

AEROSPACE REPAIR AND QUALITY ASSURANCE (BTC)

Basic Technical Certificate

Career-Technical Program

Interest Areas:

Manufacturing and Trades

This program provides students with the skills necessary to work in the composite industry providing quality assurance procedures and techniques. Students receive hands-on working knowledge of the manufacturing methods and techniques used in today's composite components. Students will become familiar with the materials used in the aerospace industry and with testing methods. Students receive experience from a qualified instructor in the quality assurance manufacturing methods and techniques used in today's composite industries. Students will acquire skills in composite repair through a lab and lecture course taught around disassembly and damage removal techniques. Learning opportunities develop academic and professional knowledge and skills required for job acquisition, retention and advancement. The program emphasizes specialized training in quality control processes including selection measurement, testing, testing documentation of products manufactured in the aerospace industry, blueprint reading and safety techniques.

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

Program Website (https://www.nic.edu/programs/viewprogram.aspx?program_id=95)

Program Requirements

Code	Title	Credits
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
Total Credits		9

Course Key



GEM



WCHE

AAS
Institutionally
Designated

Gateway



Milestone

- Demonstrate the skills and knowledge necessary to repair composites used in the aerospace industry.
- Define and utilize composite terminology.
- Apply quality assurance techniques to composite processes.
- Consistently display precision manufacturing processes such as measuring, drilling, and fabricating components.
- Demonstrate appropriate use of cutting tools.
- Demonstrate knowledge of grounding theory, and the proper techniques for fine quality control when performing electrical bonding.
- Attach fasteners, metal components, brackets, and fittings to composite materials with precision.
- Identify and interpret Geometric Dimensioning and Tolerancing symbols.
- Function effectively within diverse groups of individuals by working within team structures on various lab projects and assignments.
- Use a computer to word process and access the internet.
- Demonstrate basic computation and communication skills when performing the job functions required of an aerospace composite technician.

Program Outcomes

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

- Fabricate and repair composites using industry recognized techniques.