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# COLORADO EARLY COLLEGES

FORT COLLINS HIGH SCHOOL  
Course Catalog  
2024-2025



FORT COLLINS  
HIGH SCHOOL

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**\*Note about offerings:**

*Not every class is offered every semester. The courses described below are for reference only and may not be currently available. Semester course offerings are subject to change based on student interest and instructor availability. Please refer to the above list for courses offered this semester 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 credit*

*2.0 credit college course= 1.0 college prep level credit*

*3.0 credit college course= 1.0 college prep level credit*

*4.0 credit college course= 1.5 college prep level credits*

*5.0 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 planning on applying to 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, which is a graduation requirement, unless waived by the Head of School. 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 or math.

# Associate Degree Partners

At CEC Fort Collins High School, we work 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 and these are the two institutions that 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 Associate of Arts](#)

[Aims Community College Associate of Science](#)

# Course Offerings

## 2024-25

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 to 99 are college prep courses; courses designated with numbers above 1000 are college courses and are state guaranteed transfer courses, with the exception of course 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\* +  
 BUS 2017 – Business Communications and Report^  
 Writing\*

### ELECTIVES

#### ARTS - PERFORMING

Band  
 Cantabile Choir  
 Concert Choir  
 Guitar I  
 Guitar II  
 Musical Theater  
 Orchestra  
 Tech Theater  
 Theater  
 MUS 1031 - Piano I^  
 MUS 1032 - Piano II^  
 MUS 1051 - Ensemble I Band^  
 MUS 1051 - Ensemble I Jazz Band^  
 MUS 1051 - Ensemble I Orchestra^  
 MUS 1052 - Ensemble II Band^  
 MUS 1052 - Ensemble II Jazz 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 1003 - 3-D Design^  
 ART 1201- Drawing I^  
 ART 1202 - Drawing II^  
 ART 1703 – Ceramics^  
 ART 1704 - Ceramics I^

#### BUSINESS

BUS 1015 - Introduction to Business\*^  
 BUS 2016 - Legal Environment of Business \*^  
 CIS 1018 - Introduction to PC Applications\*^

### CERTIFICATIONS

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

### COMPUTER SCIENCE - CODING AND PROGRAMMING

Computer Science Essentials A\*  
 Computer Science Essentials B\*

### CONSTRUCTION AND ARCHITECTURE

Principles of Construction A\*  
 Principles of Construction B\*

### ENGINEERING AND TECHNOLOGY

Introduction to Engineering\*  
 Principles of Engineering\*  
 Robotics IA\*  
 Robotics IB\*  
 Robotics II\*

### HEALTH & FITNESS

Advanced Weightlifting  
 Introduction to Weightlifting  
 Team Sports  
 PED 1002 - Weight Training I^  
 PED 1003 - Weight Training II^

### HEALTH SCIENCES

Introduction to Health Careers\*  
 Introduction to Health Science\*  
 Medical Terminology\*

### OTHER

Drone Basics\*  
 Intro to Innolab  
 Small Engine Repair\*  
 Student Leadership  
 Woodworking I\*

### 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  
 Screenwriting  
 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 - Intro to Literature

**MATH**

Applied Math – Work Keys  
 Geometry  
 Geometry A  
 Geometry B  
 MAT 090A - Algebra I  
 MAT 090B - Algebra I  
 MAT 099 - Algebra II  
 Math Content Lab Geometry  
 Personal Finance  
 MAT 1340 - College Algebra  
 MAT 1440 - Pre-Calculus  
 MAT 2410 - Calculus I  
 MAT 2420 - Calculus II  
 MAT 2431 Calculus III/Engineer Applications

**SCIENCE**

Anatomy and Physiology A\*  
 Anatomy and Physiology B\*  
 Biology with Lab A (Micro)  
 Biology with Lab B (Macro)  
 Chemistry with Lab A  
 Chemistry with Lab B  
 Earth and Space Science  
 Physical Science with Lab  
 ANT1005 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 1112 - Historical 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 – 20<sup>th</sup> Century World History  
 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**

French I  
 French II  
 Mandarin Chinese I  
 Mandarin Chinese II  
 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.



