

FUTURE**FORWARD**

at Bollman and Washington Square

Career and Technical Education

2022-2023

FutureForward Career and Technical Education (CTE) programming gives all students a competitive advantage as they enter college, career or the military.

FutureForward Students:

- Explore opportunities that prepare them for high-demand careers and give them an edge entering college.
- Engage in authentic, hands-on learning.
- Equip themselves with relevant, rigorous, and practical skills.

LOCATIONS:

FutureForward at Bollman

9451 N. Washington St.

Thornton, CO

(720) 972-5820

<https://futureforward.adams12.org>

Principal: Janet Renden

FutureForward at Washington Square

12521 Washington St.

Thornton, CO

(720) 972-2900

<https://futureforward.adams12.org>

Principal: Marvin Lewis

FutureForward at Bollman FutureForward at Washington Square

Adams 12 Five Star Schools offers Career and Technical Education (CTE) courses at its Bollman and Washington Square campuses to all high school students enrolled in the district. FutureForward at Bollman is located at 9451 North Washington Street and FutureForward at Washington Square is located at 12521 Washington Street. Bus transportation is provided for Horizon, Legacy, Mountain Range, Northglenn, Thornton, and Vantage Point students from their home high schools to each of these campuses. It will be necessary for students enrolled in programs at FutureForward campuses to have travel time built into their schedules to allow for transportation between schools.

CAREER AND TECHNICAL COURSE OFFERINGS BY CAREER PATHWAY

ARTS & DESIGN	SKILLED TRADES & TECHNICAL SCIENCES
<i>Graphic Design</i>	<i>Automotive Collision Repair and Refinishing</i>
<i>Video Production</i>	<i>Automotive Technology</i>
CRIMINAL JUSTICE & PUBLIC SAFETY	<i>Diesel Automotive Technology</i>
<i>Crime Scene Investigation</i>	<i>Construction, Mechanical, Electrical, and Plumbing</i>
<i>Emergency Medical Technician – EMT</i>	<i>Welding Technology</i>
<i>Firefighting</i>	STEM & INFORMATION TECHNOLOGY
<i>Law Enforcement</i>	<i>Coding I and II</i>
HEALTH SCIENCE	<i>AP Computer Science Principles</i>
<i>Medical Sciences</i>	<i>AP Computer Science A</i>
<i>Advanced Medical Sciences - CNA</i>	<i>Cybersecurity</i>
<i>Sports Medicine</i>	<i>Networking</i>
HOSPITALITY, HUMAN SERVICES, & EDUCATION	<i>Computer Science Projects</i>
<i>Behavioral and Mental Health Care</i>	<i>Principles of Engineering - PLTW®</i>
<i>ProStart (Culinary Arts) - (Offered at ESC)</i>	<i>Aerospace Engineering - PLTW®</i>
<i>Baking & Pastry Applications (Offered at ESC)</i>	<i>Computer Integrated Manufacturing –CIM- PLTW®</i>
<i>Teacher Cadet</i>	<i>Engineering Design & Development - Capstone PLTW®</i>

All Career and Technical Education courses meet the Fine/Practical Arts graduation requirement. These programs are offered to all Five Star students; however, it may be necessary for students to purchase supplies that are beyond the basic program requirements, and all programs have a course fee. Safety is a priority at both campuses and special clothing may be required for some program areas.

NOTE TO PARENTS:

- Any alcohol, drug, or other substance use violation could be grounds for denial of admission to a program or removal from a program once admitted.
- Excellent attendance is important in all FutureForward at Bollman and Washington Square programs. Five or more unexcused absences may result in a student being placed on an attendance contract. Failure to comply with an attendance contract may result in disenrollment from a program.
- Students enrolled in the Advanced Medical Sciences/CNA programs will be required to have up-to-date immunizations, flu and COVID-19 Vaccinations, a TB test, and a current physical.
- Students enrolled in the Advanced Medical Sciences/CNA and Teacher Cadet programs must provide their own transportation to off-site locations for projects, clinical rotations, observations, or teaching experiences.
- Transportation may not be provided for some programs. Please speak with a FutureForward at Bollman or Washington Square campus staff member for more details.
- It is required that all students who register for a FutureForward at Bollman and Washington Square program attend a pre-acceptance meeting in April.
- Juniors are given priority acceptance into some programs. Sophomores and seniors will be accepted on a “space available” basis.
- College credits are available in many FutureForward at Bollman and Washington Square programs. Contact the registrars or counselors for more information.

EXCEPTION TO THE THREE (3) CORE CLASS REQUIREMENT: According to Superintendent Policy 6340 Section 1.4.2, “Exceptions to the three (3) core class (1-1/2 credits) requirement may be made for students at FutureForward at Bollman and Washington Square providing such students can demonstrate competency in the core areas, and students with special circumstances as approved by the principal or designee.”

WORK BASED LEARNING

Potential Credit Earned: .5 - 1.0 credit per year, up to 2.0 credits total toward graduation

Interested students enrolled in a pre-approved Career and Technical Education course (CTE) or who have completed the pre-approved CTE pathway may choose to participate in Work Based Learning. In Work Based Learning, students will have the opportunity to apply their classroom knowledge to their job. Students will work with the Work Based Learning Coordinator throughout the semester. **Students should not enroll in Work Based Learning as a separate class on the course registration selection form. The Work Based Learning Coordinator will sign up students after courses have begun each semester.**

- Students must work a minimum of 125 documented hours to earn .5 credit.
- Students may ONLY earn .5 credit per semester.
- Students must work a minimum of 250 documented hours to earn 1.0 credit for the entire school year.
- Students cannot earn more than 1.0 credit per school year and may ONLY earn a maximum of .5 credit per semester.
- Students may not be enrolled in and/or receive credit for more than one Work Based Learning course at a time.
- Students may not count more than 2.0 Work Based Learning credits towards graduation requirements.
- Work Based Learning credit may not be included in, nor does it count toward, the 6.0 credit total required yearly for each student.
- Students must complete a Work Based Learning agreement to enroll.
- A student must pass the CTE course he/she is enrolled in in order to earn Work Based Learning credit that semester.

SERVICE LEARNING

Service Learning Credit can be awarded to students that complete 60 hours of unpaid approved volunteer experience within a semester. Students need to submit the Student Volunteer Time Sheet and Work Ethics Evaluation Form completed by a supervisor from the approved volunteer company and/or organization. Hours will be verified before credit is awarded. Students must be enrolled and in good standing in a FutureForward at Bollman or Washington Square program the semester the Service Learning hours are completed and credit is awarded. Students may earn a maximum of .5 Service Learning credit per semester. Students may not transcript more than 2.0 Service Learning credits total.

CAREERREADY COLORADO CERTIFICATE

Students enrolled in a FutureForward at Bollman and Washington Square program have the opportunity to train and test for the CareerReady Colorado Certificate developed by ACT WorkKeys. Students who complete the training and testing at the Silver Level or higher will receive .5 elective credit. This certificate verifies workplace competencies in three areas: Applied Math, Workplace Documents, and Graphic Literacy. The FutureForward Counseling Department facilitates training and testing. A test fee may apply.

CONCURRENT ENROLLMENT

Concurrent Enrollment is designed to improve coordination between secondary and post-secondary institutions to create a seamless pathway for students to transition from one level to the next. A student is simultaneously enrolled in FutureForward at Bollman or Washington Square and an institute of higher-level education. To receive credit in a Concurrent Enrollment course, students must be registered and earn a grade of "C" or higher in that course. Not all programs will be eligible for Concurrent Enrollment for the 2022-2023 school year. Please contact the registrars or counselors, or visit our website at futureforward.adams12.org for more information or program-specific questions about Concurrent Enrollment.

ARTS & DESIGN

GRAPHIC DESIGN I & 2 - (Arts, A/V Technology, & Communication Pathway)

10, 11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Bollman



Graphic Design 1&2 students learn the fundamental elements and principles of art and design through to post-production of an actual design product using the creative processes of research, sketching and conceptualizing.

Course work and projects are developed to give each student a well-rounded understanding and the skills needed to become a proficient and knowledgeable designer. Projects are designed to increase students' artistic abilities, give a variety of perspectives for visual problem solving, and expand critical and creative thinking skills through an understanding of the foundational psychology of visual communications. Using a variety of industry-standard practices, mediums, methods, and techniques students will become competent with the graphic design process. Medium includes television, magazines, books, street signs, movies, logos/branding, packaging, communication design, typography, digital illustration, photo manipulation, page layout, mobile devices, banners, and billboards. Students will work with Macintosh computers and Adobe software.

