



START
HERE!

2020-2021

course
catalog

Foster Career and Technical Education Center

2020- 2021 | Course of Study Booklet



129 Seamon Road | Farmington, ME | 04938

(207) 778-3562

www.foster.mainecte.org | Facebook: Foster Tech

Serving: Mt. Abram High School, Mt. Blue High School, Spruce Mountain High School, and Rangeley Lakes Regional High School

Notice of Non-Discrimination

Foster Career and Technical Education Center does not discriminate in its education and employment programs on the basis of race, color, national origin, sex, marital or parental status and disability, and complies with Title IV of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of Rehabilitation Act of 1973, Americans' with Disabilities Act (ADA) of 1990. Inquiries regarding this matter may be directed to, Title IX, 504 and ADA may be made to Keith Acedo, Affirmative Action Officer, at 585 Depot St, Wilton, ME 04294 (207) 645-4488



Do you want a unique and challenging program that will offer you technical skills, national certifications and college credits all at the same time? Then welcome to Foster CTE Center.

Foster Career and Technical Education Center (FCTEC) is located on the Mt. Blue Campus. FCTE is a regional Career and Technical Education center welcoming and serving students from Spruce Mountain High School, Mt. Abram High School, Rangeley Lakes Regional School and Mt. Blue High School. The Center offers a wide variety of programs to all students.

Programs meet four hours every other day for a year for a total of 350 hours. Specific information about the schedule is available from your guidance counselor or can be found on the FCTEC website. www.foster.maine.cte.org

Career and Technical Education (CTE) programs have syllabi that align with the Maine Common Core Standards in addition to the specific technical training that can lead to state and national certifications. Many technical programs have a dual enrollment agreement with the Community College System and UMaine system. This allows students to receive college credits while completing their high school classes. All of our programs offer service-learning opportunities. Buses from our partner schools provide transportation to and from FCTEC. Students need to have special permission to bring a vehicle to a program site.

Students interested in programs at FCTEC are encouraged to visit our programs and speak with our instructors or students that are currently at the center or visit our webpage at www.foster.maine.cte.org you can also "like" us on our Facebook page (Foster Tech Center). If you have any questions about the programs at Foster Career and Technical Education Center and how they may fit into your schedule, please feel free to call me at 778-3562.

Melissa Williams
FCTEC Director

Letter to Students
Table of Contents
Staff Directory
Non-Disclosure Statement

Programs:

Automotive Technology.....Page 6
Biotechnology.....Page 7
Building Construction.....Page 8
Business Academy.....Page 9
Nurses’ Assistant (CNA).....Page 10
CommercialArts & Photography.....Page 11
Composites Manufacturing.....Page 12
Computer Technology.....Page 13
Culinary Arts.....Page 14
Digital Media.....Page 15
EarlyChildhood Occupations.....Page 16
Employability Skills.....Page 17
Firefighting.....Page 18
Forestry, Wood Harvest, HeavyEquip.....Page 19
Metal Fabrication.....Page 20
Plumbing&Heating.....Page 21
Pre-Engineering.....Page 22
Anticipated Programs.....Page 23

Additional Opportunities:

Career Exploration.....Page 24
BridgeYear.....Page 25
Student Organizations.....Page 26
Other Career Opportunities.....Page 27



STAFF DIRECTORY

Melissa Williams	Director
Todd Demmons	Assistant Director
Mary Redmond-Luce	Student Services Coordinator
Chris Davis	Career Exploration Coordinator
Karri Dwyer	Administrative Assistant
Jody Harmon	Finance Secretary
Jan Rackliff	Ed. Tech III
Andre Belanger	Career Exploration (Mt. Abram)
Scott Vining	Automotive Technology
David Nordstrom	Biotechnology
Del Harris	Building Construction
Regina Savage	Business Academy
Lorna Collins	Nurses' Assistant (CNA)
Liz LeClair	Commercial Arts & Photography
Chris DeMarco	Composites Manufacturing
Richard Wilde	Computer Technology
Sgt. Hastings and Sgt. Lyman	Criminal Justice
Sean Minear	Culinary Arts
Amber Davis	Digital Media
Leilani Gordon	Early Childhood Occupations
Kyle Minear	Employability Skills
John Churchill	Firefighting
Rodney Spiller	Forestry & Heavy Equipment
Dean Merrill	Forestry & Wood Harvesting
Rob Olsen	Metal Fabrication
Mark Witham	Plumbing & Heating
Thomas Harrison	Plumbing & Heating
Jake Bogar	Pre-Engineering
**Rob Rogers	Auto CAD

Automotive Technology I

This course is part one of a two-year course in automotive service and repair. This course focuses on a general overview of automobiles and light trucks, designed to provide students with the basic automotive knowledge and skills to further their education. Students spend time in the classroom studying theory and time in the shop performing hands-on diagnosing, testing and repairing of various systems of the automobile. Shop experience includes general maintenance and under car repair of brakes, steering, suspension, tire service and drive train. Theory and operation is coordinated with safety, shop organization, professionalism, and proper use and care of tools and equipment. Students interested in this course should possess basic mechanical aptitude and hands-on skills along with good work ethics and a desire to “know how things work.”