# Professional Pathways

## **BUSINESS LEADERSHIP**

Entrepreneurship and Small Business Certification  
 MOS Specialist Certification  
 BUS 1015 - Intro to Business  
 BUS 2016 - Legal Environment of Business  
 BUS 2017 - Business Communication and Report Writing  
 CIS 1018 - Introduction to PC Applications  
 ECO 2002 - Microeconomics

## **COMPUTER SCIENCE - CODING AND PROGRAMMING**

Certification Lab  
 Computer Science Essentials A  
 Computer Science Essentials B  
 Java Certification  
 Python Certification  
 Software Development Certification

## **COMPUTER SCIENCE - WEB AND GRAPHIC DESIGN**

Adobe Suite  
 HTML and CSS Certification  
 HTML5 App Development Certification  
 JavaScript Certification

## **CONSTRUCTION AND ARCHITECTURE**

Autodesk – AutoCAD Certification  
 Principles of Construction A  
 Principles of Construction B

## **ENGINEERING AND TECHNOLOGY**

Autodesk – Fusion 360 Certification  
 Introduction to Engineering  
 Robotics 1A  
 Robotics I B  
 Robotics II  
 SolidWorks Certification

## **HEALTH SCIENCES**

Anatomy & Physiology A  
 Anatomy & Physiology B  
 Introduction to Health Careers  
 Introduction to Health Science  
 Medical Terminology

## **INFORMATION TECHNOLOGY - NETWORKING AND SECURITY**

A+ Certification  
 Cybersecurity Analyst Certification  
 IT Fundamentals/ Tech + Certification  
 Linux+ Certification  
 Network+ Certification  
 Security+ Certification

## **OTHER CTE COURSES**

Drone Basics  
 Woodworking I

# 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.

**Designation:** College Prep

**Credit Type:** Elective

**Credits:** 0.50

### 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 have the opportunity to begin earning their Microsoft Office Specialist Certification.

**Prerequisites:** Required for all 9th graders and recommended for new 10th graders

**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 more), 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.

**Designation:** College Prep

**Credit Type:** Elective

**Credits:** 0.50



**Work-Based Learning “WBL”**

**Description:** Internships, Paid Work, On the Job Training, or Apprenticeships that align with 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. This course is approved as an alternative teacher-pupil instruction class designated as Work-Based Learning.

**Prerequisites:** Complete Work-Based Learning Contract

**Designation:** College Prep

**Credits:** 0.50 for 60 hours or 1.0 for 120 hours of work experience

**BUS 2017—Business Communications & Report Writing**

**Description:** Emphasizes effective business writing and covers letters, memoranda, reports, application letters, and resumes. Includes the fundamentals of business communication and an introduction to international communication.

**Prerequisites:** NextGen ACCUPLACER score (LIT/COMP 095 or higher recommended)

**Designation:** Aims Community College

**Credits:** 3.0 (1.0)

## 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 on your instrument.

**Designation:** College Prep

**Credits:** 0.5

#### 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 performing 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

### **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 on your instrument.

**Designation:** College Prep

**Credits:** 0.5

### **Tech Theater**

**Description:** Students in Tech theater will bring the musical to life through set design, costumes/make-up, creating props, lighting and sound work, etc. It meets at the same time as the 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 (0.5)

### **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 131

**Designation:** Front Range Community College

**Credits:** 2.0 (0.5)

**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 (Jazz 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 (Jazz 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:** Pairing with HTML and CSS recommended

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** Adobe Certified Professional

**Course Provider:** Brain Buffet

### 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:** Intro to Film or

Screenwriting

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** Adobe

Premier Pro

### 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

### 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 start working on a photoshop certification.

**Prerequisites:** None

**Designation:** College Prep

**Credits:** 0.5

### 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 1003—Visual Concepts- 3-D Design**

**Description:** Focuses on learning to apply the elements and principles of design to three-dimensional problems.

**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 1202—Drawing II**

**Description:** Explores expressive drawing techniques with an emphasis on formal composition, color media and content or thematic development.

**Prerequisites:** ART 1201

**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)

**ART 1704—Ceramics II**

**Description:** Course covers ceramic wheel throwing and explores intermediate-level traditional and contemporary approaches to ceramic form and processes. This course emphasizes wheel-throwing techniques and forms. It covers additional development of surface design, glazing, glaze formulation, and kiln firing procedures.

**Prerequisites:** ART 1703

**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:** None

**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, Intro 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)

**Course Provider:** CompTia/TestOut

## **CERTIFICATIONS**

**Certification Labs** – See Professional Pathways for course description. Certification Labs are approved as alternative teacher-pupil instruction classes.

## COMPUTER SCIENCE – CODING AND PROGRAMMING

### Computer Science Essentials A

**Description:** In Computer Science Essentials A, students will use visual, block-based programming and begin to transition to text-based programming to create apps and develop websites and learn how to make computers work together to put their design into practice. Students will learn to bring their code to life in the physical world with circuitry and robotics.