Counseling notes:

1. Supplies required:
 - Sketchbook or journal
 - 8 GB or larger flash drive
 - Portfolio
 - 3-ring binder/ and 1 ream (500 sheets) copy paper

- Refillable or disposable artist inking pen
2. Course fee: \$40.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE GRAPHIC DESIGN PATHWAYS:

<i>Artist Industrial Designer</i>	<i>CD/Book Jacket Designer</i>	<i>Packaging Designer</i>	<i>Production Artist</i>
<i>Layout Artist</i>	<i>Art Director</i>	<i>Web Designer</i>	<i>Publication Design</i>
<i>Entertainment Media</i>			

GRAPHIC DESIGN 3 & 4 - (Arts, A/V Technology, & Communication Pathway)

11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Bollman



Graphic Design 3&4 students learn advanced skills and techniques in all areas of the creative process: communication arts; production; post-production; print, and web media development; visual problem solving; critical thinking; artistic fundamentals; team building, and "real world" employability skills. Students will further expand their knowledge of speaking a global, visual language and developing awareness of the power of symbols, meanings, images and words.

Course work and projects are developed to give each student the necessary skills to become a competent, efficient designer who uses the technology as well as the psychology and marketing aspects of industry. Projects are designed to increase students' artistic abilities, give a variety of perspectives for visual problem solving, expand critical and creative thinking skills, and develop skills in working within a team in a studio setting. Graphic Design 3&4 students may also complete a job shadow or internship with professional graphic designers.

Counseling Notes:

1. Prerequisite: Successful completion of Graphic Design 1 & 2
2. Supplies required:
 - a. Sketchbook or journal
 - b. 8 GB or larger flash drive
 - c. Portfolio
 - d. 3-ring binder/ and 1 ream (500 sheets) copy paper
 - e. Refillable or disposable artist inking pen
3. Course fee: \$40.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE GRAPHIC DESIGN PATHWAYS:

<i>Advertising/Marketing</i>	<i>Animator/Illustrator</i>	<i>Artist</i>
<i>CD/Book Jacket Designer</i>	<i>Packaging Designer</i>	<i>Art Director</i>

VIDEO PRODUCTION I & 2 - (Arts, A/V Technology, & Communication Pathway)

10, 11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Bollman



This course is an introduction to television, video, and film production. Students are actively involved in creating dynamic video projects using a variety of industry standard software and equipment. To be successful in the course, students are challenged to participate daily in both individual and group projects while maintaining a high level of professionalism. Students learn how to create video and films, and how to analyze and incorporate all types of

techniques into a variety of projects. Students leave with an understanding of how and why media messages are constructed and for what purposes. The following are the expected outcomes:

- Key concepts, principles, and techniques of audio, video, and film production
- Use of equipment, tools, and techniques associated with video production
- Demonstrate and apply the planning process effectively
- Project implementation for television, video, and film
- Investigate career opportunities
- Cultivate necessary workplace skills

Counseling Notes:

1. Course fee: \$40.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE VIDEO PRODUCTION PATHWAYS:

Video Editor

Production Designer

Video Director

Television Production Manager

VIDEO PRODUCTION 3 & 4 - (Arts, A/V Technology, & Communication Pathway)

11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Bollman



Advanced Video provides students with real world experience in the field. Each student will be expected to create productions with real clients and situations. This course will focus on advancing the students skills obtained in the Video Production 1&2 class. The experience gained in this course will match the format and experience of a college course. Advanced techniques will give the student the head start needed to be career ready and employable.

Some of the following will be expected:

- Advanced techniques in videography and cinematography
- Video editing skills are expected to be near expert/career ready level
- Projects assigned will be in line with industry expectations and topics
- Pursue industry internship and job opportunities
- Budget, write, produce, and edit complete projects in the commercial, film, corporate, and documentary genres

Counseling Notes:

1. Prerequisite: Successful completion of Video Production 1 & 2
2. In-depth knowledge of Adobe Premier Pro/Apple Final Cut Pro, DSLR camera functions and composition, knowledge of Microsoft Office products
3. Course Fee: \$40.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE VIDEO PRODUCTION PATHWAYS:

Video Editor

Videographer/Cinematographer/Photographer

Scriptwriter

Storyboard creator/artist

Video producer/director

CRIMINAL JUSTICE & PUBLIC SAFETY

CRIME SCENE INVESTIGATION 1 & 2 - (Law, Public Safety, Corrections & Security Pathway)

11 & 12

Credit: 2

1 Science - Forensic Science 1

1 Fine Practical Arts/Elective

Location: Washington Square

In this class, students will be provided hands-on experience on what real Crime Scene Investigators do. This course includes what a Crime Scene Investigator does working in the field and laboratory processing. Students will learn how the investigation team works and the Crime Scene Investigator's role. In this course, students will have the opportunity to use real crime lab equipment and study the following:

- Digital SLR photography
- Crime scene documentation
- Latent print processing techniques
- Trace evidence analysis
- Alternate Light Source (ALS) for evidence location, as well as chemical photography
- Impression evidence

Along with this class having a very hands-on, learn by doing process, we also collaborate with various law enforcement agencies and coroner offices throughout the Denver Metro area. This allows students to network with other professionals in this field and obtain various perspectives on a variety of case studies and personal experiences from forensic & law enforcement professionals. Through this program, students will have the potential of obtaining volunteer and shadowing opportunities through local agencies and obtain knowledge, skills and abilities that they can use moving forward in their career pathways.

This course may contain sensitive material and graphic images.

Counseling Notes:

1. Course fee: \$40.00.

Notes: Program will work in partnership with Thornton, Westminster & Broomfield PD

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE CRIME SCENE INVESTIGATION PATHWAYS:

Crime Scene Investigator

Forensic Science Technician

Forensic ID Technician

Latent Print Examiner

Forensic Autopsy Technician

Crime Laboratory Analyst

Crime Scene Reconstructionist

Evidence Technician

DNA Analyst

Criminalist

CRIME SCENE INVESTIGATION 3 & 4 - (Law, Public Safety, Corrections & Security Pathway)

12

Credit: 2

1 Science - Forensic Science 2

1 Fine Practical Arts/Elective

Location: Washington Square

In this class, students will further their knowledge of the investigative team and their roles/responsibilities. Students will further their expertise in crime scene investigation in the following areas:

- Timed/Aerial/Painting with light photography
- Chemical enhancements, to include BlueStar & Luminol

- Laser & shooting trajectory
- Latent print analysis & comparison
- Traffic accident documentation & reconstruction
- Bloodstain pattern analysis to include area of convergence & area of origin
- Faro 3D scanner
- Reflective Ultraviolet Imaging System (RUVIS)
- UV/IR forensic photography
- Gunshot residue recognition and documentation
- Clandestine graves
- Forensic entomology

Along with this class having a very hands-on, learn by doing process, we also collaborate with various law enforcement agencies and coroner offices throughout the Denver Metro area. This allows students to network with other professionals in this field and obtain various perspectives on a variety of case studies and personal experiences from forensic & law enforcement professionals. Through this program, students will have the potential of obtaining volunteer and shadowing opportunities through local agencies and obtain knowledge, skills and abilities that they can use moving forward in their career pathways.

This course may contain sensitive material and graphic images.

Counseling Notes:

1. Prerequisite: Successful completion of CSI 1 & 2
2. Course fee: \$40.00

Notes: Program will work in partnership with Thornton, Westminster & Broomfield PD

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE CRIME SCENE INVESTIGATION PATHWAYS:

<i>Crime Scene Investigator</i>	<i>Forensic Science Technician</i>	<i>Forensic ID Technician/Criminalist</i>
<i>Latent Print Examiner</i>	<i>Forensic Autopsy Technician</i>	<i>Crime Laboratory Analyst</i>
<i>Crime Scene Reconstructionist</i>	<i>Evidence Technician</i>	<i>DNA Analyst</i>
<i>Firearms Examiner</i>	<i>Forensic Entomologist</i>	<i>Forensic Pathologist</i>
<i>Bloodstain Pattern Analyst</i>	<i>Forensic Toxicologist</i>	<i>Coroner</i>
<i>Colorado Bureau of Investigation- Forensic Investigator</i>		<i>FBI- Evidence Response Team</i>

EMERGENCY MEDICAL TECHNICIAN - EMT 1 & 2 - (Health Science, Criminal Justice, & Public Safety Pathway)

12

Credit: 2

1 Science - Pathophysiology

1 Fine Practical Arts/Elective

Location: Washington Square



The EMT program is designed for the students wishing to investigate health-related and public safety careers. The areas of study include pathophysiology, safety practices, simulated clinical situations, medical emergencies, working in the pre-hospital setting, and providing patient transportation. Students may have the opportunity to have authentic experiences with local emergency medical service agencies.