Automotive Technology II

* Pre-requisite: Auto Tech I

This course is part two of our two-year Auto Tech Program, and is only available to students who have successfully completed Auto Tech I. Covered in this course are more sophisticated systems including electrical, computer controls, HVAC, EVAP, engine repair, and computerized 4-wheel alignment. The majority of the students' hands-on experience will come from performing repairs on real customers' vehicles. Auto Tech II students will be given the opportunity to test for their Maine State Inspection License at the end of the course.

State & national standards met in this class include:

- Effective safety precautions and practices
- Proper use and care of hand tools and shop equipment
- The ability to stay on task and complete repairs in a timely fashion
- Ability to work independently
- Ability to acquire data/procedures and follow detailed directions
- Successful completion of the Maine State Class A and E inspection Exams

Articulation

Washington County Comm College
Central Maine Community College

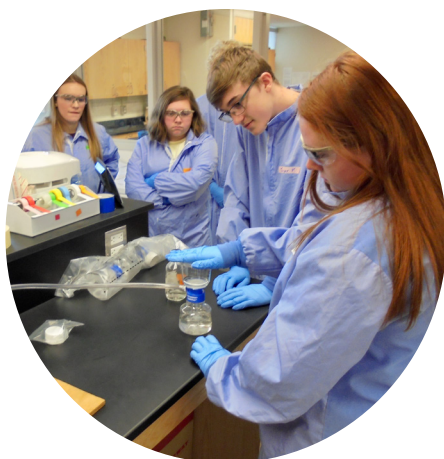
UNOH
(Up to 5 credits)

Certifications possible:

ASE -Entry level Certification
State Inspection License
Safety and Pollution Prevention (S/P2)
Maine Oxy Fuel Training Certificate

The Biotechnology program gives students the experience of being a research scientist well before they enter college. Each year, students in the program have discovered bacteriophage viruses, purified them and isolated their DNA. We also learn the skills of genetic engineering and do genetic engineering with raw materials from scratch. We need to use these gene splicing techniques to prepare our virus DNA to be sequenced. The goal of this project is to find a virus that no one has found before, and viruses are currently identified by sequencing their genetic code. If the genetic code of any one of our viruses is unique to science we can be the ones to name it and hopefully publish our findings! This course counts as a college course in the University of Maine System so it is transferable. Like a college class you will learn high level skills but with plenty of time, and a lot of coaching and support.

In this program students will become proficient in microbiology and molecular genetics. Students learn many other research techniques such as how to amplify DNA from crime scenes with polymerase chain reaction (PCR) and how to perform antibody based diagnostics like they use in hospitals. The vast majority of time is spent in the lab doing hands on work. Tools like micropipettes and thermal cyclers are not just used once to teach a concept, but used repeatedly to gain skill. If you plan to take CP, Honors, or Advanced Chemistry this class would be for you.



State & national standards met in this class include:

- Safety Precautions and Practices
- Collaboration, Communication, Problem Solving Skills
- Lab Technique and Concepts
- Cell and Microbiology Techniques and Concepts
- Recombinant DNA Technology Techniques and Concepts
- DNA Amplification, Sequencing, and Forensics
- Protein Science and Immunology

Articulation
Southern Maine Community College
[4 Credits]
Concurrent Enrollment
University of Maine Farmington
[4 Credits] PHY110N
NOCTI

BIOTECHNOLOGY

BUILDING CONSTRUCTION

Instructor: Del Harris
dharris@mtbluersd.org

Building Construction is a hands on, energetic, and educational program. Students will learn the basics of most carpentry aspects, chief among them being safety. The effort put in is directly reflected in what you get out of this program and the more driven a student is to learn the more they will gain. Focusing on practical knowledge that is helpful for anyone no matter if they are looking to get into the trades or simply gain skills in a new exciting way.

Positive work traits that employers look for in employees are stressed in this course. It's demanding, physical, fun, challenging and focuses on hands-on, practical application of knowledge. The effort you put into learning will reflect what you get out of the course. Whether you want to go into the trades or just prepare for homeowner projects in the future, the skills you will learn in this course will be with you for life.



Certifications possible:
CPR /First Aid
Maine School of Masonry
OSHA 10



State & national standards met in this class include:

- Safety Precautions and Practices
- Collaboration, Communication, Problem Solving Skills
- Understands and applies the five criteria of a building project
- Improve Skills Required in the Building Construction Trade

FCTEC Business Academy is designed to give you a jump start on your college education! Students in this program will have the opportunity to earn a total of 9 college credits from Thomas College! Get a good portion of your first year of college required courses, or electives, done in High School and save valuable time and money! Through hands-on learning, and close collaboration with the teacher, students complete the objectives of each college course throughout the school year.

