Vermont Technical College
Continuing Education and Workforce Development Program Sampling

- **SHRM Essentials of Human Resources** - The SHRM Essentials of Human Resources program covers introductory HR topics in a condensed, easy-to-understand format. Topics include: employment law, selecting qualified employees, compensation, orientation and training, and the performance management process. This program is ideal for those who perform HR tasks as a part of their many roles. SHRM Essentials of Human Resources is approved for Professional Development Credits (PDCs) for the SHRM-CP and SHRM-SCP credentials and recertification credit hours for HR Certification Institute credentials.

- **SHRM Learning System for SHRM-CP/SHRM-SCP** - The SHRM Learning System is intended to cover the SHRM Body of Competence and Knowledge (SHRM BoCK) tested in the SHRM-CP and SHRM-SCP certification exams. Designed to fit every learning style, the SHRM Learning System allows busy HR professionals who want to pursue their certification, the freedom to decide when, where and how to study.

- **Phlebotomy.** VT Tech offers this one-year training that prepares students for licensure. It is not a college-credit bearing course, but health care institutions recognize it. VT Tech offers the course in Tech Centers for both high school and adult students and includes a hospital rotation. Graduates of the program are in high demand.

- Strengthening Working Families Initiative (SWFI) – Vermont Tech is providing the CPT certification to adults, along with supportive services (child care, language instruction, etc.) that will help them be successful. Two cohorts of students have completed a semester in Williston, in addition to one cohort in Springfield.

- **SolidWorks Basics:** 20-hour Introduction - This will allow you to understand the basic modeling tools and create 3D parts that could easily be 3D printed. Learn how to create Working Drawings and actually use the modeling techniques for solving problems. Additionally, provides an introduction to multiple part assemblies and more complex geometry like helix's and splines.

- **CWSA - Certified SOLIDWORKS Associate** – 45 hours Academic certification is intended for a student with a minimum of six to nine months of SOLIDWORKS experience and basic knowledge of engineering fundamentals and practices. SOLIDWORKS recommends that applicants review the online tutorials on Parts, Assemblies, and Drawings as a prerequisite, and have at least 45 hours of classroom time learning SOLIDWORKS or using SOLIDWORKS with basic engineering design principles and practices.

- The Career & Technical Teacher Education Program (CTTEP) is classified by the state of Vermont as an alternative route to licensure program, serving practicing educators who are teaching under an apprentice license. This program is designed to encourage and support

these new career technical educators, no matter their background, in becoming experts in a new field: teaching. The Vermont Tech Career & Technical Teacher Education Program is an initial educational licensing route for new trade and industry instructors at Vermont's 17 career and technical centers. To qualify for this program applicants must be either a high school graduate with at least six years' experience in the desired trade, or hold an associate degree or higher with four years of experience. Once hired at a regional high school tech center, teachers can enter this three-year program to obtain their Level I Educator License. Not only will you meet other educators in monthly, full-day courses, when you're enrolled in the program you will learn how to create positive classroom environments, classroom management, how to craft engaging lessons, and how to meet the needs of diverse learners.

- ELECTRICAL AND PLUMBING

CEWD offers trainings for licensed electricians and plumbers, and for tradespeople that hold speciality licenses. In addition to these continuing education offerings, you can take exam prep trainings if you are nearing the completion of the required 8000 on-the-job training hours and are applying to take the Journeymen's exam; or for Journeymen who are getting close to taking the Master's exam.

CEWD also offers online career training programs in **HVACR Certified Technician** and HVACR Controls/Building Automation Systems, through our nationally recognized, industry leading online delivery partner, Education to Go.

- Advanced Manufacturing Apprenticeship: Credit bearing courses.

