

Advanced Manufacturing / Composites Technology

The Advanced Manufacturing Technology program is designed to prepare students for a variety of manufacturing jobs including composites technician, Computer Numerically Controlled (CNC) operator and programmer, and carbon fiber recycling technician. Core curriculum includes nondestructive testing, metrology, computer aided design, CNC, composites recycling, machining and welding. Students are prepared for these fields by learning the physical properties of advanced materials and becoming proficient in composite processing skills that include vacuum bagging, resin infusion, composite oven curing, material use data entry, material resource procurement, CNC programming/operating, and clean room techniques.

Degree & Certificate Options

- Advanced Manufacturing AAS Degree

Short-Term Proficiency Certificates

- CNC Machining and Programming
- Composites Recycling

Program: Advanced Manufacturing / Composites Technology

Type: Professional Technical Program

STUDENT LEARNING OUTCOMES

Student Learning Outcomes

Upon completion of this program, students will be able to:

- Operate tools and equipment safely
- Handle, store, and use advanced composite materials safely
- Describe physical properties of various composite materials and metals
- Use 2D and 3D drawings/models to build/modify parts and assemblies
- Produce composite structures in both production and prototype environments
- Demonstrate ability to critically assess damage and successfully repair composite structures
- Machine composites, cores, metals, and advanced materials using CNC technology
- Non-destructively test composite parts and metal parts
- Accurately measure and document parts and assemblies using 3D modeling and CMM
- Produce 3D part models, analyze them, generate tool paths, and cut them on CNC machines
- Apply basic computational skills to practical applications
- Communicate in writing for a variety of purposes and audiences
- Demonstrate competencies to succeed in the selected career pathway workplace