Courses covered in this partnership with Thomas College are:

Accounting I (AC111)

Are you interested in one of the most challenging and fastest growing professions in the business world? Accounting is the “Language of Business.” Students will become proficient users of MS Excel and one of today’s leading accounting software packages, QuickBooks.

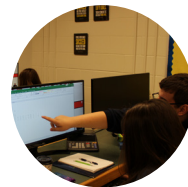
Computer Applications (Cs115)

This is an introductory course that is structured to familiarize you with using the computer as a tool for business and industry. In this hands-on course, you will become skilled in the use of Windows and the Microsoft Office Suite.

Principles of Marketing (MK 116)

In this course, you will learn how to use social media as a powerful tool to market your products or business. You will learn the principals of online marketing and using technology to reach your target market In today’s world.

*This course provides essential skills for those who are thinking about running their own business. Second year students are encouraged to apply for this amazing opportunity!



NURSES' ASSISTANT (CNA)

Instructor: Lorna Collins, RN, BSN
lcollins@mtbluersd.org

This Nurses' Assistant course prepare students to take the State of Maine Nursing Assistant certification exam. CNAs are a valuable part of the nursing team. They are caregivers who provide patients with assistance with activities of daily living and other basic needs. They help the patient feel safe and comfortable in a healthcare/home environment. These direct caregivers spend most of their time assisting patients and listening to their concerns.

This course includes 90 hours of theory/classroom instruction, 20 hours of skills laboratory, and 70 hours of clinical experience. In skills lab, students practice direct care, taking vital signs, mobility skills, and much more. The clinical experience allows students to work in health care facilities in our community.

The students in this class have the opportunity to explore many other healthcare professions and the qualifications required to obtain a degree and/or training for these professions. This course is an excellent way to start your profession in healthcare.

This course has specific admissions criteria including:

- Minimum age of 16 prior to clinical
- Physical exam within the past year confirming good physical and mental health
- TB Test
- Hep B vaccine series
- Absence of drug and alcohol abuse
- Good personal hygiene
- Dependable and reliable work habits



State & national standards met in this class include:

- Functions and Safety Measures of the CNA
- Legal and Ethical Aspects of Healthcare
- Observation, Reporting, Documentation and HIPAA
- Communication, mobility skills, direct patient care
- Infection Control Procedures
- Introductory concepts of Anatomy & Physiology

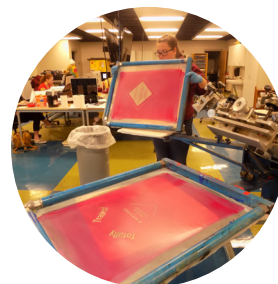
Certifications Possible:
State of Maine Nursing Assistant
(CNA)
CPR Certification

Concurrent Enrollment
CMCC Medical Terminology (3 cr)

There are endless avenues of creativity in Commercial Arts and Photography. Students dive into the Adobe Suite, focusing on Photoshop and Illustrator, and learn the foundation of design principles. There is also an introduction to digital photography, using Canon 80Ds, where they learn how to manually adjust the camera to suit their needs and setting. They are then able to bring their photos into Photoshop to edit and/or manipulate them, exploring both realistic and surreal editing tools.

Commercial Arts & Photography students are also introduced to the basics of screen printing and how to operate in a print shop. Live work from local businesses and clubs within the campus are integrated to give students real-work experience. Students work with the clients to see jobs from start to finish, and experience what they would be doing in the workforce. Logo design, screen printing, layouts for cookbooks, brochures, posters, business cards, postcards, and much more!

This program gives students the ability to explore in the direction that best suits their interests. Whether their focus is on photography, graphic design, or screen printing, there is always time to dive into the subject and make work that matters to them.



State & national standards to be met in:

- Safety Precautions and Practices
- Collaboration, communication, problem solving skills
- Digital Photography
- Graphic design industry terminology and concepts
- File Formats
- Portfolio compilation
- Adobe Suite

Concurrent Enrollment:
Southern Maine Community College
CNMS 111 Digital Foundations
[3 credits]
Central Maine Community College
GRC 176 Photoshop [3 credits]

Certifications Possible:
Skills USA Career Essentials
Graphic Design

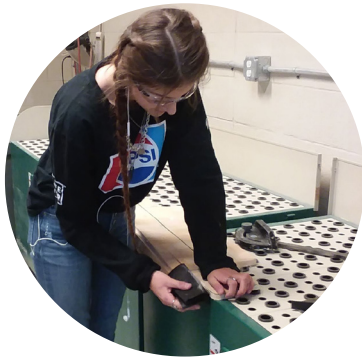
COMMERCIAL ARTS

Composite materials are replacing steel and aluminum in many consumer and industrial applications including aircraft, ships, bridges, wind turbine blades, bicycles, and high performance automobiles. There is an ever-increasing demand for technicians and engineers with the skills to work with these cutting edge materials.

