BURLINGTON TECHNICAL CENTER

https://btc.bsdvt.org/

BTC Daytime Program of Studies
2020-2021

Introduction

Burlington Technical Center (BTC) provides students with the opportunity to explore careers and acquire skills in comprehensive technical programs of study. All students are supported in working toward individual goals through immersive, hands-on study with highly trained professional instructors, experts in their career fields, in state-of-the-art labs and classrooms, and through experiential learning opportunities.

Our half-day programs are a unique opportunity for students to develop academic and technical knowledge and skills in a morning or afternoon session while attending classes at their sending high school. BTC offers a one-year Tech Foundational Program (Design Tech) for students in grades 9 or 10, and eleven (11) two-year Technical Programs. Most students starting our two-year programs are entering their junior year in high school. Students attend BTC daily in one session: morning (9:35-11:47 a.m.), or afternoon (12:09-2:21 p.m.).

Two year technical programs are available in many fields of study. Each student who completes a technical program will be awarded six high school credits. See individual program descriptions for specific academic and elective credits awarded. In addition, many BTC programs offer students dual enrollment credits through articulation agreements with local colleges/universities.

The Tech Foundational Program is a **one year program.** This program is available to freshmen and sophomore students only. Each student who completes a Tech Foundational program will be awarded three high school credits. See program descriptions for specific academic and elective credits awarded.

BTC programs support students' **Personalized Learning Plan (PLP)** goals, offering **Flexible Pathways** to graduation, careers, and postsecondary education through high school credits, dual enrollment/college credits, internships and work-based learning opportunities, and industry recognized credentials and/or licenses.

High School Credits:
BTC students earn core academic credits which are approved by the Vermont State Board of Education and meet state high school graduation requirements. Full details on credits are listed in each of the program descriptions below.

VT Proficiency-Based Graduation Requirements (PBGRs): BTC programs are aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Dual Enrollment/Fast Forward College Credits:
Many BTC programs offer students Dual Enrollment/Fast Forward college credits (up to 17 credits) for free or at a significantly reduced rate within the program's integrated curriculum. The opportunity to build a college transcript with transferable credits is valuable for students pursuing postsecondary education goals. In addition to the two Dual Enrollment course vouchers (for up to 8 credits) that students receive from their sending high school, students may use two additional Fast Forward course vouchers which are only offered through technical centers. Additional Fast Forward courses may be added at a nominal fee ($100 per course).

Professional Certifications:
Many BTC programs offer pathways to earn professional certifications, industry-recognized credentials (IRCs) and/or licenses related to their technical fields as students build specialized and transferable skills.

Work-Based Learning and Cooperative Work Experience (Co-op):
Students participate in Work-Based Learning experiences, and may be eligible for paid work (Co-op) positions across technical fields at BTC through partnerships with local businesses and organizations.

Career Technical Student Organizations (CTSOs):
Students in BTC programs opt to participate in the National Technical Honor Society, HOSA-Future Health Professionals, DECA - Hospitality, and/or SkillsUSA activities and competitions as they prepare for the workforce, higher education, and continued community involvement.

Interdisciplinary Studies:
BTC offers students connections across fields and programs through working and collaborating with other students on challenging projects in program labs and classrooms, and in the makerspace.

For additional information, news, photos, and videos, visit: https://btc.bsdvt.org/

How to Apply / Admission Requirements:

- Attend BTC Information Day at your school (ask Guidance Counselor for date)
- Meet with your Guidance Counselor to discuss program and class schedule
- Visit BTC!
    - Open Lab Date: sign up with Guidance Counselor
    - BTC Open House: Saturday, February 8, 2020: 9:00am-12:00pm
    - Arrangement with BTC Staff
      Contact Zac Poland for Individual visit requests.
      Zac Poland: 802-864-8426 ext. 12006 (zpoland@bsdvt.org)
- Complete **Student Application**. Applications are available online: btc.bsdvt.org/application/
- Complete an interview with the BTC Program Instructor:
  a. By phone
  b. By Skype or Facetime
  c. In person
  d. By written short essay (The essay response will not be graded or have content considered for admission. The completed essay is one pathway to BTC's required *interview*.)

Submit the following essay via email to btcadmissions@bsdvt.org:

Essay Prompt #1: Why do you want to attend BTC and how do you think your BTC program will influence your high school education?

Essay Prompt #2: Describe any direct experience within the field of program you are applying for. If you do not have any experience, please explain what you would like to learn in this program.

Essay Prompt #3: What is one thing you are passionate about? Explain in detail what it is and why you are passionate about it.