All experiences are delivered through classroom, laboratory, and simulated clinical situations. The EMT program will provide the foundation for professional opportunities in the medical field, e.g. nursing, physician, dental, medical records, pharmacy, firefighter, paramedic, and other emergency medical services. EMT provides students with general workplace

skills and specific health industry knowledge that can assist them in attaining employment in a variety of entry-level positions within the health care setting, or continue their education at the post-secondary level.

This course may contain sensitive material and graphic images.

Counseling Notes:

1. Prerequisite: Successful completion of Medical Sciences 1&2, CP/AP Anatomy & Physiology, or other CP or AP science courses in the 11th grade year
2. Class uniform (Navy blue cotton slacks or EMS/tactical pants, class issued EMT shirt, black shoes or boots, and dark belt) is required in class and off-site locations
3. Course fee: \$40.00

Students in this program will learn the following skills:

- Demonstrate an understanding of the roles and responsibilities of the EMT
- Demonstrate an understanding of the medical legal aspects
- Determine and record vital signs of a sick or injured person
- Use medical identification devices
- Conduct a primary assessment of problems that are a threat to life if not corrected immediately
- Demonstrate Healthcare Professional BLS (Basic Life Support) procedures
- Recognize and control bleeding
- Recognize and control shock
- Identify and use mechanical aids to breathing
- Provide a secondary assessment of the patient
- Identify musculoskeletal injuries and treat them accordingly and effectively
- Identify the potential for a spinal injury
- Provide emergency evacuation and transfer of a sick and/or injured patient
- Identify and care for patients who need specialized care
- Provide triage to victims of mass casualty incidents
- Recognize life-threatening situations
- Recognize entrapment situations
- Assist with emergency childbirth
- Identify critical incident stressors and techniques to effectively deal with them
- Communicate patient information to appropriate authorities
- Effectively communicate, both verbally and non-verbally, with patients of all ages

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN EMT PATHWAYS:

EMT Firefighter ER Physician Psychologist Registered Nurse Paramedic

FIREFIGHTING 1 & 2 - (Health Science, Criminal Justice, & Public Safety Pathway)

10, 11, 12

Credit: 2

1 Fine Practical Arts/Elective

.5 Lifetime Fitness / .5 Intro to Fitness

Location: Washington Square



A firefighter is an important figure within the public health and safety industry. Firefighters combat and extinguish fires, often working in high-pressure circumstances. Students will learn hands-on, practical skills in firefighter orientation, safety, fire behavior, building construction, firefighter personal protective equipment, fire streams, fire control, fire detection, alarm and suppression systems, loss control, and communications. Students will also earn college credits through CCA in the Fire Science Program.

This course may contain sensitive material and graphic images.

Counseling Notes:

- 1. Course fee: \$40.00.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE FIREFIGHTING PATHWAYS:

Firefighter *Paramedic* *Hazmat Technician* *EMT*
Wildland Firefighter

FIREFIGHTING 3 & 4 - (Health Science, Criminal Justice, & Public Safety Pathway)

11, 12
 Credit: 2
 2 Fine Practical Arts/Elective
 Location: Washington Square



This program is designed to provide advanced training in firefighting skills such as extinguishing liquid and gas/vapor fueled fires, auto extrication, hazardous materials response practices, advanced search and rescue skills and team leadership skills. Students will have the opportunity to complete clinical related experiences with live fire scenarios. This course may contain sensitive material and graphic images.

Counseling Notes:

- 1. Course fee: \$40.00.
- 2. Prerequisite - Successful completion of Firefighting 1 & 2

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE FIREFIGHTING PATHWAYS:

Firefighter *Paramedic* *Hazmat Technician* *EMT* *Wildland Firefighter*

LAW ENFORCEMENT 1 & 2 - (Police, Law, Public Safety, Corrections & Security Pathway)

10, 11, 12
 Credit: 2
 2 Fine Practical Arts/Elective
 Location: Washington Square



Do you dream of working as a police officer, investigator, prosecutor, defense attorney, or a corrections officer? A career in law enforcement can be exciting and rewarding. Students will learn about law-enforcement-related professions through practical, industry-related experiences—providing students exposure to police procedures, defensive tactics, criminal statutes, arrest control, courtroom procedures, and verbal de-escalation so they can graduate with a competitive advantage in their chosen field. The curriculum will provide the most authentic, industry standard experience that is hands on, including the use of an interactive training simulator. Students will review traffic laws, including driving under the influence of alcohol and drugs. This course reviews principles of federal, state, criminal and civil laws and court cases as they apply to and affect law enforcement. Standard law enforcement techniques and practices will be taught by both CTE educators and professionals in their respective fields.

Since the Law Enforcement program prepares students for positions in fields related to law enforcement and public safety, developing and maintaining professional skills is paramount and is a significant element throughout the program.

Notes: Program will work in partnership with Thornton, Westminster & Broomfield PD

This course may contain sensitive material and graphic images.

Counseling Notes:

1. Course fee: \$40.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE LAW ENFORCEMENT PATHWAYS:

<i>Police Officer</i>	<i>Security Screener</i>	<i>Records Specialist</i>	<i>Detective</i>
<i>Background Investigator</i>	<i>Dispatcher</i>	<i>Animal Control</i>	

LAW ENFORCEMENT 3 & 4 - (Law, Public Safety, Corrections & Security Pathway)

11, 12

Credit: 2

2 Fine Practical Arts/Elective

Location: Washington Square



Law Enforcement 3 & 4 students will learn advanced skills, knowledge, and techniques that were learned in the Law Enforcement 1 & 2 course. In this course, students will learn more in depth knowledge of traffic investigation, including traffic accident reconstruction. Students will undergo advanced Investigation training and Interrogation training, which will also include Crisis Intervention Training (CIT). Students will also have the opportunity to participate in courtroom testimony, in the classroom and in an actual courtroom. Students will also learn more in depth about being a 911 Dispatcher and a Correctional Officer. Students will obtain more de-escalation skills, specifically when dealing with people in a crisis state and situations involving mental health. If you were enrolled in the Law Enforcement 1 & 2 course, and want to become experts on your skills, techniques, and knowledge, then this course is for you. Law Enforcement experts will teach and train students within this course.

Notes: Program will work in partnership with Thornton, Westminster & Broomfield PD

- Mental Health First Aid Certification possible

This course may contain sensitive material and graphic images.

Counseling Notes:

1. Course fee: \$40.00
2. Prerequisite - Successful completion of Law Enforcement 1 & 2
3. To earn concurrent enrollment credit a student must maintain a grade of C or higher in the high school course.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE LAW ENFORCEMENT PATHWAYS:

<i>Detective</i>	<i>Court Reporter</i>	<i>District Attorney</i>	<i>District Attorney Investigator</i>
<i>Bailiff</i>	<i>Paralegal</i>		

HEALTH SCIENCE

MEDICAL SCIENCES I & 2 (Health Science and STEM Pathways)

11, 12

Credit: 2

1 Science - CP Anatomy and Physiology

1 Fine Practical Arts/Elective

Location: Bollman

The Medical Sciences 1 & 2 program is designed for students who are interested in pursuing careers in the healthcare field. This course is also recommended for students who plan to apply for Advanced Medical Sciences/CNA or Emergency Medical Technician/EMT in their senior year. The core curriculum is based on National Health Science Standards and is focused on the following:

- CP Anatomy & Physiology
- Healthcare career exploration
- Workplace skills, including problem-solving and teamwork
- Medical terminology
- Law and Ethics in Health Care
- Students may receive training and test for certification in First Aid and CPR

Students are encouraged to participate in HOSA (Health Occupations Students of America) and may participate in fundraising activities to help pay these costs:

- HOSA Leadership Conferences
- Cadaver and other field trips
- First Aid and CPR certification

Counseling Notes:

1. Students that complete this course are eligible to test for National Health Science Certification (This certification may be used to demonstrate competency for the new graduation guidelines.)
2. Course fee: \$40.00

POSSIBLE FUTURE CAREER OPPORTUNITIES FOR STUDENTS IN MEDICAL SCIENCES PATHWAYS:

<i>Nurse</i>	<i>Athletic Trainer</i>	<i>CNA</i>	<i>EMR/EMT/Paramedic</i>
<i>Doctor</i>	<i>Dental Hygienist</i>	<i>Vet Tech</i>	<i>Massage Therapist</i>
<i>Physical Therapist</i>	<i>Dentist</i>	<i>Veterinarian</i>	<i>Psychiatrist</i>

ADVANCED MEDICAL SCIENCES - CNA 1 & 2 - Certified Nurse Aide - (Health Science and STEM Pathways)

12

Credit: 2.5

1 Science – Pathophysiology

1.5 Fine Practical Arts/Elective

Location: Bollman



The Advanced Medical Sciences/CNA program is designed for the mature, responsible student wishing to investigate careers in the medical field. Students interested in registering for this program should have a serious interest and

long-term goal of employment in the medical field. A strong commitment to the program is necessary to be successful in this class. This program emphasizes character building, honesty, integrity, and professionalism. The core of the curriculum is focused on the following curriculum: medical terminology, pathophysiology, basic nursing skills, career exploration, safety practices, ethics, and human relations. All are delivered through classroom, laboratory, and clinical situations. **Students completing this course will receive their CPR/First Aid Certification. They will also be eligible for certification as nursing assistants if all portions of the course, including clinicals, are successfully completed.** Students are encouraged to participate in HOSA (Health Occupations Students of America) and may participate in fundraising activities for conferences and competitions.