**Prerequisites:** None

**Designation:** College Prep

**Credits:** 0.5

### Computer Science Essentials B

**Description:** In Computer Science Essentials B, students will focus on text-based programming with languages such as Python® to create apps and develop websites. Students will apply all that they have learned in a student-defined, student-driven development. Whether creating an app, a website, or a physical computing device, students will apply computational thinking practices and a strategic development process to create computational artifacts that solve problems and create value for others.

**Prerequisites:** Computer Science Essentials A or Middle School Computer Science 1 required

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** Certified Entry-Level Python Programmer (PCEP)

**Course Provider:** Learnkey/Gmetrix

## CONSTRUCTION AND ARCHITECTURE

### Principles of Construction A

**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, students must be 16 years old, students should enroll in Carpentry Technology in the Spring to complete the certifications.

**Designation:** College Prep

**Credits:** 0.5, up to 1 credit for OSH 1310 possible through Front Range (Prior Learning Award)

**Industry Certification:** OSHA 10, Pre-Apprenticeship Certificate Training (PACT) CORE

**Course Provider:** Career Safe and Principals of Construction(HBI)

### Principles of Construction B

**Description:** This course is the continuation for Principles of Construction A. 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:** Principles of Construction B

**Designation:** College Prep

**Credits:** 0.5, up to 1 credit for OSH 1310 possible through Front Range (Prior Learning Award)

**Industry Certification:** OSHA 10, Pre-Apprenticeship Certificate Training (PACT) CORE

**Course Provider:** Career Safe and Principals of Construction (HBI)

# ENGINEERING AND TECHNOLOGY

## Introduction to Engineering Design

**Description:** Students explore engineering tools and apply a common approach to the solution of engineering problems, and engineering design process. Students will progress from completing structured activities to solving open-ended projects and problems that require them to plan, document, communicate, and develop other professional skills. 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 a Computer Aided Design (CAD) application. 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.

**Prerequisites:** None

**Designation:** College Prep

**Credits:** 0.5

## Principles of Engineering

**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. The last is particularly important as the course encourages students to consider the impacts of engineering decisions. Through individual and collaborative team activities, projects, and problems, students create solutions to problems as they practice common engineering design and development protocols, such as experimental design, testing, project management, and peer review.

**Prerequisites:** Introduction to Engineering Design required

**Designation:** College Prep

**Credits:** 0.5 Industry Certifications: Robotics Education Foundation - Pre- Engineering; On Shape Certified

**Course Provider:** CompTia/TestOut

## Robotics 1A

**Description:** Robotics is an applied course for students who wish to explore how robots and automated systems are used in industry. Upon completion of this course, students will have an understanding of the historical and current uses of robots and automated systems; programmable circuits, interfacing both inputs and outputs; ethical standards for engineering and technology professions; and testing and maintenance of robots and automated systems.

**Prerequisites:** None

**Designation:** College Prep

**Credits:** 0.5

## Robotics 1B

**Description:** Robotics 1B will allow students to develop skills in the robotics field by studying programming, electronics, pneumatics, hydraulics, and mechanical systems. Robotics applications and career exploration in the robotics industry are incorporated in this course. Students will apply Physical Science, Mathematics, and Technology while getting hands-on experience designing, constructing, and testing robots. This course is designed for students that want to continue learning about robotics and automation without competing in Robotics League and/or weekend tournaments.

**Prerequisites:** Robotics 1A or Middle School Robotics required

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** Robotics Education Foundation – Robotics

**Robotics II**

**Description:** Robotics 2 will allow students to develop skills in the robotics field by studying programming, electronics, pneumatics, hydraulics, and mechanical systems. Robotics applications and career exploration in the robotics industry are incorporated in this course. Students will apply Physical Science, Mathematics, and Technology while getting hands-on experience designing, constructing, and testing robots. This course will be of interest to students planning careers in automated manufacturing and engineering. Students will have the opportunity to compete in several Saturday competitions and weekday leagues with teams from around the state. These competitions are not required as part of the class and participation does not affect grades.

**Prerequisites:** Robotics 1A or Middle School Robotics required.

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** Robotics Education Foundation – Robotics



## HEALTH AND FITNESS

### Advanced Weightlifting

**Description:** This course is designed for students who have taken Introduction to Weightlifting. Students will continue to improve strength, flexibility, and muscular endurance exploring more advanced techniques. Students will still focus on proper form and etiquette to set them up for success in other/future weight training environments. In addition to practicing using free weights, cable resistance, body weight exercises, resistance bands, and medicine balls, we will explore different methods of programming as well as Olympic Lifting.