NOTE: The purpose of the interview is for Instructor and student to communicate more closely regarding program essentials to better inform student. The interview is NOT used as a qualifier for admission.

Questions? Please contact Guidance Coordinator, Zac Poland at zpoland@bsdvt.org

- School Counselors:
    - Send current transcripts and attendance records* to BTC Admissions: btcadmissions@bsdvt.org; or print and mail to Burlington Technical Center, 52 Institute Rd. Burlington, VT 05401.
    - Students are required to be in good academic standing and poised to graduate with 9th grade cohort.**

    **Attendance may be considered as a factor in acceptance.*

    ***Applicants may be reviewed on a case-by-case basis.*
- BTC will notify guidance counselors of application receipt and admissions decisions.

How do I get from my school to BTC?

Round trip busing from your sending school is provided. For Burlington High School students, just walk into A or F building.

BTC provides academic support for students' learning needs:

Academic Counseling:

- Personalized Learning Plan (PLP) and Flexible Pathways integration
- Dual enrollment college credits
- Professional certification pathways
- Work-based learning and robust internship opportunities

EL (English Language) Support Services: BTC offers EL students in and out-of-class support, guided study labs, differentiated curriculum, and individualized learning strategies to support academic achievement and help students work toward their personal, academic, and career goals.

BTC Program of Studies: 2019-2020: Descriptions and Course Listings

Tech Foundational Program (Grade 9 or 10):

A Tech Foundational Program is a viable option for **Flexible Pathways to HS graduation:**

- Year-long opportunity for students to navigate through personalized learning plan goals.
- Means to incorporate evidence of proficiency outside the traditional high school classroom environment.

- Opportunity to frontload proficiency in skills which are integral to grades 11-12 technical center programs of study.
- Provide evidence to support proficiency based graduation requirements
- Early opportunity to participate in work-based learning experiences, earn certifications, and plan for Dual Enrollment options during high school.

Design Tech Foundational - 4769 (Freshman or Sophomore Program)

HS Credits for 1 Year Program: 1.0 Science Credit and 2.0 Elective Credits
VT Proficiency-Based Graduation Requirements (PBGRs): Design Tech is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Students attend the one-year Design Tech Foundational program at BTC Monday through Friday in either the morning (9:35-11:47 a.m.) or afternoon (12:09-2:21 p.m.) session. Design Tech is designed to prepare students for the following technology cluster of grade 11-12 Programs of Study at BTC: Programming and Computer Science, Digital Media Lab, and Design and Illustration.

This program is designed to provide 9th and 10th grade students with a unique experience in a collaborative makerspace environment where they explore technology, innovation, and entrepreneurship. Students progress through multiple modules in Technology & Application of Science including: Structural and Mechanical Design/ Fabrication, Information Technology, Web & Digital Communications, and Visual Art. Each module consists of a variety of projects that are designed to help students develop their knowledge of 2D and 3D design, rapid prototyping, communication, problem solving, data analysis, and critical thinking skills. Throughout this course, students have access to a variety of resources including traditional hand tools, power tools, and computer controlled equipment such as a vinyl cutter, 3D printers, CNC routers, and a laser cutter. In addition, they will be introduced to mechatronics through the design and fabrication of a computer (Arduino) controlled mechanical system. This program can advance student preparation for 11th and 12th grade tech programs as well as employment in the trades and introductory college courses in engineering and design.

Indicators of a Successful Student:
- 8th grade reading level
- Ability to perform basic math (addition, subtraction, multiplication, division)
- Ability to take measurements using fractions, decimals, and percentages
- An innate interest in making things and hands-on work
- Curiosity about how things work and a drive to solve problems
- Have a Personalized Learning Plan that reflects an interest in Design Tech
- Strong desire to be successful in the Design Tech learning environment

Requirements:
Visit the Design Tech Program.
Participate in an interview with the Program Instructor.
Complete and submit a BTC application.

Two-Year Technical Programs:

Students attend two-year Technical Programs at BTC Monday through Friday in either the morning (9:35-11:47 a.m.) or afternoon (12:09-2:21 p.m.) session. Most students attending these programs are entering their junior year in high school.

A two-year technical program is a viable option for **Flexible Pathways to HS graduation:**

- As a career-pathway focused opportunity for students to navigate through personalized learning plan goals.
- As a means to incorporate evidence of proficiency outside the traditional high school classroom environment.
- As a means to provide evidence to support proficiency based graduation requirements.
- As an opportunity to participate in work-based learning experiences, earn certifications, and earn Dual Enrollment credits during high school.