IMMUNIZATIONS NEEDED:

- MMR (Measles, mumps, rubella)
- Tdap (tetanus, diphtheria, pertussis)
- Hepatitis B (Hep B - Can take up to six months to complete)
- Varicella (chicken pox)
- Polio
- Influenza & COVID-19

All immunizations must be completed by November 1st. Clinical sites require that, if you have an exemption on your immunization record, you must have liters drawn and submitted to show that you are immune.

SCREENINGS:

- TB (Tuberculosis)
- Criminal Background Check – Due November 1st

Go to www.ccs.castlebranch.com Select FutureForward at Bollman and follow prompts.

Clinical facilities require a criminal background check on each student prior to allowing them to participate in clinical experiences at their facilities. Cost is \$25.00 if under age 18 and \$30.00 if over 18. (You may request financial assistance for this cost)

Counseling Notes:

1. Prerequisites: Successful completion of Medical Sciences 1 & 2, CP/AP Anatomy & Physiology, or other CP or AP science course in the 11th grade year
2. Excellent attendance
3. Course fee: \$50.00

Class Format:

Semester 1:

This course is offered in a two-hour block that includes classroom work, labs, field trips, and guest speakers.

Semester 2:

This course is offered in a three-hour block to include clinical experiences working with patients in a hospital, nursing home, and/or internship site settings. **Students must provide their own transportation for these clinical experiences.** Students enrolled in the 6/7/8 block must provide their own transportation after 8th hour, second semester.

Student Requirements:

1. Students must have 75% or higher in the course curriculum standards and teacher recommendation to continue in this class second semester
2. Uniforms are required for both the class and clinicals.
3. Students are required to have the following items for clinical and internship experiences:
 - a. Watch with second hand (analog)

- b. Black scrub pants (no sweats, leggings, or jeans) and turquoise scrub top (may be checked out from Bollman)
- c. White or black tennis shoes
- d. White or black socks
- e. Tattoos must not be visible during clinicals
- f. No facial piercings, only a single post in each ear, no fake eyelashes during clinicals
- g. Nails must be kept clean and short. No artificial nails during clinicals
- h. Appropriate hair color is required during clinicals

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE MEDICAL SCIENCES II-CNA PATHWAYS:

Pediatrician Physician/Surgeon Psychologist Registered Nurse Veterinarian
Psychiatrist Physical therapist Respiratory Therapist Oncologist or other Specialist

SPORTS MEDICINE 1 & 2 (Health Science, Criminal Justice, & Public Safety Pathway)

11, 12

Credit: 2

1 Fine Practical Arts/Elective

1 Science - Kinesiology

Location: Washington Square

Have you ever wanted to work with athletes and their injuries? Athletes look to sports medicine professionals for guidance regarding training techniques, injury risk reduction, diagnosis, and treatment of sports-related problems.

The Sports Medicine Class is designed for students to learn about medical issues associated with sports from joint pain to osteoarthritis to nutrition. Topics covered in this class include: athletic training, physical therapy, medicine, fitness, exercise physiology, kinesiology, nutrition, injury risk reduction, treatment, rehabilitation, emergency injury management and administrative functions. This class will have a hands-on application in order to provide students with an avenue to explore these fields. Through these connections, students will understand the importance of exercise, nutrition and treatment modalities and the role they play in the physically active community.

Counseling Notes:

1. Course fee: \$40.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE SPORTS MEDICINE PATHWAYS:

Exercise physiologist Physical therapist Sports medicine physician
Athletic trainer Sports psychologist Psychiatrist
Orthopedic nurse Sports medicine nurse
Kinesiotherapist Orthopedic Surgeon

HOSPITALITY, HUMAN SERVICES, & EDUCATION

PROSTART 1 & 2 - (Hospitality/Culinary and Business/Public Administration Pathways)

10, 11, 12

Credit: 2 Fine Practical Arts/Elective

Location: ESC

(Culinary Arts/Hospitality/Lodging/Business Management Related Curriculum)



Interested in a fast-paced, hands-on, creative career? Do you have a passion for food or travel? Then ProStart may be the class for you. The ProStart program is designed to expose students to the culinary, tourism, and hospitality fields including food preparation, management, and customer service. Through the curriculum, students are able to blend food science, technical skills, and industry knowledge with each student's creativity and passion.

ProStart is a nationally certified college-prep business management program focusing on the hospitality industry. The ProStart curriculum is built around providing students the necessary industry skills and knowledge to succeed within the hospitality and tourism industry as well as a post-secondary hospitality or culinary program.

Content covered in this program:

- Food Safety and Sanitation
- Stocks, Soups, and Sauces
- Cooking Methods and Techniques
- Food Costing and Menu Control
- Salads, Dressings, and Dips
- Breakfast Foods and Sandwiches
- Management Strategies
- Garnishing and Plating Techniques
- Kitchen Hierarchy and Brigade
- Nutrition
- Global Cuisine
- Meat, Poultry, and Seafood
- Kitchen Equipment
- Knife Skills
- Customer Service and Serving Techniques

Counseling Notes:

1. Students that complete this course may be eligible to test for ProStart certification.
2. ProStart is a culinary arts and restaurant management program, taught by a professional Chef, and designed to prepare students for culinary school, apprenticeships, and/or careers in the industry.
3. ProStart is a FutureForward program taught at the Educational Support Center (Admin Building) 128th & Claude Ct. Transportation is provided.
4. Course fee: \$40.00
 - a. Personalized chef coat \$15.00

SOME CAREER OPPORTUNITIES FOR STUDENTS IN THE PROSTART/CULINARY PATHWAYS:

<i>Caterer</i>	<i>Chef/Pastry Chef</i>	<i>Hotel General Manager</i>	<i>Food Photographer</i>
<i>Event Planner</i>	<i>Restaurant Entrepreneur</i>	<i>Food/Beverage Director</i>	<i>Food Scientist/R & D Chef</i>

BAKING AND PASTRY APPLICATIONS 1 & 2 (Hospitality, and Business/Public Administration Pathways)

11, 12

Credit: 2 Fine Practical Arts/Elective

Location: ESC

Baking and Pastry Applications is designed to expose students to advanced techniques of baking and pastry, combining creativity with food science to produce ornate and delicious pastries and baked goods. For students who know they are pursuing a career in culinary arts, this class will enable them to dive deeper into advanced food production techniques, developing technical skills, and learning vital aspects of foodservice management.

Content covered in the program:

- Advanced Breads and Cakes
- Advanced and Classic Plated Desserts
- Functions of Ingredients in Baking
- Safety and Sanitation
- Food Artistry and Chocolate Work
- Cold Desserts
- Pies, Soufflés, and Custards
- Employability Skills
- Foodservice Management

Counseling Notes:

1. Prerequisite: Students must pass ProStart 1 & 2 with a minimum of 75% each semester
2. Course fee \$40.00
 - a. Personalized chef coat \$15.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE BAKING APPLICATIONS PATHWAYS:

<i>Baker</i>	<i>Line Chef</i>	<i>Food Scientist/R&D Chef</i>
<i>Pastry Chef/Chef</i>	<i>Food Artist</i>	<i>Food/Beverage Manager</i>

INTRODUCTION TO BEHAVIORAL AND MENTAL HEALTH CARE 1 & 2 - (Human Services Pathway)

10, 11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Bollman



This program is designed for students who are interested in pursuing careers in the behavioral/mental health fields.