The Composites Manufacturing program focuses on student experience. Hands-on lab activities supplemented with classroom content prepare students for employment in this increasingly important high tech industry. Students can expect to learn how to design and manufacture a variety of products using lightweight, high-strength fibers such as fiberglass, carbon fiber, and Kevlar. Students learn fundamental skills of composite fabrication including hand lay-up, vacuum infusion, mold construction, and inspection and testing of composite components.

Semester one focuses on the development of shop skills and a fundamental understanding of the technology including Computer Automated Drafting and Design.

Semester two focuses on individual interest based projects. Past projects include skis, snowboards, wake boards, alpine racing shin guards, skateboards, composite guitars, lacrosse sticks, fishing rods, and numerous other products.



State & national standards to be met in this class include:

- Safety Precautions and Practices
- Collaboration and Problem Solving Skills
- Knowledge of Composites Materials and Products
- Common Resin Systems
- Chemistry in Composites Processes
- Open and Closed Molding
- Advanced Sandwich FRP Construction
- National Certification- ACMA Composites Technology

Concurrent Enrollment
Southern Maine Community College
Intro to Compositions [3 cr]

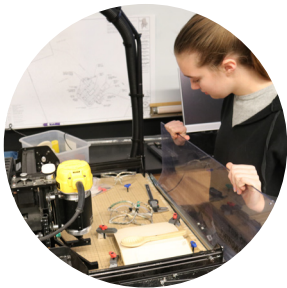
Certifications possible
ACMA
Certified Composites Tech (CCT)
CCT-VIP
OSHA-10
First Aid/CPR

The Computer Technology program covers three aspects of the growing field of Information Technology: Programming, Computer Repair, and Robotics. During the first quarter the emphasis is on Computer Programming where the students use programming language C to write programs to control robotic projects and to program a game of their choice.

The second and third quarters are devoted to computer design and repair. Students using the latest software and equipment will learn the necessary skills to diagnose and repair today's systems. Students have the opportunity to take the test for Pro Certification. In addition, the course helps prepare the student to take the CompTIA A+ exam.

The final quarter will cover the basics of robotics. Students will work with low voltage electric motors, servos, sensors and controllers to create robotic designs. Each student creates their own robotic project with parts designed and printed on a 3D Printer. Advanced students get the opportunity to work on class projects. Projects in the past have included the R2-Blue2 Droid and the Western Maine Children Museum musical stairs.

Each student creates their own robotic project with parts
designed and printed on a 3D Printer!



State & national standards to be met in this class include:

- Safety Precautions and Practices
- Collaboration, Communication, Problem Solving Skills
- Computer Programming A+ Certification, Network+, and Linus+ Standards
- Computer Repair
- Robotics troubleshooting

Articulation

Central Maine Community College
[3 Credits]

Certifications possible

CompTIA A+

Test Out Pro Certification

CULINARY ARTS

Instructor: Sean Minear
sminear@mtbluersd.org

Students have the opportunity to train in a state of the art culinary facility! The Culinary Arts program offers training for careers in the food service industry. The core of this program involves hands-on training backed by classroom instruction. Students in this class will build a strong foundation in the basic concepts and methods of cooking. They will gain experience in the proper use and maintenance of food service equipment. They will experience individualized instruction using the highest quality foods, equipment, and training material. Students will operate a full service restaurant, giving them a working knowledge of all phases of restaurant work and management. Upon completion of this program, many students go on to two or four year schools or directly enter the world of work.

Summer internships in the form of an 8-week paid job at a local boy's summer camp are available to some students.



State & national standards to be met in this class includes:

- Safety Precautions and Practices including Personal, Equipment, and Food Safety
- Collaboration, Communication, Problem Solving Skills
- Basic Baking and Pastry
- Soups, Stocks, Sauces, and Proteins
- Management of Front and Back of House Operations

Industry assessments include:

Advanced Articulation
All Maine Community Colleges
Intro to Culinary (3-4 Credits)

Certifications possible

ServSafe Training:

- *Food Handler
- *Manager

Instructor: Amber Davis
amberdavis@mtbluersd.org

Digital Media is designed to give students the opportunity to explore the field of media. Course instruction is provided through hands-on experiences where students learn the basics of visual storytelling, pre-production, and original script writing along with media viewing and critique are a foundation of the class. Live TV studio production, camera operation, lighting, editing, special effects, graphic design, and photo manipulation are a few of the activities that students of the class will undertake. Students will learn Adobe Creative Cloud (CC), including Premiere Pro, Photoshop, and After Effects.

Projects throughout the year include public service announcements, short narrative films, music videos, TV studio programs and a variety of other creative productions. The overall course is designed to give students a flavor of what the field of media may hold for them.