Advanced Manufacturing & Engineering for a Sustainable Future I - 4700

HS Credits for 2 Year Program:
Year 1 - 1.0 Science credit, 1.0 Math credit, 1.0 Elective credit
Year 2 - 1.0 Science credit, 1.0 Math credit, 1.0 Elective credit
VT Proficiency-Based Graduation Requirements (PBGRs): Advanced Manufacturing & Engineering is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Industry Recognized Certification Opportunities: Certified Production Technician (CPT) through Manufacturing Skill Standards Council (MSSC**)**
Dual Enrollment/College Credit Opportunities:
Community College of Vermont (CCV):

- Principles of Manufacturing (3.0 Credits)
- Manufacturing Technology (3.0 Credits)

Vermont Technical College (VTC) :

- Introduction to Mechanical Technology (1.0 Credits)
- Design Communication I (2.0 Credits)
- Manufacturing Processes I (2.0 Credits)

This program immerses students in rigorous academics (math (algebra, geometry, trigonometry), science (physics)), practical applications (manufacturing processes and techniques, such as welding, machining, CNC machine coding, precision measurement), and experiential learning (including product design and manufacture, job-shadowing, simulated job interviews). Students perform research and develop presentations to explore their specific areas of interest. Students are provided with guidance in the college application process and will also complete a workplace skills unit, geared to careers in manufacturing, including job applications, resumes, cover letters, and interviews. Students will be prepared to go on to rigorous college programs at institutions like RIT, WPI, RPI, Cornell University, Brown University, Northeastern University, University of Vermont, and successfully earn degrees as engineering professionals in a variety of technical fields.

Indicators of a Successful Student:

- Strong math skills
- Motivation to work in the engineering fields
- Strong attendance record
- Ability to work both independently and cooperatively in groups
- Have a Personalized Learning Plan that reflects an interest in Engineering
- Strong desire to be successful in the Advanced Manufacturing and Engineering learning environment

Requirements:
One year of high school algebra.
Visit the Advanced Manufacturing and Engineering.
Participate in an interview with the Program Instructor.
Complete and submit a BTC application.

Auto Body Repair I- 4826
Auto Body Repair II - 4827

HS Credits for 2 Year Program
Year 1 - 3.0 Elective Credits
Year 2 - 2.0 Elective Credits and 1.0 Science Credit
VT Proficiency-Based Graduation Requirements (PBGRs): Auto Body Repair is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Industry Recognized Certifications: S/P2 Collision Repair Safety
Articulation Agreement: Lincoln Technical Institute

Students in this program will acquire the knowledge and skills to repair and refinish vehicles with a hands-on, minds-on approach. Using lessons and vocabulary learned in the classroom, students will apply research and problem solving skills in a scientific way to diagnose and repair vehicles, keep up with technological changes, as well as work independently and as a team. Units of study include: safety, hand and power tool identification and use, measuring, fasteners and materials, non-structural repairs, refinishing, and estimating. Successful students either enter the workforce directly or continue to post-secondary education and trade schools.

Indicators of a Successful Student:

- Experience in Algebra
- Reading at grade level for industry tests and manuals
- High attention to detail
- Strong work ethic
- Strong attendance record
- Good hand/eye coordination
- Have a Personalized Learning Plan that reflects an interest in Auto Body Repair
- Strong desire to be successful in the Auto Body Repair learning environment

Requirements:

Visit the Auto Body Repair Program.
Participate in an interview with the Program Instructor.
Complete and submit a BTC application.

Automotive Science and Technology I - 4822
Automotive Science and Technology II - 4823

HS Credits for 2 Year Program
Year 1 - 3.0 Elective Credits
Year 2 - 2.0 Elective Credits and 1.0 Science Credit
VT Proficiency-Based Graduation Requirements (PBGRs): Automotive Science & Technology is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Industry Recognized Certifications: SP2: Mechanical Safety, Mechanical Pollution Prevention, Ethics and you in the Automotive Industry, Land That Job: Interview Skills for Automotive Students; ASE: Automotive Service E-Learning
College Credit: Qualified students can earn guaranteed admission status and up to six college credits in the General Motors-Automotive Associate's Degree Program at New Hampshire Technical College (Laconia), six college credits at the University of Northwestern Ohio.