Students will:

- Explore educational and professional behavioral health career pathways;
- Study common behavioral and mental health disorders and spectra;
- Apply legal, professional, and ethical considerations important to the delivery of safe and effective behavioral health care;
- Identify various communication techniques, including therapeutic communication and motivational interviewing, to assist in developing the skills needed to build therapeutic relationships with clients and improve patient outcomes in behavioral health settings; and
- Create a resource notebook and life skills class to take with them into the field.

Counseling Notes:

1. Concurrent Enrollment in PSY 101 and PSY 102 with FRCC (6 Guaranteed Transfer credits)
2. Course fee: \$40.00.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE BEHAVIORAL AND MENTAL HEALTH PATHWAYS:

<i>Behavioral Health Technician</i>	<i>Social Worker</i>	<i>Psychologist</i>	<i>Psychiatrist</i>
<i>Psychiatric Nurse</i>	<i>Therapist</i>	<i>School Counselor</i>	

ADVANCED BEHAVIORAL AND MENTAL HEALTH CARE 3 & 4 – (Human Services Pathway)

11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Bollman



- Continue with all concepts introduced in Level 1 & 2 in a more advanced capacity;
- Complete training and receive certificates for T4C and Motivational Interviewing;
- Have a familiarity with Prime for Life, Victim Empathy, CRAFT, SOAR and MRT curriculums.

Counseling Notes:

1. Concurrent Enrollment in PSY 235 (Human Growth and Development) and PSY 226 (Social Psychology) with FRCC (6 Guaranteed Transfer credits)
2. Prerequisite: Successful completion of Introduction to Behavior and Mental Health 1 & 2
3. Course fee: \$40.00

TEACHER CADET I A & B - INTRODUCTION TO TEACHING (Education Pathway)

11, 12

Credit: 2

1 Fine Practical Arts/Elective

1 English (.5 Composition I / .5 Literature I)

Location: Bollman

Are you driven to make a difference in this world? Students in this program will learn about becoming a teacher, coach, principal, school counselor, and many other careers in education. Teacher Cadets work alongside mentor teachers and coaches to observe, mentor, and co-teach students in Adams 12 elementary and middle schools.

Counseling Notes:

1. Students must have 75% or higher and instructor recommendation to continue the second semester. Attendance is an important part of the instructor recommendation.
2. Academic credit for English will be awarded upon successful completion of each semester.
3. Students will be responsible for providing their own transportation to the student teaching internships second semester - although we will work with students to secure teaching sites within walking distance from Bollman if transportation is a barrier
4. Course fee: \$40.00.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE TEACHER CADET PATHWAYS:

Coach

Counselor

Elementary/Secondary Teacher

School Administrator

Social Worker/Psychologist

Special Education Teacher

Child Advocate

Speech/Language Pathologist

Private Industry Trainer

TEACHER CADET II A & B – (Education Pathway)

12

Credit: 2 Fine Practical Arts/Elective

Location: Bollman

Students in this advanced course continue to work in classrooms with students alongside mentor teachers. Teacher Cadet II students will teach lessons, run small group activities, attend teacher meetings and professional development, as well as create and teach lessons.

Counseling notes:

1. Prerequisite: Students must have 75% or higher in Teacher Cadet I A & B and instructor recommendation. Attendance is an important part of the instructor recommendation.
2. Students must have a minimum of a 'C' or higher to obtain the certificate credit.
3. Course fee: \$40.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE TEACHER CADET PATHWAYS:

Child Care Teacher/Director

Counselor

Elementary/Secondary Teacher

School Administrator

Social Worker/Psychologist

Special Education Teacher

Child Advocate

Speech/Language Pathologist

SKILLED TRADES & TECHNICAL SCIENCES

AUTOMOTIVE COLLISION REPAIR AND REFINISHING 1 & 2 - (Transportation, Distribution, & Logistics Pathway)

10, 11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Bollman



Auto Collision Repair Technicians find their skills increasingly valued as more vehicles fill the roads and a greater number of traffic accidents damage these vehicles. As OEM vehicles continue to incorporate sophisticated new materials and increasingly complex design technologies in their vehicles, the collision repair industry will face an ongoing need for repair technicians. Students in FutureForward's Auto Collision Repair program will learn to assess the damage, remove and install parts, remove dents, replace sections, and paint the car body. In addition, students learn how to estimate a repair job and obtain the entrepreneurial skills to operate their own business. Collision repair and refinishing is a challenging, lucrative, and rewarding career, especially as vehicles become more diverse and high-tech in their construction. All students will have the opportunity to obtain an industry-relevant I-CAR certification. **I-CAR**, the Inter-Industry Conference on Auto Collision Repair, plays a major role in supplying the industry with well-trained, knowledgeable, and highly employable collision repair professionals.

Counseling Notes:

1. Students who complete this course may be eligible to test for **I-CAR**, the Inter-Industry Conference on Auto Collision Repair. **This certification may be used to demonstrate competency for new graduation guidelines.**
2. Safety glasses, a shop shirt, and appropriate shoes are required.

3. Course fee: \$40.00.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE AUTO COLLISION REPAIR AND REFINISHING PATHWAYS:

*Auto body Shop Owner/Manager
Repair Technician
Aviation Paint Technician*

*Collision Estimator
Master Painter
Auto Detailing Technician*

*Automobile Customization
Prep Technician
Auto Restoration Technician*

AUTOMOTIVE COLLISION REPAIR AND REFINISHING 3 & 4 - (Transportation, Distribution, & Logistics Pathway)

10, 11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Bollman



Auto Collision Repair Technicians find their skills increasingly valued as more vehicles fill the roads and a greater number of traffic accidents damage these vehicles. As OEM vehicles continue to incorporate sophisticated new materials and increasingly complex design technologies in their vehicles, the collision repair industry will face ongoing need for repair technicians.

Level 3 & 4 students in FutureForward's Auto Collision Repair program will learn auto estimating, color matching and theory, plastic repair, applying adhesives, custom painting techniques, and applying decals and pinstripes.

Counseling Notes:

1. Students that complete this course may be eligible to test for **I-CAR**, the Inter-Industry Conference on Auto Collision Repair. **This certification may be used to demonstrate competency for new graduation guidelines.**
2. Prerequisite: Completion of Automotive Repair and Refinishing 1 & 2
3. Safety glasses, a shop shirt, and appropriate shoes are required.
4. Course fee: \$40.00.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE AUTO COLLISION REPAIR AND REFINISHING PATHWAYS:

*Auto body Shop Owner/Manager
Repair Technician
Aviation Paint Technician*

*Collision Estimator
Master Painter
Auto Detailing Technician*

*Automobile Customization
Prep Technician
Auto Restoration Technician*

AUTOMOTIVE TECHNOLOGY 1 & 2 - (Transportation, Distribution, & Logistics Pathway)

10, 11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Bollman



The Auto Technology program is National Automotive Technical Education Foundation (NATEF) certified in all eight areas. Instructors are Master ASE Certified.

Auto Technology 1 & 2 program provides great opportunities for students interested in careers related to the automotive industry. Students will gain a thorough knowledge of engine performance, electronic diagnostics, light maintenance, brakes, tires, cooling systems, chassis, drivetrains, fuel systems, steering, suspension, and electrical systems. Students will have the opportunity to obtain student ASE certifications in the automotive field.

Counseling Notes:

1. Students that complete this course are eligible to test for Automotive Service Excellence (ASE) certification.
This certification may be used to demonstrate competency for new graduation guidelines.
2. Safety glasses, shop shirt, and appropriate shoes are required.
3. Course fee: \$40.00.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE AUTO TECHNOLOGY PATHWAYS:

Auto Shop Owner/Manager Diesel Mechanic Master Auto Technician
Repair Service Estimator Small Engine Repair

AUTOMOTIVE TECHNOLOGY 3 & 4 - (Transportation, Distribution, & Logistics Pathway)

11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Bollman



The Auto Technology program is National Automotive Technical Education Foundation (NATEF) certified in all eight areas. Instructors are Master ASE Certified. Auto Technology 3 & 4 students demonstrate a strong interest in the auto technology industry. This program is designed to provide a thorough knowledge of engine performance, advanced charging systems, advanced brakes, alignments, suspension, electrical system diagnostics, engine rebuilding, and emission testing. Students will have the opportunity to obtain student ASE certifications. It is expected that students will enroll in the AYES program.