**Prerequisites:** None

**Designation:** Introduction to Weightlifting

**Credits:** M-F = 0.5 MWF = 0.25

### Introduction to Weightlifting

**Description:** This course is designed to teach fundamental skills in weightlifting. Students will be taught techniques to improve strength, flexibility, and muscular endurance. Students will be taught proper form and etiquette to set them up for success in other/future weight training environments. We will learn to use a variety of methods such as free weights, cable resistance, body weight exercises, resistance bands, and medicine balls.

**Prerequisites:** None

**Designation:** College Prep

**Credits:** M-F = 0.5 MWF = 0.25

### 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 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)

## HEALTH SCIENCES

### Introduction to Health Careers

**Description:** This course is designed to expose students to the healthcare industry by surveying the wide spectrum of healthcare occupations and equipping them with the entry-level knowledge and skills that apply to a variety of health occupations. Students will be trained in hands-on skills, taking vitals, etc., and will learn Basic Life Support and CPR. Students will develop a professional career portfolio and learn from a variety of healthcare industry guest speakers.

**Prerequisites:** None, recommended to concurrently enroll in Introduction to Health Science

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** Wilderness and Remote First Aid, Basic Life Support, National Health Sciences Certificates: Foundations of Healthcare Professions

### Introduction to Health Science

**Description:** Introduction to Health Science is a foundational course for the Health Science Pathway. This course encourages awareness of career possibilities in healthcare and informs students of educational opportunities available in health science programs. Instruction also includes beginning anatomy and physiology, medical terminology, employability skills, communication skills, customer service skills, cultural awareness, disease and disorders with a focus on homeostatic imbalances, and technology skills necessary in the healthcare industry.

**Prerequisites:** None, recommended to concurrently enroll in Introduction to Health Careers

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** National Health Science Certificates: Essential Healthcare Practices

### Medical Terminology

**Description:** Introduces the structure of medical terms with emphasis on using and combining the most common prefixes, roots, and suffixes. This course includes terms related to major body systems and provides accepted pronunciation of terms.

**Prerequisites:** None, recommended to concurrently enroll in Introduction to Health Careers

**Designation:** College Prep

**Credits:** 0.5

## OTHER

### 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 16 to take the certification exam

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** Drone Pilot Certification

**Course Provider:** DartDrones

### Intro 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, beginning home repair skills, electronics and programming, and 3D printing. Students will also be introduced to the engineering design process.

**Prerequisites:** none

**Designation:** College Prep

**Credits:** 0.5

### 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

**Course Provider:** Equipment and Engine Training Council

### Student Leadership

**Description:** Students will be mentored in the practice of servant leadership. Hearing from a range of guest speakers about leadership and serving their community. They will function as school leaders, mentors, guides and role models for their student peers. Students will work to design and provide student driven policies; social, culture and community building events and service activities for themselves and the community at CEC Fort Collins.

**Prerequisites:** None

**Designation:** College Prep

**Credits:** 0.25

**Woodworking I**

**Description:** Woodworking 1 will cover basic concepts of woodworking, providing a student with the skills to complete progressively more intricate projects. Students enrolled in the course will learn how to design, plan and construct wood projects, including a project of their own design. 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. Students explore precision measurement of wood fabrication through careful and thorough project planning.

**Prerequisites:** None

**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

### 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 English 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

### **Screenwriting**

**Description:** Students will learn about the art of screenwriting through lecture and practice. They will write their own original works. They are expected to use class time to write and be ready to present their work to the class. Students will also give their classmates actionable feedback during the workshop.

**Prerequisites:** None

**Designation:** College Prep

**Credits:** 0.5

### **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.

**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.

**Prerequisites:** ACCUPLACER score and 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 ENG121 and refine the drafting and revising process, progressing along the continuum that began in 121.

**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.

**Prerequisites:** LIT/COMP 099

**Designation:** Aims 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.

**Prerequisites:** LIT/COMP 099

**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.

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

**Designation:** Front Range Community College

**Credits:** 3.0 (1.0)

# MATH

## Applied Math – Work Keys

### Description:

- Numeracy
- Measurement, Fractions, Percent & Decimal
- Rates, Ratios & Proportions
- Geometric Calculations
- Statistical Concepts
- Graphs, Charts, Tables
- Diagrams, Gauges, Flowcharts
- Dashboards, Scatter Plots

**Co-Requisite:** Teacher recommendation

**Designation:** College Prep

**Credits:** 0.5

## Geometry

**Description:** This course covers the following skills:

- Perform geometric transformations (reflection, rotation, translation, dilation) and find symmetry.
- Determine relationships between figures (such as similarity and congruence) in terms of rigid motions and similarity transformations.
- Explain properties of plane figures
- Execute proofs of geometric theorems and use coordinates to prove geometric theorems.
- Model with geometry and create geometric constructions (with compass and straightedge)
- Find measurements of plane figures (such as area, perimeter, and angle measure) and three-dimensional solids (such as volume and surface area).
- Apply theorems about circles, including arc lengths and areas of sectors.
- Utilize tools for analyzing and measuring right triangles, general triangles, and complex shapes (such as the Pythagorean Theorem, trigonometric ratios, and the Laws of Sines and Cosines).
- Use algebra to formulate and solve equations arising from geometric situations.
- Calculate probability (independence and conditional probability, compound events, expected value, and permutations and combinations).