Automotive Science and Technology is a two-year program that meets for just over two hours per day, five days per week. The rigorous curriculum is designed to prepare students for college and/or career opportunities. Common Core and National Science standards are an integral part of the automotive curriculum; subsequently, students study scientific principles as they're applied to the design, operation and service of a modern automobile. Students will learn how engines work, troubleshoot common engine problems and fuel system issues, analyze and complete vehicle manufacture repair algorithms. Students disassemble a modern vehicle engine, use micrometers, dial indicators to measure engine components, build and test electrical circuits, complete basic vehicle maintenance procedures and operate machinery associated with lifting a car, changing / balancing wheels and performing wheel alignments.
While a large percentage of graduates pursue further education and careers associated with the automotive industry, others have utilized the electro-mechanical knowledge and skills acquired in the program to begin successful careers in related areas such as: electrical/mechanical engineering, heating/ventilating, plumbing, industrial refrigeration and heavy equipment. Following graduation, 80% of the students continue on to postsecondary education, including schools associated with vehicle manufacturers such as General Motors Automotive Education Program (GM ASEP), 15% go into the workforce with opportunities for advanced training and 5% enter the military. Students have been accepted to the following schools: American International College, Carleton University, Champlain College, Franklin Pierce College, Vermont Technical College, Mount Hood Community College, New England Institute of Technology, New Hampshire Technical College, Stonehill College, University of Northwestern Ohio, University of Vermont.

Indicators of a Successful Student:
- Experience in Algebra
- Reading/writing at grade level for industry tests and manuals.
- High attention to detail
- Strong work ethic

- Strong attendance record
- Capable of working both independently and as part of a team
- Have a Personalized Learning Plan that reflects an interest in Automotive Science & Technology
- Strong desire to be successful in the Automotive Science & Technology learning environment

Requirements:
Visit the Automotive Science & Technology Program.
Participate in an interview with the Program Instructor.
Complete and submit a BTC application.

Aviation and Aerospace Technology I - 4834
Aviation and Aerospace Technology II - 4835

HS Credits for 2 Year Program:
Year 1 - 3.0 Elective Credits
Year 2 - 1.0 Elective Credit, 1.0 Science Credit, and 1.0 Math Credit
VT Proficiency-Based Graduation Requirements (PBGRs): Aviation and Aerospace Technology is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Industry Recognized Certifications: Airframe & Powerplant (A&P)
Articulation Agreements: Aviation related colleges may award (up to 67) college credits to students earning their Airframe & Powerplant License (A&P).

This program is a highly technical and multidisciplinary curriculum that teaches students not only how aircraft work, but how to troubleshoot, inspect and maintain those aircraft. Units include everything from the basics like math and physics to more specific subjects like corrosion control, aircraft hardware, flight surfaces, and even FAA regulations. This program blends classroom theory with plenty of hands on practical experience in order to prepare students for a future in aviation. Students disassemble and reassemble piston and turbine engines, learn about hand tools and how to properly use them, learn to weld, and even how to run an aircraft on the ground. The graduates from the BTC Aviation and Aerospace Technology program have the option of attending our satellite facility at the Burlington airport to continue their training and obtain their A&P Certificate (Airframe and Powerplant Mechanic Certificate). Students completing the program can find jobs in almost every part of the U.S. Some aviation students have continued on to college and/or to flight school. Others have joined the armed services to become aircraft mechanics.

Indicators of a Successful Student:
- Experience in Algebra, Geometry, and some beginning Trigonometry
- Have a Personalized Learning Plan that reflects an interest in Aviation & Aerospace Tech
- Strong desire to be successful in the Aviation & Aerospace Technology learning environment
- Strong attendance record

Requirements:
Visit the Aviation & Aerospace Technology Program.
Participate in an interview with the Program Instructor.

Complete and submit a BTC application.

Criminal Justice I - 4850
Criminal Justice II - 4851

HS Credits for 2 Year Program:
Year 1 - 3.0 Elective Credits
Year 2 - 2.0 Elective Credits and 1.0 Social Studies Credit
VT Proficiency-Based Graduation Requirements (PBGRs): Criminal Justice is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Dual Enrollment/College Credit: Community College of VT (CCV): Intro to Criminal Justice (3.0 credits)
Industry Recognized Certifications: FEMA & Emergency Management Institute Law Enforcement Certifications, American Red Cross: Blood Borne Pathogens, First Aid/CPR/AED, CPR-Child, Infant and Adult