DIGITAL MEDIA

State & national standards to be met in this class includes:

- Digital Video Editing
- Camera Operation
- Lighting
- Audio Production
- Proposal/Script Writing
- Project Management
- Industry History and Trends
- Copyright Law and Ethics
- Computer Graphics and Motion Graphics Design

Concurrent Enrollment:

Southern Maine Community College
Video & Audio Productions
(3 Credits)

EARLY CHILDHOOD OCCUPATIONS

Instructor: Leilani Gordon
lgordon@mtbluersd.org

This course is designed for energetic, dedicated, and motivated students who have a sincere interest in understanding and interacting with young children and their families on a professional and personal level. As a student you will get to be a child again while working directly with 3, 4, and 5 year olds in your very own preschool. As the childrens' teacher, you will be responsible for their safety and providing a fun learning environment, as it is their first exposure to school. On Fridays, in order to gain an understanding of the birth to age 3 component of Early Childhood, we run a community playgroup for infants and toddlers.

These opportunities allow students to see first-hand how children develop and grow.

Completion of this program allows students to increase their knowledge of child development, early childhood curriculum, instructional and behavioral planning, and work to develop professional relationships with co-workers, children, parents and the community. The information from this program would be helpful to students interested in teaching, pediatric nursing, social work, daycare provider, occupational therapy and physical therapy.



State & national standards met in this class include:

- Safety Precautions and Practices
- Collaboration, Communication, Problem Solving Skills
- Professionalism in the Field
- Early Childhood Curriculum Birth- Age 8
- Safe and Health Environment for Children
- Family and Community Relations
- Careers within the Field

Certifications possible
Early Childhood Assistant
State of Maine
CPR/First Aid

Concurrent Enrollment
Southern Maine Community College
ECED 100 Intro to Early Childhood
(3 Credits)
Maine Community College -
Education Core

Employability Skills is a fast-paced program which offers students the opportunity to learn and practice entry-level job skills while running the Mt Blue Campus Coffee Shop. Through a team approach, students not only learn all aspects of a food service environment, but also the basic essential skills needed to be successful in any future career.

In addition to operating the Coffee Shop, students are responsible for stocking a healthy snack vending machine which serves the entire Mt. Blue Campus. Other activities include volunteer and community service projects such as planting and caring for organic seedlings for several area community gardens.

Students who have completed the Employability Skills program have transitioned into other Foster CTE Center programs, attended Job Corps, gone on to college or have secured entry-level jobs.



EMPLOYABILITY SKILLS

State & national standards met in this class include:

- Safety Precautions and Practices
- Collaboration, Communication, Problem Solving Skills
- Commercial Kitchen Experience
- Social/Customer Service Skills

Certifications possible :

- ServSafe
- First Aid

FIREFIGHTING

Instructor: John Churchill
jchurchill@mtbluersd.org

This program is for students interested in learning the skills and knowledge of firefighting. This class is based on NFPA 1001 National Standards for Firefighter Qualifications and is often referred to as Firefighter One and Firefighter Two. Topics include fire suppression, overhaul, forcible entry, search and rescue, ventilation, and working with hose, tools and ladders. Other topics include working with alarm systems, fire extinguishers, fire prevention, hazardous materials, and rescue equipment. This hands-on class involves working in real life situations and simulations using actual firefighting tools and equipment.

Students are encouraged to participate in and be a part of their hometown fire department to complement the program. Local fire departments provide sponsorship for students as well as protective safety gear and live training. Students have an opportunity to take state certification testing at the end of year for national accreditation and could receive up to six college credits for completion.

This is a demanding program requiring students to demonstrate levels of strength, responsibility, agility, dependability, honesty, and compassion.



State & national standards met in this class include:

- Firefighter One and Two Knowledge Objectives
- Firefighter One and Two Skill Objectives
- Firefighter One and Firefighter Two Pro Board Certification
- Collaboration, Communication and Problem Solving Skills

Certifications possible
Fire Fighter I & II – Structural
CPR/First Aid

Instructor: Rodney Spiller
rspiller@mtbluersd.org
Instructor: Dean Merrill
dmerrill@mtbluebrsd.org

This is a course designed for students considering a career in forest management, wildlife conservation, wood harvesting, sawmill operations, or heavy equipment operation. The program offers a combination of classroom instruction, field trips, and hands-on training in the woods. Safety is the number one priority throughout the course. Students study forest management, chainsaw safety, operation & maintenance, and timber harvesting.

Heavy Equipment Operations will include basic construction safety, introduction to site and road layout, best management practices, identification of heavy equipment, preventative maintenance and proper operation of heavy equipment. Basic operator skill development may be performed on equipment simulators and Machines. Students have the opportunity to obtain industry recognized certificates. The class and lab work will be supplemented with field trips, job sites, local mining pits, and dealerships.