**Prerequisites:** Pre-Algebra or Applied Math

**Designation:** College Prep

**Credits:** 1.0

## Geometry A

**Description:** This course covers the first half of the skills listed under the “Geometry” course and is paired with Geometry B which covers the second half of the skill set.

**Prerequisites:** Pre-Algebra or Applied Math

**Designation:** College Prep

**Credits:** 0.5

## Geometry B

**Description:** This course covers the second half of the skills listed under the “Geometry” course and should be taken after “Geometry A”.

**Prerequisites:** Geometry A

**Designation:** College Prep

**Credits:** 0.5

**MAT 090A—Algebra I**

**Description:** This course spans two semesters to better grasp the Algebra I content. 090A covers the following:

- Represent linear and exponential relationships using graphs, tables, equations, and contexts.
- Manipulate expressions to solve problems by factoring, distributing, multiplying polynomials, and expanding exponential expressions.
- Analyze the slope of a line graphically, numerically, contextually, and algebraically.
- Solve equations and systems of equations using a variety of strategies.
- Represent arithmetic and geometric sequences.
- Investigate square root, cube root, absolute value, piecewise-defined, step, and simple inverse functions.
- Use function notation.
- Analyze two-variable data and explain the differences between association and causation and interpret correlation in context.

**Prerequisites:** MAT 060 or Applied Math and/or Geometry

**Designation:** College Prep

**Credits:** 0.5

**MAT 090B—Algebra I**

**Description:** This course spans two semesters to better grasp the Algebra I content. 090B covers the following:

- Represent linear, quadratic, and exponential relationships using graphs, tables, equations, and contexts.
- Manipulate expressions to solve problems by factoring, distributing, multiplying polynomials, and expanding exponential expressions.
- Analyze the slope of a line graphically, numerically, contextually, and algebraically.
- Solve inequalities and systems of inequalities using a variety of strategies.
- Represent arithmetic and geometric sequences and use exponential models to solve problems.
- Investigate square root, cube root, absolute value, piecewise-defined, step, and simple inverse functions.
- Compare distributions of one-variable data

**Prerequisites:** MAT 090A

**Designation:** College Prep

**Credits:** 0.5

**MAT 099—Algebra II**

**Description:** This course's content includes the 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

**Math Content Lab Geometry**

**Description:** Supports skill development necessary for success within Geometry

**Co-Requisite:** Geometry, Geometry A, or Geometry B

**Designation:** College Prep

**Credits:** 0.25

**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 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.

**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.

**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.

**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.

**Prerequisites:** MAT 2420

**Designation:** Front Range Community College

**Credits:** 5.0 (2.0)

# SCIENCE

## **Anatomy and Physiology A**

**Description:** Focuses on basic knowledge of body structures and function and provides a foundation for understanding deviations from normal and disease conditions. This semester of the course covers anatomical terminology, cellular chemistry and biology, histology, and the anatomy and physiology of the skeletal, muscular, and nervous systems. This course is designed for individuals interested in health care and will include a variety of clinical and case studies.

**Prerequisites:** Biology A and B or BIO1005 or BIO 1111 required

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** National Health Science Certificates: Human Structure, Function and Disease (A)

## **Anatomy and Physiology B**

**Description:** Focuses on basic knowledge of body structures and function and provides a foundation for understanding deviations from normal and disease conditions. This semester of the course covers the anatomy and physiology of the special senses and cardiovascular, respiratory, digestive, urinary, endocrine, and reproductive systems. This course is designed for individuals interested in health care and will include a variety of clinical and case studies.

**Prerequisites:** Anatomy and Physiology A required

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** National Health Science Certificates: Human Structure, Function and Disease (B)

## **Biology with Lab A (Micro)**

**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 (Macro)**

**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**

**Description:** The Earth and Space Science course is a course focusing on the study of space, geologic structures and forces, the waters on our planet, and the atmospheric forces that shape our world. Students will explore the Earth's spheres including the geosphere, hydrosphere, cryosphere, atmosphere, and the cycles of the Earth. Students will learn scientific inquiry, geologic time, space exploration, the solar system, and the universe.