This program provides students with an introduction into careers in a variety of fields related to criminal justice, corrections, homeland security, juvenile justice, rehabilitation services and victim advocacy, and law. Units of study include: the history of law enforcement, the court system, juvenile law, ethics, criminal law, criminal procedures, interview and interrogation, defensive tactics, criminal investigation, corrections, forensics and investigation (to include evidence identification, collection and analysis). Field trips, guest speakers, and the use of industry-specific equipment and simulated crime scene investigations involving guest experts allow students to study modern techniques and procedures in real world scenarios using industry-standard equipment are some of the practical experiences provided that enhance classroom learning and are an integral part of the curriculum. Hands-on learning is an important part of the program, with students directly engaged in learning, preparing, practicing, and demonstrating their knowledge and skills in criminal justice and law. Approximately 50% of students who complete this program go to successfully perform in college/university, and 40% enter the military and perform to exemplary standards.

Indicators of a Successful Student:
- Strong English skills required for extensive research, organization, and writing
- Basic computer and software proficiency (Microsoft and Google products)
- Strong attendance record
- Have a Personalized Learning Plan that reflects an interest in Criminal Justice
- Strong desire to be successful in the Criminal Justice learning environment

Requirements
Visit the Criminal Justice Program.
Participate in an interview with the Program Instructor.
Complete and submit a BTC application.

Culinary Arts / Professional Foods I - 4772
Culinary Arts / Professional Foods II - 4773

HS Credits for 2 Year Program:

Year 1 - 3.0 Elective Credits
Year 2 - 2.0 Elective Credits and 1.0 Science Credit
VT Proficiency-Based Graduation Requirements (PBGRs): Culinary Arts/ Professional Foods is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Industry Recognized Certifications: ServSafe Food Handler, ServSafe Food Manager
Articulation Agreements pending with state colleges.

This program encompasses many aspects of the foodservice industry, including practicing and mastering essential safety and sanitation standards, cooking and baking methods, menu and recipe development, nutrition, global cuisine, farm-to-table, restaurant management, entrepreneurship, table service and employability skills such as time management, communication and reliability.
Students incorporate skills into running a full service restaurant as well as fulfilling requests for special events and baked goods, as well as fulfilling orders for wholesale items carried in local markets. Also included within this program are career readiness and exploration of many different types of culinary related jobs such as food stylist, banquet chef, pastry chef, food scientist, food journalist, food sales and marketing, just to name a few. Successful students either enter the workforce directly, or continue to post-secondary education in culinary arts programs (such as New England Culinary Institute, Johnson and Wales University, and the Culinary Institute of America).

Indicators of a Successful Student:

- Strong math skills in addition, subtraction, multiplication, division, fractions
- Strong science skills
- Strong attendance record
- Have a Personalized Learning Plan that reflects an interest in Culinary Arts
- Strong desire to be successful in the Culinary Arts learning environment

Requirement
Visit the Culinary Arts Program.
Participate in an interview with the Program Instructor; or submit a written description of your Culinary Arts and career interests, short term goals as a student in the program.
Complete and submit a BTC application.

Design and Illustration I - 4750
Design and Illustration II - 4752

HS Credits for 2 Year Program:
Year 1 - 3.0 Elective Credits
Year 2 - 2.0 Elective Credits and 1.0 Art Credit
VT Proficiency-Based Graduation Requirements (PBGRs): Design & Illustration is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Dual Enrollment/College Credit: Community College of VT (CCV): Graphic Design I (3.0 credits), Graphic Design II (3.0 credits); AP Studio Art (2020-21)
Industry Recognized Certifications: Adobe Associate Photoshop, Illustrator, InDesign (2020-21)

This program is for students prepared to be challenged to expand their expertise in the visual arts. Students have the opportunity to build skills in traditional and digital media, with a focus on building a portfolio. Students will be exposed to many different forms of art, from the foundation of observational drawing to photography and graphic design—using Macintosh computers, the Adobe Creative Cloud, DSLR cameras, and Wacom drawing tablets. Units of study include figure drawing from life, photographing indoor and outdoor themes, designing logos, greeting cards, and magazine articles, and illustrating. Successful students attend prestigious art schools and liberal arts schools, often earning scholarships for their portfolios. Some students work at apprenticeships or enter the workforce directly. In recent years students have been accepted to Maine College of Art, MassArt, Savannah College of Art and Design, Rhode Island School of Design, Parsons, and the School of Museum of Fine Arts.

Indicators of a Successful Student:

- 9th grade reading level
- Strong interest in developing artistic abilities
- Strong attendance record
- Willingness to work both independently and in group settings
- Have a Personalized Learning Plan that reflects an interest in Design & Illustration
- Strong desire to be successful in the Design & Illustration learning environment

Requirements:
Art 1
Visit the Design & Illustration Program.
Participate in an interview with the Program Instructor. Examples of 5-10 pieces of artwork to be shared at required interview.
Complete and submit a BTC application.

