability assessments to learn how to prevent or mitigate attacks. In a lab setting, students will use a variety of frameworks to perform incident response and understand the incident management lifecycle.
Prerequisites: Security+ Certification required, Network + Certification highly recommended.
Designation: College Prep
Credits: 0.5
Industry Certification: CYSA+ (Cybersecurity Analyst)

HTML and CSS Certification
Description: HTML and CSS is a self-paced course for those looking to gain employability skills in web development. Specifically, the course has two distinct parts: HTML (Hypertext Markup Language), which includes HTML fundamentals, document structuring, and multimedia presentation, and CSS (Cascading Style Sheets), which includes CSS fundamentals and styling webpages. Then, the importance of accessibility for both HTML and CSS is introduced.
Prerequisites: None, recommended for students to pair with an Adobe Certification
Designation: College Prep
Credits: 0.5
Industry Certification: IT Specialist: HTML and CSS

HTML5 Application Development Certification
Description: HTML5 Application Development is a self-paced course, expanding on the knowledge one gains in the HTML/CSS and JavaScript courses. Advanced web design and development concepts, such as application lifecycle management, graphics and animation, forms, layouts, and JavaScript coding are the main topics in this course. This course and subsequent certification are the next logical step up for someone wanting a career in web design and development.
Prerequisites: HTML and CSS required; JavaScript required
Designation: College Prep
Credits: 0.5
Industry Certification: IT Specialist: HTML5 Application Development

Java Certification
Description: The Java course is an excellent self-paced course for someone wanting to learn how to code in Java, a powerful object-oriented programming language. This course will also improve employability prospects for any software development position requiring Java coding skills. Specifically, this course covers Java fundamentals, data types and variables, flow control, object-oriented principles, and compiling and debugging code. These concepts are covered through simulating writing code for an online store, thus adding a real-life scenario to this course.
Prerequisites: Computer Science Principles B recommended
Designation: College Prep
Credits: 0.5
Industry Certification: IT Specialist: Java

JavaScript Certification
Description: JavaScript is a self-paced course offering industry credentials in JavaScript. Topics covered include learning about JavaScript operators, keywords, and methods, using variables, data types, and functions, implementing decisions and loops, interacting with the DOM (Document Object Model), and interacting with forms. In all these topics, students will clearly see how JavaScript is used to enhance existing webpages.
Prerequisites: HTML and CSS required
Designation: College Prep
Credits: 0.5
Industry Certification: JavaScript Entry Level Programmer and JavaScript Associate Level Programmer

Linux + Certification
Description: This self-paced course provides students with the fundamental concepts of Linux operating systems. The course covers such topics as the Linux file system, commands, utilities, text editing, shell programming and text processing utilities. Students learn command line syntax and features of the popular Linux shells, including filename generation, redirection, pipes and quoting mechanisms. While directed towards cyber security concepts, this class is appropriate for Web Designers, Network Technicians, Game Developers and general Computer Technicians.
Prerequisites: A+ Certification required
Designation: College Prep, 3 credits for CNG 2001 possible through Front Range (Prior Learning Award)
Credits: 0.5
Industry Certification: Linux+

Microsoft Office Specialist Certification
Description: Students will participate in self-paced courses to earn Microsoft Office Certifications including Word, Excel, PowerPoint, and Access.
Prerequisites: None
Designation: College Prep, up to 9 credits for CIS 1035, CIS 1045, CIS 1055, and CIS 1065 through Front Range (Prior Learning Award)
Credits: 0.5
Industry Certification: Microsoft Office Specialist Associate, Expert or Master

Network+ Certification
Description: Network+ is a self-paced, level 3 course in the Network and Security pathway. Expanding on the Networking introduction from PC Professional, completers of this course will be able to explain basic networking concepts and routing technologies in networking devices, including wireless connectivity. Students will also learn how to monitor and optimize networks, explain network security in order to harden networks against threats, and how to troubleshoot common cable, connectivity, and software issues related to networking.
Prerequisites: A+ Certification required
Designation: College Prep, up to 6 credits for CNG 1024 and CNG 1025 possible through Front Range (Prior Learning Award)
Credits: 0.5
Industry Certification: Network+

Python Certification
Description: This self-paced course covers the computer language of Python, a very versatile programming language which can be used to power websites, build games, and even program hardware. This course is also an excellent course for someone new to programming, as many of the topics covered are basic programming topics which carry over well to other programming languages. Specifically, this course covers data types and operators, decisions and loops, input and output, code documentation and structure, troubleshooting, and modules and tools.
Prerequisites: Computer Science Principles B recommended
Designation: College Prep
Credits: 0.5
Industry Certification: Certified Entry Level Python Programmer, Certified Associate Python Programmer

Security+ Certification
Description: Security+ is a self-paced course that will give students a leg-up in the ever-growing field of cybersecurity. Students will learn key cybersecurity terminology and concepts, how to apply and enhance security management techniques, how to respond to common threats and cyberattacks, and implementation of various types of infrastructure to protect data. Students will get lab-based practice on handling, reporting and communicating security issues.
Prerequisites: A+ Certification required, Network+ Certification highly recommended
Designation: College Prep, up to 6 credits for CNG 1031 and CNG 1032 possible through Front Range (Prior Learning Award)
Credits: 0.5
Industry Certification: Security+

Software Development Certification
Description: Students will participate in this self-paced course which is a great introduction for those looking to understand programming concepts and practices better. While not geared for any specific language, the course focuses mainly on C# and SQL. It goes through core programming concepts, software development principles, object-oriented programming, web applications, and databases topics.
Prerequisites: Computer Science B Principles recommended
Designation: College Prep
Credits: 0.5
Industry Certification: IT Specialist: Software Development

SOLIDWORKS Certification
Description: Students in this self-paced course learn the SOLIDWORKS User Interface (UI) and Basic Settings for faster and flexible modeling using the SOLIDWORKS software which is widely used by engineers in industry. Students will master sketch generation techniques, tricks, and best practices in both 2D and 3D, learning how to create parts and models in three dimensions. Students will learn about assembly creation, assembly mates, assembly-level features, exploded views and 3D model rendering.
Prerequisites: Introduction to Engineering required, Principles of Engineering recommended
Designation: College Prep, up to 3 credits for CAD 2455 possible through Front Range (Prior Learning Award)
Credits: 0.5
Industry Certification: SOLIDWORKS

Tech + Certification
Description: In this self-paced and entry-level course, students will gain an introduction in basic IT terminology, understanding of databases, setting up a network, managing software, comprehending coding language, and understanding the importance of security in network systems. This class serves as a required pre-requisite for all other courses in our Network Systems and Security Pathway.
Prerequisites: None
Designation: College Prep
Credits: 0.5
Industry Certification: Tech+