Counseling Notes:

1. Students that complete this course are eligible to test for Automotive Service Excellence (ASE) certification.
This certification may be used to demonstrate competency for new graduation guidelines.
2. Prerequisite: Completion of Auto 1 & 2
3. Safety glasses, a shop shirt, and appropriate shoes are required.
4. Course fee: \$40.00.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE AUTO TECHNOLOGY PATHWAYS:

Auto Shop Owner/Manager Diesel Mechanic Master Auto Technician Dealer Service Technician
Repair Service Estimator Small Engine Repair

DIESEL AUTOMOTIVE TECHNOLOGY 1 & 2 - (Transportation, Distribution, & Logistics Pathway)

10, 11, 12

Credit: 2

2 Fine Practical Arts/Elective

Location: Washington Square



The Diesel Automotive Technology course is designed to train entry-level diesel technicians. Students are trained in shop safety, preventive maintenance, braking systems, suspension systems, engine theory, electrical and electronic theory, hydraulic theory, design and troubleshooting, powertrain theory, performance, operation and component rebuild. All courses will follow ASE standards. Students will be working on live units with real world problems to diagnose and repair to gain the hands-on experience they need to become successful Diesel technicians. Students will have the opportunity to obtain ASE, Snap-on, and EPA certifications in the automotive field.

Counseling Notes:

1. Safety glasses, shop shirt or coveralls, and steel-toed boots are required.
2. Course fee: \$40.00.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE DIESEL TECHNOLOGY PATHWAYS:

Auto Shop Owner/Manager Diesel Technician Master Auto Technician Repair Service Estimator

DIESEL AUTOMOTIVE TECHNOLOGY 3 & 4 - (Transportation, Distribution, & Logistics Pathway)

11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Washington Square



The Diesel Automotive Technology 3/4 course is designed to train diesel mechanics to enter the workforce at the apprentice level. Students will have the opportunity to obtain student ASE, Snap-on, and EPA certifications. **These certifications may be used to demonstrate competency for new graduation guidelines.** All courses will follow ASE standards. Students will be working on live units with real-world problems to diagnose/repair and to gain the hands-on experience they need to become successful technicians.

Students are trained in:

- Advanced Manual/Automatic Transmission
- Engine Repair and Rebuild
- Advanced Computer Diagnostic & Engine Performance – Gas and Diesel Engines
- Advanced Braking Systems
- Advanced Driveline Repair
- DOT Inspection Procedures
- HVAC
- Advanced Electrical Diagnostic & Repair
- Hydraulics
- Advanced Suspension & Repair

Counseling Notes:

1. Students must successfully complete Diesel 1 & 2 to register for this course.
2. Safety glasses, shop shirt or coveralls, and steel-toe shoes are required.
3. Course fee: \$40.00.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE DIESEL TECHNOLOGY PATHWAYS:

Auto Shop Owner/Manager Diesel Technician Master Auto Technician Repair Service Estimator

DIESEL AUTOMOTIVE TECHNOLOGY INTERNSHIP - (Transportation, Distribution, & Logistics Pathway)

12

Credit: 2 Fine Practical Arts/Elective

Location: Washington Square

This course is designed to prepare students to enter the workforce through on-the-job training in the form of an internship. Students will have the opportunity to learn advanced diesel skills in supervised practical experience on the job to become effective diesel technicians.

Counseling Notes:

1. Prerequisite: Successful completion of Diesel 3 & 4 and Instructor recommendation.
2. Safety glasses, shop shirts or coveralls, and steel-toe shoes are required.
3. Students may be required to provide transportation to the job site.
4. Students will have to complete an individual company's pre-hiring approval process.
5. Course fee: \$40.00.

PRINCIPLES OF CONSTRUCTION, MECHANICAL, ELECTRICAL, AND PLUMBING 1 & 2

(Architecture & Construction Pathway)

10, 11, 12

Credit: 1 Fine Practical Arts/Elective

Location: Washington Square

Principles of Construction, Mechanical, Electrical, and Plumbing prepares students for electrical, plumbing, and HVAC careers by introducing students to the physical principles of these systems and the fundamental skills needed to work with them. Upon completion of this course, proficient students will be able to follow safety procedures and use tools to perform basic operations with electrical circuits, as well as demonstrate understanding in fundamental concepts of electricity theory (i.e. Ohm's Law). Students will be able to apply proper tools and procedures to perform basic operations with plastic piping, including measuring, cutting, and joining. Furthermore, students will be able to apply mathematical concepts to solve HVAC, electrical, and plumbing problems.

Counseling notes:

1. Students that complete this course are eligible to test for OSHA 10 and PACT HBI core certification. **These certifications may be used to demonstrate competency for new graduation guidelines.**
2. Course fee: \$20.00.
3. Supplies include:
 - a. Safety toed shoes/boots
 - b. Safety glasses
 - c. Basic hard hat for field trip and on the job exercises

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE CARPENTRY PATHWAYS:

Construction Management

Carpenter

Architect

Surveyor

Home Maintenance and Repair

Interior Designer

Building Inspector

Engineering

Electrician

Plumber

HVAC

ADVANCED PRINCIPLES OF CONSTRUCTION, MECHANICAL, ELECTRICAL, AND PLUMBING 3 & 4 - (Architecture & Construction Pathway)



11, 12

Credit: 2

1 Math - Math in Construction

1 Fine Practical Arts/Elective

Location: Washington Square

Throughout the course, students will interpret construction drawings to complete projects, implement material estimating procedures and safe working practices. Standards in this course also expand on principles of the construction industry and project management strategies. Students will continue to learn practical applications of electrical theory and techniques used by licensed electricians, including exploration of OSHA's electrical safety-related work practices. Students will learn approaches to commercial building wiring in compliance with current National Electrical Code and local codes. Math concepts related to construction will be integrated throughout the course.

Students will acquire knowledge and skills in use of tools, codes, installation of commercial HVAC equipment, heat pumps, troubleshooting techniques, various duct systems, and maintenance practices. Students will acquire knowledge and skills in plumbing codes, advanced plumbing mathematics, commercial drawings, basic electricity, hanger installation, supports and structural penetrations, roof drains, fixture installation, valves and faucets, and oxy-fuel safety. Students will also learn about setup, cutting, brazing, and welding water system sizing; gas, drain, waste and vent installation and testing; and water heater installation.

Counseling notes:

1. Students that complete this course are eligible to test for OSHA 10 and HBA certification. **These certifications may be used to demonstrate competency for new graduation guidelines.**
2. Prerequisite: Successful completion of Principles of Construction, Mechanical, Electrical, and Plumbing course
3. No math prerequisite for this course.
4. Course fee: \$40.00
5. Supplies include:
 - a. Safety toed shoes/boots
 - b. Safety glasses
 - c. Basic hard hat for field trip and on-the-job exercises

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE ADVANCED PRINCIPLES OF CONSTRUCTION, MECHANICAL, ELECTRICAL, AND PLUMBING PATHWAYS:

<i>Construction Management</i>	<i>Carpenter</i>	<i>Architect</i>	<i>Surveyor</i>
<i>Home Maintenance and Repair</i>	<i>Interior Designer</i>	<i>Building Inspector</i>	<i>Engineering</i>
<i>Electrician</i>	<i>Plumber</i>	<i>HVAC</i>	<i>Refrigerator Technician</i>
<i>Building Maintenance Technician</i>	<i>Building Maintenance Supervisor</i>		

CONSTRUCTION, MECHANICAL, ELECTRICAL, AND PLUMBING INTERNSHIP (Architecture & Construction Pathway)

12

Credit: 2 Fine Practical Arts/Elective

Location: Washington Square



This course is designed to prepare students to enter the workforce through on-the-job training in the form of an internship. Through supervised practical experiences, students will have the opportunity to learn relevant skills in the fields of carpentry, electrical, HVAC, and plumbing.

WELDING TECHNOLOGY 1 & 2 - (Manufacturing Pathway)

10, 11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Washington Square



This course will provide students with entry-level welding skills. The Welding Technology program provides training in welding safety, oxyacetylene welding and cutting, plasma arc cutting, brazing, soldering, stick welding (SMAW), and MIG welding (GMAW). Students learn to read and make weld prints and sketches. Basic fabrication skills, including the safe use of shop tools, will be learned in conjunction with class projects and personal projects.