Digital Media Lab I - 4767
Digital Media Lab II - 4768

HS Credits for 2 Year Program:
Year 1 - 3.0 Elective Credits
Year 2 - 2.0 Elective Credits and 1.0 Science Credit
VT Proficiency-Based Graduation Requirements (PBGRs): Digital Media Lab is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Dual Enrollment/College Credit: Community College of VT (CCV): Intro to Filmmaking (3.0 credits), Intro to Technology in Music (3.0 credits)
Industry Recognized Certifications: Adobe Photoshop, Premiere Pro

This program provides an introduction to digital media production with a focus on electronic music, podcasting, digital video, graphic design, VFX, photography, and emerging media (examples include animation, VR, apps for mobile devices and game design). The classroom environment provides a mix of drama, art, music, and technology. Students in this program engage in projects ranging from filmmaking to sampling music and ambient sound to syncing kinetic type to music and designing digital FX for an action sequence. DML is a project-based learning structure, where students work both independently and in groups on a variety of media projects. Students attend universities and

colleges to pursue degrees in Filmmaking, Music Production, Digital Media, and Graphic Design (Motion Graphics).

Indicators of a Successful Student:

- Experience with technology strongly recommended for this program
- Strong attendance record
- Have a Personalized Learning Plan that reflects an interest in Digital Media
- Strong desire to be successful in the Digital Media Lab learning environment

Requirements:
Visit the Digital Media Lab Program.
Participate in an interview with the Program Instructor.
Complete and submit a BTC application.

Health Sciences Academy I - 4780
Health Sciences Academy II - 4782

HS Credits for 2 Year Program:
Year 1 - 1.0 Anatomy & Physiology (Science) credit, .5 Human Growth and Development (Social Studies) credit, 1.5 Elective credits
Year 2 - 1.0 Anatomy & Physiology (Science) credit, .5 Health credit, 1.5 Elective credits
VT Proficiency-Based Graduation Requirements (PBGRs): Health Sciences Academy is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Industry Recognized Certifications: American Red Cross Certifications in: Adult, Infant and Child CPR, Automated External Defibrillator, First Aid and Bloodborne Pathogens
Dual Enrollment/College Credit: Vermont Technical College (VTC): Anatomy and Physiology I (4.0 credits), Anatomy and Physiology II (4.0 credits), Human Growth and Development (3.0 credits), Nutrition (3.0 credits); Community College of VT (CCV): Human Biology (3.0 credits), Medical Terminology (3.0 credits), Intro to Health Care (3.0 credits)

This program immerses students in rigorous academics (anatomy and physiology, medical terminology, human growth and development, microbiology and nutrition), practical applications (medical assessment techniques, such as vital signs, reflex testing, goniometry, electrocardiography, diagnostic lab testing), and experiential learning (including dissections, job-shadowing, simulated job interviews). Students perform research and develop presentations to explore their specific areas of interest. Students are provided with guidance in the college application process and will also complete a workplace skills unit, geared to careers in health care, including job applications, resumes, cover letters, and interviews. 95+% of our students go on to rigorous college programs such as Cornell University, Brown University, Northeastern University, University of Vermont, Emory University, and have successfully earned degrees as health care professionals in a variety of fields.

Indicators of a Successful Student:

- Strong biology skills
- Motivation to work in the health science fields
- Strong attendance record
- Ability to work both independently and cooperatively in groups

- Have a Personalized Learning Plan that reflects an interest in Health Sciences
- Strong desire to be successful in the Health Sciences Academy learning environment

Requirements:
One year of high school biology
Visit the Health Sciences Academy Program.
Participate in an interview with the Program Instructor.
Complete and submit a BTC application.