**Prerequisites:** MAT 060

**Designation:** College Prep

**Credits:** 1.0

**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:** 0.5

**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.

**Prerequisite:** NGW 246 Recommended Lit/Comp 095

**Designation:** Front Range Community College

**Credits:** FR 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.

**Prerequisites:** NGW score 246 and AAF score 245 or QAS score 240

**Designation:** Front Range Community College

**Credits:** FR 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 course is one of the Statewide Guaranteed Transfer courses. GT-SC1.

**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 is one of the Statewide Guaranteed Transfer courses, GT-SC1. This course will also help students develop problem-solving techniques and gain a greater appreciation of the impact science has on our daily lives.

**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.

**Prerequisites:** NGW score 246 and pre/coreq 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.

**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.

**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.

**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.

**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. Includes unit on Holocaust and Genocide.

**Prerequisites:** None

**Designation:** College Prep

**Credits:** 1.0

### ANT 1001 – Cultural Anthropology

**Description:** Examines the study of human cultural patterns, including communications, including communication, economics systems, social and political organizations, religion, healing systems, and cultural change. This is a statewide Guaranteed Transfer course in the GT-SS# 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.

**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. Includes unit on Holocaust and Genocide.

**Prerequisites:** LIT/COMP 095

**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 as gender, class, religion, and ethnicity. This is a statewide Guaranteed Transfer course in the GT-HI1 category.

**Prerequisites:** LIT/COMP 095

**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.

**Prerequisites:** LIT/COMP 095

**Designation:** Front Range Community College

**Credits:** 3.0 (1.0)

**HIS 2015—20<sup>th</sup> 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.

**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, and non-Western historical style 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— Intro 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.

**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. Includes a 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.

**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.

**Prerequisites:** LIT/COMP 095 or higher recommended

**Designation:** Aims Community College

**Credits:** 3.0 (1.0)

# WORLD LANGUAGES

## French I

**Description:** French 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 Francophone world. Communicative competence is divided into three modes: speaking and writing as an interactive process in which students learn to communicate with other speakers of French-(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 French in the classroom as well as on the use of authentic materials to learn about the culture.

**Prerequisites:** COMP/LIT 060

**Designation:** College Prep

**Credits:** 1.0

## French II

**Description:** French 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 Francophone world. Communicative competence is divided into three modes: speaking and writing as an interactive process in which students learn to communicate with other speakers of French-(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). This course builds on grammar and vocabulary learned in French I, where students learned to communicate in the present indicative, to include communication in imperative, future and past tenses.

**Prerequisites:** French I

**Designation:** College Prep

**Credits:** 1.0

## Mandarin Chinese I

**Description:** This is a beginner Chinese class focused on learning Chinese culture and simple words for greetings, names, family members, numbers, days, dates, time, directions, weather, food, cloth, transportation, etc.

**Prerequisites:** COMP/LIT 060

**Designation:** College Prep

**Credits:** 1.0

## Mandarin Chinese II

**Description:** This is a second level Chinese class focused on daily communications. Students will learn how to express their needs, opinions, comments, etc.