Counseling Notes:

1. Students that complete this course are eligible to test for American Welding Society certification. **This certification may be used to demonstrate competency for new graduation guidelines.**
2. Course fee: \$40.00
3. Supplies include:
 - a. Welding helmet
 - b. Safety glasses
 - c. Welding gloves
 - d. Welding jacket
 - e. Steel-toed boots

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE WELDING PATHWAYS:

Architect

Auto-Body Specialist

Engineer

Iron Worker

Sheet-Metal Worker

Sculptor

Pipefitter

Machinist

WELDING TECHNOLOGY 3 & 4 - (Manufacturing Pathway)

11, 12

Credit: 2 Fine Practical Arts/Elective

Location: Washington Square



This course is for students who have demonstrated an interest in pursuing a career as a welder. This class will provide students with advanced instruction in Welding Technology including welding safety, oxyacetylene welding/cutting, plasma arc cutting, carbon arc cutting, exothermic cutting, stick welding (SMAW), flux-cored arc welding (FCAW), MIG welding (GMAW), and TIG welding (GTAW), and pipe welding. Students will acquire improved skills in print reading and other technical information. Students successfully completing Welding Technology II may acquire an Entry-Level Welder's Certification from the American Welding Society.

Counseling Notes:

1. Students that complete this course are eligible to test for American Welding Society certification. **This certification may be used to demonstrate competency for new graduation guidelines.**
2. Successful completion of Welding 1 & 2
3. Course fee: \$40.00
4. Supplies include:
 - a. Welding helmet
 - b. Safety glasses
 - c. Welding gloves
 - d. Welding jacket
 - e. Steel-toed boots

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE WELDING PATHWAYS:

<i>Architect</i>	<i>Auto-Body Specialist</i>	<i>Engineer</i>	<i>Iron Worker</i>
<i>Sheet-Metal Worker</i>	<i>Sculptor</i>	<i>Pipefitter</i>	<i>Machinist</i>

STEM & INFORMATION TECHNOLOGY

CODING I - (STEM and Computer Science Pathway)

9, 10, 11, 12

Credit: 0.5 Fine Practical Arts/Elective

Location: Bollman

Coding I is a Python course intended to teach students the basics of computer programming. Students begin by learning the history of computing, the impacts it has had, and the impacts it may have. Students explore career opportunities associated with coding.

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

Counseling Notes:

1. Enrollment in Coding II required for second semester.
2. This course is a recommended prerequisite to AP Computer Science A
3. This course may be taken online through Bollman (Contact Bollman Counselors for details).
4. Course fee: \$20.00 covers both Coding I & II.

CODING II - (STEM and Computer Science Pathway)

9, 10, 11, 12

Credit: 0.5 Fine Practical Arts/Elective

Location: Bollman

Coding II challenges students to develop advanced skills in problem analysis, construction of algorithms, and computer implementation of algorithms as they work on programming projects of increased complexity. In so doing, they develop key skills of discernment and judgment as they must choose from among many languages, development environments, and strategies for the program life cycle. Course content is reinforced through numerous short- and long-term programming projects, accomplished both individually and in small groups. These projects are meant to hone the discipline and logical thinking skills necessary to craft error-free syntax for the writing and testing of programs. Upon completion of this course, proficient students will demonstrate an understanding of object-oriented programming language using high-level languages such as Processing (Java version), FOCUS, Python, or SAS.

Counseling Notes:

1. Prerequisite: Coding I or teacher approval
2. This course may be taken online through Bollman (Contact Bollman Counselors for details).
3. Course fee: \$20 if teacher approval prerequisite met.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE CODING/COMPUTER SCIENCE PATHWAYS:

<i>Computer Programmer</i>	<i>Computer Engineer</i>	<i>Web Designer</i>	<i>Video Game Designer</i>
<i>IT Specialist</i>	<i>Network Technician</i>		

AP COMPUTER SCIENCE PRINCIPLES - (STEM, & Information Technology Pathway)

9, 10, 11, 12

Credit: 1 Fine Practical Arts/Elective

Location: Bollman

AP Computer Science Principles introduces students to the breadth of the field of computer science. In this course, students will learn to design and evaluate solutions and to apply computer science to solve problems through the development of algorithms and programs. They will incorporate abstraction into programs and use data to discover new knowledge. Students will also explain how computing innovations and computing systems, including the Internet, work, explore their potential impacts, and contribute to a computing culture that is collaborative and ethical.

Counseling Notes:

1. Prerequisite: Students must be enrolled in, or completed, Integrated Math II.
2. Course fee: \$96 for the AP Examination
3. All students taking AP Computer Science Principles will be required to attempt the Advanced Placement Examination in order to receive the weighted credit for this course. A score of two or better demonstrates Math competency for new graduation guidelines.
4. There will also be a mandatory parent/student meeting in April that will cover class expectations. At that time, parent and student will sign an AP contract.

AP COMPUTER SCIENCE A - (STEM, & Information Technology Pathway)

10, 11, 12

Credit: 1 Fine Practical Arts/Elective

Location: Bollman

AP Computer Science A is an introductory college-level computer science course. Students cultivate their understanding of coding through analyzing, writing, and testing code as they explore concepts like modularity, variables, and control structures. The course emphasizes object-oriented programming and design using the Java programming language.

Counseling Notes:

1. Prerequisites: Coding I and Coding II; or AP CS Principles; or teacher approval. Students must also be enrolled in, or completed, Integrated Math II.
2. Course fee: \$96 for AP Examination
3. All students taking AP Computer Science A will be required to attempt the Advanced Placement Examination in order to receive the weighted credit for this course. A score of two or better demonstrates Math competency for new graduation guidelines.
4. There will also be a mandatory parent/student meeting in April that will cover class expectations. At that time, parent and student will sign an AP contract.
5. This course may be taken online through Bollman (Contact Bollman Counselors for details).

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE COMPUTER SCIENCE PATHWAYS:

Computer Programmer Computer Engineer Web Designer Video Game Designer

CYBERSECURITY - (STEM, & Computer Science Pathway)

10, 11, 12

Credit: 1 Fine Practical Arts/Elective

Location: Bollman

In this one-year course students increase their cyber awareness, which helps to develop a more educated cyber workforce. Students will get hands-on experience securing vulnerabilities on a Windows Server, a Linux machine and a Windows machine. Students will also be exploring the following topics:

Law explores the differences between a criminal offense and a moral wrong, protection of intellectual property, the functions and uses of permanent electronic records, and the role of laws in addressing social challenges.

Politics inspects how cyberspace, and specifically social media, influences the political climate around the world as well as the ways hacking affects those same politics.

Terrorism analyzes the motivations behind, desired outcomes of, and consequences of acts of terrorism and discusses appropriate counter attacks or counter measures.

Networking and Security (NS) showcases the structure of networks as well as the vulnerabilities. The need for security is heavily emphasized through man-in-the-middle attacks, cryptography, and steganography.

Ethics examines ethical implications of extensive technology use such as conceptions of friendships, privacy, personality, and the harms inherent in new technologies.

Communities investigates the necessity of a networked society, crowdsourcing information, technology used in communication, virtual collaboration, and team dynamics.

Business demonstrates the collection, storage, usage, and protection of data; cybersecurity attacks and threats; and technology to improve information security.

Artificial Intelligence introduces a definition of "smart" technology, examines the concept of intelligence, and explores the current and potential future roles of AI around the globe.

Counseling Notes:

1. Prerequisite: AP Computer Science A or AP Computer Science Principles
2. This course may be taken online through Bollman (Contact Bollman Counselors for details)
3. Course fee: \$20.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE CYBER SECURITY PATHWAYS:

*Cyber Crime Investigator Cybersecurity Consultant IT Auditor Software Development
Cybersecurity Engineer*

NETWORKING

10, 11, 12

Credit 2 Fine Practical Arts/Elective

Location: Bollman

Networking A & B is an advanced course designed to emphasize the conceptual and practical skills necessary to design, manage, and diagnose network hardware and software. Upon completion of this course, proficient students will identify types of networks, understand the layers of the open systems interconnection (OSI) model, prevent security risks, and apply troubleshooting theory to the successful execution of networking tasks. Course content covers transmission control protocol, internet protocol, wired and wireless topologies, switching and routing, network hardware, wireless networking, and network operating systems (NOS). Upon completion of this course, proficient students will be prepared to sit for the CompTIA Network+ exam. Students will also be halfway through the curriculum necessary to take the Cisco CCNA certification.