Human Services I - 4776
Human Services II - 4777

HS Credits for 2 Year Program:
Year 1 - 3.0 Elective Credits
Year 2 - 2.0 Elective Credits and 1.0 Social Studies Credit
VT Proficiency-Based Graduation Requirements (PBGRs): Human Services is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Industry Recognized Certifications: American Red Cross First Aid, CPR & Automated External Defibrillator Certification, Infant, Child and Adult; First Aid Bloodborne Pathogens; Mandated Reporter
Dual Enrollment/College Credit: Community College of VT (CCV): (12 credits) Introduction to Early Childhood Education, Curriculum Development for Early Childhood Education, Communication in the Early Childhood Education & Afterschool Workplace, Introduction to Human Services

This program provides the foundational knowledge and skills needed to work with a diverse group of people in entry level professions such as mental health, community development, respite and health organizations, and education. The study of human growth and development sets the framework for discoveries, discussions, and presentations of various topics (such as human behavior, brain development, and developmental psychology). Students sharpen their interpersonal communication skills, reflect on and assess human behavior in a variety of settings, and have opportunities to develop projects that make a difference in their communities. Students participate in work-based learning by partnering with industry professionals and through working in community agencies and organizations. Students have the opportunity to work with preschool children in our on-site preschool classroom. Most of our students go on to colleges/universities to pursue degrees in psychology, education, social work. Other students go directly into the workforce related to our program of study.

Indicators of a Successful Student:
- Experience using Google and Microsoft Office applications
- Motivated, self-driven
- Strong attendance record
- Have a Personalized Learning Plan that reflects an interest in Human Services
- Strong desire to be successful in the Human Services learning environment

Requirements:
Visit the Human Services Program.
Participate in an interview with the Program Instructor.
Complete and submit a BTC application.

Programming and Computer Science I- 4765
Programming and Computer Science II - 4766

HS Credits for 2 Year Program:
Year 1 - 2.0 Elective Credits and 1.0 Math Credit
Year 2 - 2.0 Elective Credits and 1.0 Science Credit
VT Proficiency-Based Graduation Requirements (PBGRs): Programming and Computer Science is aligned with technical competencies (ACTE Common Career Technical Core Standards), academic (content-area) proficiencies, and transferable skills proficiencies (VT AOE PBGRs).

Industry Recognized Certifications: CompTIA PenTest+ (Cybersecurity)
Dual Enrollment/College Credit: Vermont Technical College (VTC): Intro to Java Programming (4.0 Credits)

This program prepares students for one of three self-selected Computer Science career paths: software development, website development, or cyber security. Each requires higher education, so students prepare for online or traditional college in team-based projects and self-directed online study.
A student-centered, experiential approach builds technical and workplace skills. To support college admission and career advancement, students build portfolios in WordPress, documenting best work. Advanced projects address real-world tasks from business and community settings, including a website redesign clinic (helping non-profit organizations and small businesses, seeking references and paid contracting),quality assurance testing (serving area software developers and trainers), and a home cybersecurity audit service (learning business design and customer service).

Indicators of a Successful Student:

- Strong self-efficacy with computers
- Proficiency in problem solving and analytical thinking
- Algebra level math skills
- A Personalized Learning Plan that reflects an interest in Programming & Computer Science
- Strong desire to be successful in the Computer Science learning environment

Requirements:
Visit the Programming & Computer Science Program.
Participate in an interview with the Program Instructor.
Complete and submit a BTC application.

PLEASE NOTE: Welding and Metal Fabrication II (only) for returning BTC students will be offered in 2020-21, and a new program, Advanced Manufacturing and Engineering will offer facets of welding for first and second year students in 2021-22. Please see Advanced Manufacturing and Engineering for a description.

Welding and Metal Fabrication II - 4833

HS Credits for 2 Year Program:
Year 1 - 3.0 Elective Credits

Year 2 - 2.0 Elective Credits and 1.0 Math Credit
Industry Recognized Certifications: American Welding Society (AWS) Structural Welder SMAW 3G 1" Plate, SP/2 safety certification

In this program students will learn the fundamentals of Mig welding, Tig welding, stick welding, and other cutting-edge welding processes. Students will have opportunities to apply academic and technical skills in welding and metal fabrication and demonstrate creativity and innovation through individualized projects and practice. Students learn how to use SolidWorks to design and Plasma Cam to cut individual projects which can be fabricated and welded in the shop. Qualified students will have the opportunity to obtain industry approved welding certifications and participate in work-based learning opportunities and co-op placements with instructor approval. Students who have successfully completed the program are able to immediately enter the job market (Hazelett's, Fab-Tech, PG Adams, Blodgett Oven). Students have also gone on to further their education in programs at Lincoln Technical Institute and Advance Welding Institute.