- **Level I** - Manufacturing Processes This hands-on course introduces the student to a wide variety of manufacturing processes. Although heavily focused on traditional machine tools (lathes, mills, grinders, etc.), the course also explores the processes of casting, welding, molding, and industrial cutting (plasma, water-jet, and laser). The student works in a small group to produce functional products using today's manufacturing standards. The class includes additional blueprint reading and embedded math. Safety and skilled operation are the focal points of this class.
- **Level II:**
    - Design Communications (SolidWorks) This course provides a basic understanding of the principles and technology of mechanical drawing and computer modeling as methods of documenting and communicating mechanical designs. The concepts of geometric construction and orthographic, sectional, auxiliary, and assembly views are covered. Dimensioning methods and types of fasteners are introduced. The student gains basic proficiency in using a solid parametric three-dimensional computer-aided design (CAD) program to build parts, assemblies, and detailed working drawings.
    - Metrology & Inspection This course provides the student with the fundamental concepts of modern dimensional metrology and related inspection techniques. Topics covered include the language and system of measurement; tolerances; metrology; statistics of metrology; measurement with graduated scales and scaled instruments; Vernier instruments; micrometer instruments; the development and use of gage blocks; measurement by comparison and high-amplitude comparators; pneumatic measurement; and calibration.

- **Level III**
    - Computer Aided Technology In this course, the student develops the skills to program CNC lathes and milling machines. Software-linked CAD programs with CNC machines and flexible machining systems are presented. In addition, the student is kept up-to-date on current developments in computer-aided technology.
    - Principles of Mathematics This course reviews general math principles and introduces concepts for the solution of agricultural, agribusiness, and business problems. Topics covered include calculator use; basic algebraic operations, solution of linear and quadratic equations; geometry concepts of line, area, and volume; variation; trigonometry of right triangles; growth; compound interest; debt amortization; probability; and statistics.

- Industrial Maintenance Apprenticeship: Credit bearing courses.
- Level I:
    - **Introduction to Engineering** This course facilitates a successful transition to college and introduces engineering tools and strategies. It focuses on orientation, success strategies, and professional development. Topics include student rights and responsibilities; grading and graduation requirements; campus resources; time management; note taking; career opportunities; and program-specific topics. The course provides hands-on experience using technical software and creating technical documentation using software programs including Word, Excel, LabVIEW, and MultiSim. Topics include terminology, layout, chart creation, effective chart usage, and integrating text and graphics.
    - **Electrical Circuits I** This course is an introductory study of DC and AC electrical circuits. Content includes the basic ideas of electrical charge, current, voltage, resistance, energy, power, capacitance, inductance, and the transient behavior of RC and RL circuits. For AC, the concepts of frequency, period, phase, and magnitude of sine waves are developed. The electrical circuit parameters are studied as phasors and complex numbers and expressed in polar and rectangular form. Major AC topics studied include reactance, impedance, power, and resonance. Electric circuit theory includes Ohm's law; Kirchhoff's laws; series and parallel circuits; and electrical sources. Also introduced are voltage and current dividers and Thevenin's Theorem. Lab exercises develop the use of basic measurement equipment, such as the ammeter, voltmeter, and oscilloscope, while verifying the concepts studied in lectures.
- Level II - **Electrical Circuits II** This course is a continuation of **ELT 1031**. Circuit analysis using advanced network theorems and techniques is introduced. Topics such as superposition; mesh and nodal analysis; Thevenin's theorem; and controlled sources are investigated. Other topics include bridges, power factor correction, transformers, polyphase circuits, filters, parallel resonance, frequency response, and response to non-sinusoidal signals. Lab exercises provide experience in using oscilloscopes, function generators, and frequency counters on circuits, demonstrating the concepts developed in lectures.
- Level III :
    - **Advanced Programmable Logic Controllers** PLC design methodology, programming procedures, and practical system implementation topics are presented in an interactive lecture setting. The design principles discussed during lecture are reinforced with demonstrations and participative exercises.

- **Principles of Mathematics** Provided online, this course reviews general math principles and introduces concepts for the solution of agricultural, agribusiness, and business problems. Topics covered include calculator use; basic algebraic operations, solution of linear and quadratic equations; geometry concepts of line, area, and volume; variation; trigonometry of right triangles; growth; compound interest; debt amortization; probability; and statistics.