Counseling Notes:

1. Course fee: \$40.00
2. Prerequisite: Coding I or AP Computer Science Principles

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE NETWORKING PATHWAYS:

*Networking Administrator Network Engineer Network Technician
Cybersecurity Specialist / Technician Incident Analyst / Responder*

COMPUTER SCIENCE PROJECTS - (STEM, & Information Technology Pathway)

11, 12

Credit: 1 Fine Practical Arts/Elective

Location: Bollman

In this one-year course, students learn Agile Scrum (a framework for managing knowledge while working, with an emphasis on software development) while designing a Computer Science Project. By the end of the course, students can take the Professional Scrum Master I (PSMI) Certification exam. Project areas could include Advanced Cyber Security Skills, real-world authentic problems from industry partners, or authentic problems from school district staff.

Counseling Notes:

- 1. Prerequisite: AP Computer Science A or Cybersecurity or Networking or teacher approval
- 2. Course fee: \$20.00.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE COMPUTER SCIENCE PATHWAYS:

Information Technology Project Manager Software Engineer Video Game Designer
Cybersecurity Consultant Computer Programmer Web Designer

AEROSPACE ENGINEERING – Project Lead the Way® (STEM Pathway)

11, 12

Credit: 1 Fine Practical Arts/Elective

Location: Bollman

Aerospace engineering explores the evolution of flight, navigation, and control, flight fundamentals, aerospace materials, propulsion, space travel, and orbital mechanics. In addition, this course presents alternative applications for aerospace engineering concepts. Students analyze, design, and build aerospace systems. Topics covered in the course may include the history of flight, aerodynamics and aerodynamics testing, flight systems, astronautics, space life systems, aerospace materials, and systems engineering. Interplanetary probes and control are also explored.

Counseling Notes:

- 1. This course is rigorous in both Math and Science. Students registering for Aerospace should have successfully completed or be currently enrolled in CP Physics and Math III or have instructor approval.
- 2. This course is recommended for students interested in design and engineering.
- 3. Course fee: \$20.00.

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE AEROSPACE ENGINEERING PATHWAYS:

Aerospace Engineer Mechanical Engineer Engineering Manager Aerospace Systems Analyst

COMPUTER INTEGRATED MANUFACTURING - Project Lead the Way® (STEM Pathway)

(Robotics and Automation)

11, 12

Credit: 1 Fine Practical Arts/Elective

Location: Bollman

How are things made? What processes go into creating products? How has automation changed manufacturing? You will be presented with design problems that require the use of advanced Computer Aided Design to develop solutions. Students will learn to use manual mill and lathe machines, CNC (Computer Numeric Control) machinery to produce your design. These skills will be used to develop projects. Utilizes project/problem based learning. Students will design, create, and program robotic devices. Several new software applications are learned in this course.

The following are expected outcomes:

- Learn how products are made.
- Program Robots & Robotic Arms
- Programmable Micro-Computers
- Computer Aided Design Engineering Modeling Software
- Automated Machining (CNC Mill)
- Learn to speak the language of Machines

Counseling Notes:

1. This course is recommended for students interested in design and engineering
2. Students registering for CIM should have successfully completed or currently be enrolled in Contemporary Math II and Principles of Engineering
3. Course fee: \$20.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENT IN THE COMPUTER INTEGRATED MANUFACTURING PATHWAYS:

Manufacturing Mechanical Engineer Industrial Engineer Project Management

PRINCIPLES OF ENGINEERING – Project Lead the Way® (STEM Pathway)

10, 11, 12

Credit: 1 Fine Practical Arts/Elective

Location: Bollman

This survey course exposes students to major concepts they will encounter in a post-secondary engineering course of study. Topics include mechanisms, hydraulics, pneumatics, computer, interfacing, robotics, computer-aided design, electronics, energy, statics, materials, and kinematics. Students learn to use engineering mathematics and develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges, document their work, and communicate solutions.

Counseling Notes:

1. Students that complete this course may be eligible to test for Solidworks certification. This certification may be used to demonstrate competency for new graduation guidelines
2. Students should have a good understanding of basic algebraic mathematics
3. This course is recommended for students interested in design and engineering
4. Course fee: \$20.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE ENGINEERING PATHWAYS:

Mechanical Engineer Electrical Engineer Structural Engineer Alternative/Renewable Energy Technician

ENGINEERING DESIGN & DEVELOPMENT - Project Lead the Way® (STEM Pathway)

11, 12

Credit: 1 Fine Practical Arts/Elective

Location: Bollman

In this capstone course, students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process. Students perform research to choose, validate, and justify a technical problem. After carefully defining the problem, teams design, build, and test their solutions while working closely with industry professionals who provide mentoring opportunities. Finally, student teams present and defend their original solution to an outside panel.

Counseling Notes:

1. Prerequisite: Successful completion of Principles of Engineering or instructor approval
2. Course fee: \$20.00

POSSIBLE CAREER OPPORTUNITIES FOR STUDENTS IN THE ENGINEERING DESIGN AND DEVELOPMENT PATHWAYS:

Engineering *Project Manager* *Machining* *Manufacturing*

AFROTC

9, 10, 11, 12

Credit: 1 Fine Practical Arts/Elective

Location: Westminster High School

Air Force Junior ROTC is available through a cooperative agreement with Westminster Public Schools (formerly School District 50). Classes are held at Westminster High School. Students are responsible for their own transportation to and from class and there is a \$30 course fee. Interested students should contact the BOLLMAN registrar at 720-972-5827 for more information, or Air Force JROTC Instructor John Durnford at 303-487-2460.

This course teaches both aerospace studies and leadership/life skills education. Air Force topics include the heritage and development of the Air Force, including its structure, operations, customs, intercommunication skills, drill, and military ceremonies and courtesies. Aerospace topics include the development, history, and impact of flight; aircraft and spacecraft; the environment in which these crafts operate; science of flight, space technology and exploration; national defense systems; and knowledge of aviation, propulsion, and navigation. Global Studies curriculum is also included once every fourth year. This course may be repeated for credit.

Transportation for ROTC is NOT provided by Adams 12.

ACADEMIC COURSE OFFERINGS

Students **must** be enrolled in a FutureForward career and technical program to be eligible for enrollment in FutureForward academic courses.

<i>English 11 – American Lit/Comp</i>	<i>English 12 – Lit/Comp</i>
<i>College English 121 – Freshman Composition (FRCC Guaranteed Transfer Course)</i>	<i>College English 122 – Research Seminar (FRCC Guaranteed Transfer Course)</i>

(FutureForward English courses meet district graduation requirements.)
Please consult with your counselor to verify which courses meet the NCAA Clearinghouse requirements before making final course selections.

ENGLISH COURSES

ENGLISH 11 (American Lit/Comp)

11

Credit: 1 English

Students will understand the thematic progression of literature from the United States by studying literary texts across the 18th, 19th, and 20th centuries. They will analyze and explain authors' use of literary techniques through argumentative writing, higher-level discussions, and oral presentations. Students will flexibly use technology for both research and the presentation of information, including that required for a long-term, in-depth project. They will assess the credibility and validity of sources to answer research questions and complete long-term works, as well as write narrative, problem-solution, comparative analysis, informative, and argumentative pieces.

Major units of study include:

- Argument and Inquiry
- Thematic Development and Authorial Choices
- Rhetorical Analysis and Crafting Arguments
- Interpretation of Drama: Genre Study
- Informed Public Advocacy

Counseling Notes:

1. This course is available only to 11th grade students.
2. This course meets the district English graduation requirement

ENGLISH 12 (Lit/Comp)

12

Credit: 1 English

Students will engage in the study of literary movements to determine how various views affect the interpretation and understanding of literature. They will also understand how works of literature are influenced by the time period in which the author lived and how that influence is reflected in the work. Students will participate in a large-scale independent inquiry project where they will research, develop, and refine a multi-faceted argumentative piece and presentation.

Major units of study include:

- Self-Directed Inquiry Project
- Narrative Thematic Development
- Initiating Inquiry
- Analysis and Argument
- Application and Presentation of Research

Counseling Notes:

1. This course is available only to 12th grade students.
2. This course meets the district English graduation requirements.

COLLEGE ENGLISH 121: Freshman Composition

12

Credit: 1 English

Emphasizes the planning, writing, and revising of compositions, including the development of critical and logical thinking skills. This course includes a wide variety of compositions that stress analytical, evaluative, and persuasive/argumentative writing. This is a statewide Guaranteed Transfer course in the GT-CO1 category.

COLLEGE ENGLISH 122: Research Seminar

12

Credit: 1 English

Expands and refines the objectives of English Composition I. Emphasizes critical/logical thinking and reading, problem definition, research strategies, and writing analytical, evaluative, and/or argumentative compositions. This is a statewide Guaranteed Transfer course in the GT-CO2 category. **Prerequisite:** Successful completion of ENG 121.

Classes will only be offered if there is sufficient enrollment.