Indicators of a Successful Student:

- Coursework in pre-algebra or geometry
- Strong reading skills to comprehend safety policies and procedures
- Strong attendance record
- Have a Personalized Learning Plan that reflects an interest in Welding & Metal Fabrication
- Strong desire to be successful in the Welding & Metal Fabrication learning environment

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Work-Based Learning Program:

Work-based learning is an educational strategy that provides students with real-life work experiences that enhance and complement their academic instruction. The intent of work-based learning is to have students apply the skills and content knowledge they have learned in their technical programs to real-life employment settings, while simultaneously helping them to develop new skills while working hands-on with professionals and employers in their technical field. The primary goals of work-based learning experiences (WBLE) are to create career awareness, and provide real-world work experience. One important goal of WBLE is to offer invaluable career and work experiences that can help students better decide if the career path they are on is the right one, by exposing the students to a wide variety of occupational opportunities within their chosen program. WBLE puts students into placements where employers are able to observe and provide feedback on a student's skills and work habits.
There are three types of career and work experience opportunities that BTC focuses on:

- Job Shadowing - A student will spend time observing what a typical day is like for someone employed in their field of interest. It is a chance to see what it is actually like to work in a specific job as well as to have the opportunity to ask questions about the job or profession. Job shadowing is an excellent opportunity to determine if the perception which a student has about a career field is the same as the reality of that job.
- Internship (short-term unpaid career work experience [CWE])– An opportunity for a student to spend a period of time with an employer who is willing to give the student more specific training in their career field. This is a good opportunity for a student to develop more skills, and determine if it is the right job for them.
- Co-Op (long-term paid career technical experience [CTE]) – Students with the appropriate skills are paid while working in an actual job, typically during the program's regularly scheduled class time. An excellent opportunity to make money, enhance skills, and build a resume.

In addition to working with employers, students work with BTC's work-based learning coordinator (WBLC) to create industry-standard resumes and cover letters, develop response techniques for being interviewed, learn time-tested methods for making the best first impression, and other skills that will help them secure a job in their field. Educators work with the WBLC to bring in professionals from the community into the classroom to work with students in a variety of ways. WBLE in the classroom can include doing informational interviews, mentorships, and specialized trainings from the program's content area.

Career Technical Student Organizations (CTSOs)

HOSA (Health Occupations Student Organization)

HOSA provides a unique program of leadership development, motivation, and recognition exclusively for secondary students enrolled in health science education and biomedical science programs or have interests in pursuing careers in health professions. HOSA is an international student organization recognized by the U.S. Department of Education and the Health Science Education (HSE) Division of ACTE. HOSA's two-fold mission is to promote career opportunities in the healthcare industry and to enhance the delivery of quality health care to all people. Through the BTC Health Sciences Academy, students have the opportunity to participate in HOSA state and national level competitions.

National Technical Honor Society

The National Technical Honor Society currently serves approximately 100,000 active members and nearly a million members since its inception in 1984. Awarding over $1.7 million in scholarships to date, NTHS honors the achievements of top Technical Education students, provides scholarships to encourage the pursuit of higher education, and cultivates excellence in today's highly competitive, skilled workforce. BTC students have the opportunity to be inducted into the NTHS to honor student achievement and leadership in career technical education.

SkillsUSA

SkillsUSA is a national career and technical student organization for any student in technical programs. A vital solution to the growing skills gap, SkillsUSA improves the quality of America's skilled workforce through a framework of personal, workplace and technical skills grounded in academics. SkillsUSA enhances the lives and careers of students, instructors and industry representatives as they strive to prepare students for the workforce, higher education and continued community involvement. Students may have the option to participate in State SkillsUSA competitions in BTC programs. State winners move on to the National Competition.

Pursuant to the §504 of the Rehabilitation Act of 1973, the Board will take positive steps to employ and advance in employment qualified handicapped persons in programs receiving federal assistance under the Education of the handicapped Act (Individual with Disabilities Education Act) and make reasonable accommodations to the known physical or mental limitations of the qualified handicapped applicant or employee to the extent required by law. The superintendent of his or her designee shall prepare, and the board shall approve, guidance to applicants and employees regarding requests for reasonable accommodations, including provisions for undue hardship.
The District's Title VI Coordinator, the Age Discrimination Act Coordinator and Americans with Disabilities Act Coordinator for employees and others is Ze Susan Anderson-Brown, Human Resources Director, Burlington School District (802) 864-2159; 1-800-253-0191 TDD; The District's Title IX Coordinator for employees, students, parents and other such relatives, friends, guest speakers or visitors is Henri Sparks, Director of Equity, Burlington School District (802) 864-8411; 1-800-253-0191 TDD. The District's Americans with Disabilities Act Coordinator for students and §504 Coordinator is Laura Nugent, Director of Student Support Services of the Burlington School District (802) 864-8456; 1-800-253-0191 TDD

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