FORESTRY & WOOD HARVESTING HEAVY EQUIPMENT

State & national standards met in this class include:

- Safety Precautions and Practices
- Collaboration & Problem Solving Skills
- First Aid/ CPR
- Tree Identification/ Product Utilization
- Five Step of Felling Trees Safely
- Silviculture
- Equipment Operation

Certifications possible

Certifications:
*Professional Logging Contractor
OSHA-10 Safety Certification
National Tractor Safety Certification
First Aid/CPR
Certified Logging Professional
Apprenticeship

METAL FABRICATION

Instructor: Rob Olsen
rolsen@mtbluersd.org

Students learn the basics in SMAW, GMAW and GTAW welding, basic machine tool operation, and basic metal layout, use of drills, drill presses, angle grinders, and metal cutting band saws. Safe work practices are emphasized in all aspects of metal fabrication.

Learning occurs in both the classroom and shop.

Students design and fabricate projects from ornamental iron, sheet metal, and structural steel. Computer automated drafting and design (CADD) CNC programming is utilized on our Plasma Cam and Milling machine. Successful students often move into either entry-level careers in welding, sheet metal and machine tooling or continue their education in the community college system in the metal trades or precision machine tooling.



State & national standards met in this class include:

- Safety Precautions and Practices
- Collaboration, Communication, Problem Solving Skills
- Professional Attributes
- OSHA Training Industrial Safety
- Integrated and Applied Learning

Concurrent Enrollment
Southern Maine Community College
Intro to Welding (3 cr)
Eastern Maine Community College
Shielded Arc Weld (3 cr)

Certifications possible
AWS Structural Certification
CPR/First Aid
Oxy Fuel Training Certificate
SP2

Instructor: Thomas Harrison
tharrison@mtbluersd.org
Instructor: Mark Witham
mwitham@mtbluersd.org

Instruction in plumbing and heating technology is the foundation of all other pipefitting trades. The students will learn installation, repair, and maintenance of plumbing and heating equipment. Students will learn types of materials used for their proper installation. Plumbing projects will be completed within our shop space. Students will learn about different pumps, tanks and plumbing fixtures and be involved in installation and service of the equipment.

Domestic water heating by electricity, gas, oil and solar will be understood.

Students will learn the basics of oil heating systems, including how to use the tools to maintain, install and troubleshoot. Boilers and furnaces will be worked on in our lab. This includes working on piping, wiring and control circuitry. Hot air ductwork and hydronic heat distribution units, such as baseboard and indirect hot water heaters will be covered in our shop.

Courses use a nationally recognized curriculum with a national registry for qualified students. Students who complete the program have basic entry-level skills to enter the workforce or continue their education in Plumbing & Heating at a technical college.



Certifications & Standards:

National Association of Home Builders
Plumbing
National Oilheat Research Alliance Bronze
Course
CPR/First Aid
Journeyman In Training (JIT) Eligibility
after 2 years in our program

Concurrent Enrollment

Central Maine Community College
OSHA 10 hour Course (1 Cr)
PHT 103 (5 cr)
PHT 100 (3 cr) upon successful completion of plumbing code

PLUMBING & HEATING

PRE-ENGINEERING

Instructor: Jake Bogar
jbogar@mtbluersd.org

The Pre-Engineering program prepares students for the entry into a college-level engineering or engineering technology program. During this course, students will apply the theories and principles of science and rigorous mathematics to research, design and develop economical solutions to technical problems. Students will have the opportunity to explore engineering careers and practice professional skills. Throughout the course, products and processes will be created and improved with state-of-the-art software and fabrication tools.

Students will create projects using a laser cutter and engraver, computer-numerically-controlled (CNC) routers, a CNC metal mill and 3D printers.

When we are not doing work in the field or touring industries, schools, or local businesses our days start with computer-aided drafting and design (CADD) and modeling using Autodesk software products. Then, we work on technical topics that include:



- *Force and motion analyses
- *Mechanical, electrical, fluid and thermal systems
- *Structures and structural analysis
- *Materials and materials testing
- *Engineering for quality and reliability
- *Automation

The remainder of the day is focused on independent project work and live work from school and community clients.

Examples of past projects include:

Solar panels, CNC machines, augmented reality sandbox systems, asset inventories using GPS and GIS tools, bathymetric surveys, 3D maps and models, customized awards and recognitions, plastic shredders and recyclers, human-powered electric generators, wind and water turbine blades, amplifiers, speakers, tesla coils and turbines.

State & national standards met in this class include:

- Practicing shop and lab safety procedures.
- Communicating professionally in multiple mediums and presentations
- Understanding the nature and scope of engineering
- Accurately and skillfully using measurement tools, dimensions, and units
- Managing long and short term projects
- Understanding codes and standards applied to a project
- Applying design principles in developing a process, product, or system.



Concurrent Enrollment
University of Maine Farmington
Elementary Physics (4 cr)
NOCTI

Criminal Justice (Fall 2020)

The Criminal Justice program is designed to introduce you to a career that is exciting and personally rewarding. This is an academically rigorous and physically demanding program that emphasizes teamwork, and effective communication skills. Students will be required to demonstrate a positive attitude and professional characteristics that exemplify those of a Law Enforcement Officer. This program has a strong emphasis on Law Enforcement Disciplines; to include patrol, corrections and investigations.