**Prerequisites:** Mandarin Chinese I

**Designation:** College Prep

**Credits:** 1.0

**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



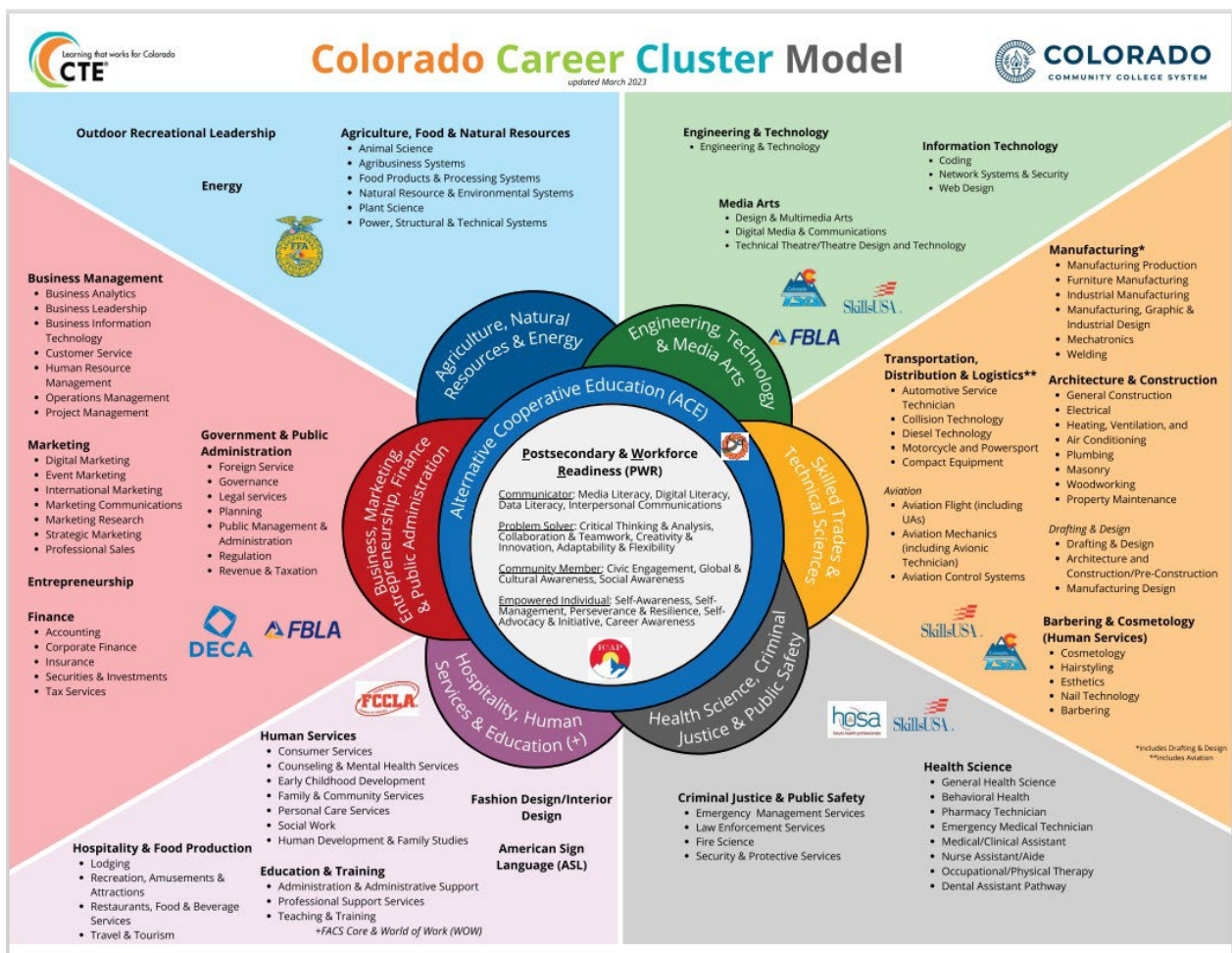
# CAREER AND TECHNICAL EDUCATION PATHWAYS

## 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 9<sup>th</sup> 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 business are owned by racial minorities.



### Level 1



### Levels 2 & 3



### Level 4

Introduction to Business

Introduction to PC Apps

Microsoft Office Certification Lab

Business Communication

Microeconomics\*

Legal Environment of Business

Macroeconomics\*

Entrepreneurship and Small Business

Work Based Learning

\*Offered off campus with our college partners

# Computer Science

Coding

Architect  
 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

Computer Science  
Essentials

Computer  
Science Principles

Python  
Certification Lab

Work Based  
Learning

Software  
Development Lab

Java  
Certification Lab

# Computer Science

## Web & Graphic Design



Computer Science  
Mobile App Development  
Computer Graphics  
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

HTML and CSS  
Certification Lab

JavaScript  
Certification Lab

HTML 5  
Certification Lab

Work Based  
Learning

Adobe Suite  
Certification Lab

Computer Science  
Essentials

Computer  
Science Principles



# Construction & Architecture



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

Principles of  
Construction A/B

OSHA 10  
Certification

Carpentry  
Technology

AutoCAD  
Certification Lab

ACE Mentor  
Internship

Work Based  
Learning

# Engineering & Technology



*Land Surveyors  
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**

Introduction to  
Engineering

Principles of  
Engineering

Robotics

ACE Mentor  
Internship

Fusion 360  
Certification Lab

SOLIDWORKS  
Certification Lab

Work Based  
Learning

# Health Sciences

## General Health Science

- Assistant*
- Physician or Surgeon*
- Physical Therapist*
- Radiology Technician*
- Athletic Trainer*
- Mental Health Associate*
- Dentist*



### Why This Pathway?

In 2022, Colorado had 744,000 jobs in the healthcare industry, representing 17.6% of total employment in the state. Although this sector makes up a large number of Colorado's employees, the state is expected to have a shortage of 10,000 nurses by 2030. In addition, according to the State Department of Health Policy and Financing, over 2.5 million Coloradans live in an area with a shortage of behavioral health workers. Median salaries in the industry range from \$35,000-\$210,000 per year.

