

AEROSPACE COMPOSITE TECHNICIAN (ITC)

Intermediate Technical Certificate

Career-Technical Program

Interest Areas:

Manufacturing and Trades

This program prepares students for entry-level employment in the aerospace composites manufacturing industries. The curriculum provides students with the skills necessary to work in various phases of the composite fabrication and repair, and teaches industry recognized quality assurance procedures. Students receive hands-on working knowledge from a qualified instructor in a lab setting where the focus is on the manufacturing methods and techniques used in aerospace industry composite components. Coursework includes safety requirements, blueprint reading, composite fabrication and repair, geometric dimensioning and tolerance, shop math and projects specific to industry standards.

Prospective students should have solid math skills and demonstrate mechanical aptitude. Computer and keyboarding skills are recommended.

Placement in specific math and English courses is determined by the College's placement assessments. Prospective students who do not meet the initial eligibility requirements for a career-technical program will need to take selected courses to receive necessary skill building prior to entering the program.

Gainful Employment Information (<https://www.nic.edu/programs/ge/94-CC1/Gedt.html>)

Program Website (https://www.nic.edu/programs/viewProgram.aspx?program_id=94)

Program Requirements

Course	Title	Credits
Semester 1		
AERO-110	Safety/OSHA	1
AERO-111	Blueprint Reading	2
AERO-120	Introduction to Composites	3
AERO-121	Composite Fabrication Methods/Applications	2
AERO-122	Composite Finish Trim	1
AERO-123	Composite Assembly	2
AERO-130	Disassembly and Damage Removal Techniques	1
Select one of the following:		3-5
MCTE-103	Technical Mathematics for Aerospace Technology	
GEM 3 - A.A.S. Mathematical Ways of Knowing		
Credits		15-17
Semester 2		
AERO-131	Composite Repair	2
AERO-133	Electrical Bonding Repair	1
AERO-142	Composite Inspection	1
AERO-143	Advanced Composite Repair	3
AERO-144	Basics of Quality Assurance	2

ECTE-100 or ENGL-101	Fundamentals for Writing or English Composition	3
Credits		12
Total Credits		27-29

Course Key



GEM



WCHE



AAS

Institutionally
Designated

Gateway



Milestone

Program Outcomes

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

- Fabricate and repair composites using industry recognized techniques.
- Demonstrate the skills and knowledge necessary to work in an entry-level quality assurance position for the composite fabrication industry.
- Apply quality assurance techniques to composite processes.
- Demonstrate the skills and knowledge necessary to repair composites necessary to the aerospace industry.
- Operate tools and equipment safely. This includes personal and aircraft safety standards related to shop layout, equipment use, and the handling and storage of materials.
- Read and correctly interpret aircraft blueprints.
- Demonstrate an understanding of, and define and utilize composite terminology.
- Consistently display precision manufacturing processes such as measuring, drilling, and fabricating components.
- Demonstrate appropriate use of cutting tools.
- Attach fasteners, metal components, brackets, and fittings to composite materials with precision and proper care of materials.
- Use basic communication skills to meet the needs of the workplace.