Potential National and State Certifications:

- National/State Certifications/Licenses
- OSHA-10 Hour General Industry Safety & Health Certificate
- Healthcare Provider CPR/AED Certificate

Medical Assisting (Coming in Fall 2021)

As with all CTE programs, heavy emphasis is placed on preparation for work in the industry. Medical Assistants are one of the most versatile healthcare professionals. The student will be trained in the administrative and clinical skills necessary for employment within provider practices and various hospital settings. The Medical Assistant works alongside the provider gathering and maintaining comprehensive and accurate electronic health records. The medical assistant will provide direct patient care and education, obtain and perform diagnostic tests, and assist with a variety of in office clinical procedures.

Emergency Medical Technician (Fall 2020)

Emergency Medical Technician Program is ideal for students interested in the medical field or any career requiring level-headed decision making in life-or-death situations. Students explore and apply the fundamentals of emergency medical services, anatomy, physiology, and medical terminology while demonstrating skills in assessing and managing patient care, including assessing the scene and understanding shock, resuscitation, and trauma. Students successfully meeting the standards, requirements, and clinical time, have the opportunity to take the EMT certification exam.

Electrical Technician (Fall 2020)

This course provides students with the knowledge and background that prepares them for a career in the electrical field. Students learn electrical safety, tools of the trade, wiring, conduit parts, and assembly. Students learn the basics of the National Electrical Code and the theory of electricity. Students work in the shop applying the six common wiring methods using industry required tools.

Career Exploration (FCTEC)

This year-long program will focus on meeting the needs of 9th and 10th grade students who are interested in enrolling in a full technical program during their Junior and/or Senior year. The Career Exploration clusters will provide instruction in Career and Technical Education preparation for future enrollment in one of Foster Career and Technical Education Center's National and/or State Certified programs.

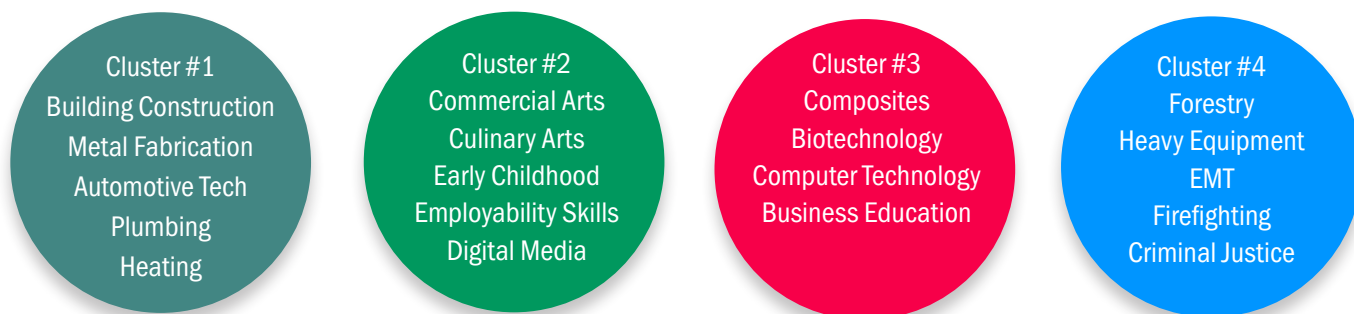
Coordinator: Chris Davis, email: cbdavis@mtbluersd.org

Goal: To instill a work ethic and cultivate skills that will prepare students for enrollment in the programs offered at Foster CTE Center.

Students will be expected to:

- Maintain good attendance and meet expected course standards
- Adhere to Occupational Safety and Health Administration (OSHA) safety regulations
- Exhibit appropriate work place behavior
- Exhibit social and personal skills to work as a team member
- Complete a task independently after guided instruction
- Demonstrate a willingness to participate in activities related to a variety of technical fields.

Students will apply for the Career Exploration Cluster of their interest (below). Program offerings are subject to change.



Application Process for Mt. Blue:

Current 8th and 9th grade students are eligible to apply. A separate application (included in this book) will be completed.

Career Exploration (Satellite program at Mt. Abram HS)

This year-long program will focus on meeting the needs of 9th and 10th grade students who are interested in enrolling in a full technical program during their Junior and/or Senior year. The Career Exploration clusters will provide instruction in Career and Technical Education preparation for future enrollment in one of Foster Career and Technical Education Center's National and/or State Certified programs.



BRIDGE ACADEMY
— MAINE —

Welcome to Bridge Academy Maine Where Rigor and Relevance Meet!

The Bridge Academy is more than just an early college experience for high school students. It is a course of study that not only prepares students for the rigor of academic study but also gives students the skills to successfully balance work and school.

