Skills-Oriented Program Information

Pre-Employment
This one-quarter certificate provides students with entry-level technical skills for manufacturing jobs and focuses on honing the soft skills needed to be successful in a manufacturing environment.

- Entry-level technical skills for manufacturing
- Proven track record of reliability—grade heavily based on attendance and punctuality
- Students are prepared for work—class mirrors a typical workday of long hours
- OSHA 30 safety training and certification
- National Career Readiness Certificate- proven core workplace skills including: reading for information, applied mathematics and problem solving/critical thinking.
- Blueprint reading and precision measuring experience using micrometers, calipers and gauges
- Manufacturing basics and environment, welding and torch cutting, introduction to composites, CAD, Lean and Six Sigma

Precision Machining
This is a two-quarter certificate which prepares students to enter the precision machining field.

- Entry-level skills used in a modern machine shop
- Applied mathematics including geometry and trigonometry
- Safely use conventional/manual and CNC tools
- Advanced blueprint reading and Industrial safety
- Load tools into the machine, set tool offsets
- Perform edits to optimize machine operation
- Geometric dimensioning and tolerance
- Read and use precision measurements
- Write simple G-code programs to create tool path

Mechatronics
This two-quarter certificate provides students with the basic skills in electrical, mechanical and computerized components in an industrial mechatronic system used for manufacturing and assembly.

- Understand the principal operations of the mechatronics subsystems in a complex system
- Identify correctly where malfunctions are occurring and communicate with experts who can carry out the required repairs
- Perform routine, preventative maintenance, localize, and identify causes and sources of malfunctions where possible
- Understand and implement safety regulations required for operation of the system
Composites
This two-quarter certificate is designed to prepare students to fabricate, assemble, and repair composite materials, preparing them for entry-level positions as composite technicians.

- Create multiple, team-based composite projects from the ground up
- Learn hand skills for the layup of materials: fiberglass, carbon fiber, epoxy and polyester resin
- Design molds and forms for the layup of fiberglass and carbon fiber materials
- Build and vacuum bag composite materials for room temperature cure and oven cure materials
- Create projects in composite materials showing how surface energy is increased and decreased
- Solve technical mathematical problems (such as fiber resin ratio)

Fabrication and Welding
The program includes all major welding, cutting, and fabrication techniques, which is a unique feature of the EVCC program: Heavy Plate Fabrication, Sheetmetal Fabrication, Press Brake Operation, Pipefitting and Pipe systems Fabrication, Structural Steel Fabrication, and Field-Welding.

- Training in industry’s highest demand welding processes
- Entry-level welding and fabrication skills and the basics of fabrication
- Cutting, fitting, blueprint reading, layout skills, and forming
- Troubleshooting, problem solving, teamwork, leadership, shop communication skills
- Real world simulation and practical application of technical skills

Engineering Technology
The Engineering Technology program is designed to provide hands-on skills and practical knowledge in a variety of computer-aided design (CAD) software.

- Students have a strong foundation in mechanical and structural design
- Experience in CAD design using CATIAv5, SolidWorks, AutoCAD, Revit, and MasterCAM
- Use 3D CAD to utilize basic engineering graphics and create multi-view drawings
- Create assembly drawings and complex surfaced part models using 3D CAD
- Design for producibility and manufacturing ease

Aviation Maintenance Technology
The 8-quarter curriculum consists of 2,040 hours of instruction in over 40 subject areas, with work being done on a variety of fixed wing aircraft and helicopters at the Paine Field facility. Students learn to maintain both reciprocating and turbine engines, repairing systems and components.

- Demonstrate aviation maintenance skills using FAA-approved Part 147 curriculum
- Inspect, diagnose, and repair aircraft and engines; complete documentation
- Technically competent in Airframe and Powerplant Maintenance and preparation for the FAA Airframe and Powerplant certification
- Communicate verbally and in writing about aviation maintenance concepts

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