### Level 1 ⇒ Levels 2 & 3 ⇒ Level 4

- Introduction to Health Careers
- Introduction to Health Science

- Anatomy and Physiology
- Human Nutrition
- Medical Terminology

- Work Based Learning

Human Nutrition offered off campus with our college partners



# Information Technology

## Networking and Security



Cybersecurity  
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 degree.



### Level 1



### Levels 2 & 3



### Level 4

IT Fundamentals  
Certification Lab

A+  
Certification Lab

Network+  
Certification Lab

Work Based  
Learning

Security+  
Certification Lab

Cybersecurity  
Analyst Cert. Lab

Linux+  
Certification Lab

## 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, except for one section. 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)
- Autodesk – AutoCAD (Construction and Architecture Pathway)
- Autodesk – Fusion360 (Construction and Architecture Pathway)
- Cybersecurity Analyst (Informational Technology-Network Systems and Technology Pathway)
- Entrepreneurship and Small Business (Business Leadership Pathway)
- HTML5 Application Development (Computer Science-Web and Graphic Design Pathway)
- HTML and CSS (Computer Science-Web and Graphic Design Pathway)
- IT Fundamentals/ Tech + (Informational Technology-Network Systems and Technology 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 (Business Leadership Pathway)
- Network+ (Informational Technology-Network Systems and Technology Pathway)
- Python (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)

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

- Certified Entry Level Python Programmer
- EETC Technician - 4 Stroke Engine
- OnShape Certified Associate
- OSHA 10
- PACT Core and PACT Carpentry
- Pre-Engineering
- Robotics

Students may also participate in the following Mentor Program course.

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



## CERTIFICATION LABS COURSE DESCRIPTIONS

### A+ Certification A

**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:** IT Fundamentals 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.

**Course Provider:** CompTia/TestOut

### A+ Certification B

**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.

**Prerequisites:** IT Fundamentals required

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** Students must pass two exams, Core 1 and Core 2, to earn their A+ Certification.

**Course Provider:** CompTia/TestOut

### 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 1<sup>st</sup> 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 User (ACU) – AutoCAD

**Course Provider:** LearnKey/Gmetrix

### **Autodesk – Fusion 360 Certification**

**Description:** Fusion 360 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 360 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:** Introduction to Engineering Design required, Principles of Engineering recommended

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** Autodesk Certified User (ACU) – Fusion360

**Course Provider:** LearnKey/Gmetrix

### **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)

**Course Provider:** CompTia/TestOut

### **Entrepreneurship and Small Business Certification**

**Description:** Students will participate in a self-paced course that provides scenarios and example questions to apply knowledge of fundamental entrepreneurship and small business management concepts. Topics covered include defining an entrepreneur, recognizing an opportunity, starting and operating a business, how to market a business, managing sales, and basic financial management.

**Prerequisites:** BUS 1015 required, BUS 2016 and BUS 2017 recommended

**Designation:** College Prep

**Credits:** 0.5, up to 3 credits for MAN 2016 possible through Front Range (Prior Learning Award)

**Industry Certification:** Entrepreneurship and Small Business Certification

**Course Provider:** LearnKey/Gmetrix

### **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

**Course Provider:** LearnKey/Gmetrix

### 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

**Course Provider:** LearnKey/Gmetrix

### IT Fundamentals/ 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:** IT Fundamentals (ITF+)

**Course Provider:** CompTia/TestOut

### 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

**Course Provider:** LearnKey/Gmetrix

### 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:** IT Specialist: Java Script

**Course Provider:** LearnKey/Gmetrix

**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 A and B required

**Designation:** College Prep, 3 credits for CNG 2001 possible through Front Range (Prior Learning Award)

**Credits:** 0.5

**Industry Certification:** Linux+

**Course Provider:** CompTia/TestOut

**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

**Course Provider:** CompTia/TestOut

**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 A and B 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+

**Course Provider:** CompTia/TestOut

**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. The course will help anyone looking to improve their employability prospects in Python and for programming jobs in general.

**Prerequisites:** Computer Science Principles B recommended

**Designation:** College Prep

**Credits:** 0.5

**Industry Certification:** IT Specialist: Python

**Course Provider:** LearnKey/Gmetrix

**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 security issues and reporting and communicating issues within an organization.

**Prerequisites:** A+ Certification A and B 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+

**Course Provider:** CompTia/TestOut

**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

**Course Provider:** LearnKey/Gmetrix

**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. Finally, students will master the generation of technical drawings involving various drawing views in SOLIDWORKS drawing.

**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

**Course Provider:** UDEMY