The Bridge Academy capitalizes on the high graduation rate of high school students enrolled in Career and Technical Education (CTE) courses by adding college level courses to their programming to produce a graduate that has up to 24 college credits and real world credentials. Graduates of the Bridge Academy complete college earlier with less student debt.

Features of The Bridge Academy :

- Obtaining 24+ college credits (at a cost of \$40 per credit) by high school graduation through dual/concurrent enrollment. These credits will be transferable to all University of Maine System schools, all Maine Community College System schools, and may be transferable to other public and private in-state and out-of-state post-secondary institutions.
- Structured educational experience. Courses are taught by college approved high school teachers. In addition to their four college courses,
- Bridge Academy students attend their regional CTE School where they participate in technical education in a field of their choice.
- Bridge Academy Students attend a 3 day/2 night summer academy on campus.
- Guidance counselors, teachers, professors, CTE instructors and parents are all there to help students succeed.
- The Bridge Academy trains students to advocate for themselves, develop study habits, and attain invaluable experience through summer academies, internships, and job shadowing.
- Financial literacy training: developing an understanding of college costs, how to navigate the financial aid office, and how to access supports such as tutoring centers and writing centers.
- Bridge Academy students because of proven college success are often accepted into high demand programs such as nursing that do not traditionally accept high school students.

Contact your guidance counsellor for an application.

National Technical Honor Society

Now in its second year at Foster Tech Center, the National Technical Honor Society recognizes and celebrates student achievement. Students achieving a GPA of 85 in their tech program are eligible to apply for membership in this prestigious organization. Selected students participate in a formal induction ceremony and are eligible for a number of scholarships and awards at the time of their graduation.

Advisors: Leilani Gordon and Sean Minear

FIRST Robotics

This is a great opportunity, For students who attend Mt. Blue, Rangeley Lakes, Mt. Abram, or Spruce Mountain to work side by side with professionals in education and industry, developing skills and relationships that will last a lifetime. FIRST stands for; For Inspiration and Recognition of Science and Technology. Each year, Team 6153 “Blue Crew” builds a robot to compete in a district First Robotics Competition. This team meets afterschool and on Saturday’s starting the first Saturday of the new year and lasting for 6 weeks. This is a great way to make friends, use your unique talents, and compete in a strategic competition with your peers. Advisor: Rich Wilde

Future Business Leaders of America (FBLA)

FBLA is the high school division of Future Business Leaders of America-Phi Beta Lambda, Inc. FBLA helps high school students prepare for careers in business through academic competitions (FBLA Competitive Events), leadership development, and educational programs’ members also demonstrate their leadership skills through community service projects, fundraising activities, and chapter officer positions.

Advisor: Regina Savage

FTC Student Ambassadors

Our student ambassadors are chosen from within each tech program to represent their program and Foster Tech Center as a whole. This is a leadership opportunity that emphasizes public speaking, community service, mentoring younger students and representing trades to the greater community. Ambassadors must be willing to help with Totally Trades, Career Expo, CTE month, 8th and 10th grade tours among other duties. Advisor: Mary Redmond-Luce, email: mredlondluce@mtbluersd.org

Commercial Driver's License (CDL)



Students interested in obtaining a commercial driver's license can get the training and experience necessary to obtain a CDL through the State of Maine. Class attendance requires a current license, a clean driving record, and the ability to drive a standard transmission is preferable. Students are required to undergo a background check and drug screening test prior to admission into the program. Students must be in an advanced Foster CTE course, have excellent attendance, and instructor approval. *Students will be responsible for their own transportation to Region 9, Mexico, Maine.*

Franklin Savings Bank - Teller Position

Bank Teller Training Program offered at Mt. Blue Campus is designed to give students real job experience while still in High School! You will receive similar training that tellers experience in any of our branch locations handling real banking transactions, as well as receive a Bank Teller Training Completion Certificate.



Pre-Requisites

- Open to grades 11 & 12 (Grade 10 with strong recommendation, age requirement and if space is available)
- Completion of Business Course (Personal Finance, Economics, Business Academy)
- Complete Application, Resume & Teacher Recommendation (See Mrs. Savage)

Franklin County Adult Education Partnership

Franklin County Adult Education, Spruce Mountain Adult Education and Foster CTE Center is offering introductory workforce training classes. These classes offer students basic instruction on workforce skills, work readiness preparation, academic and technology supports as well as connections with local businesses and may provide job shadowing with business that are looking for new employees.



Adult Education
MAINE
Learning for Work and Life

Any high school senior from Mt. Abram, Mr. Blue, Rangeley and Spruce Mtn. can apply to take these classes through Foster CTE Center on a space available basis. Class cost may be covered through the generosity of Gear-Up and Melmac grants. Students interested in adult education opportunities need to see Mary Redmond-Luce, Student Services Coordinator @ Mt. Blue Campus or email mredmondluce@mtbluersd.org.



phone #:
(207) 718-3562

website:
foster.mainecele.org