

Aerospace Technology Advanced Manufacturing

Advanced Technical Certificate

Career and Technical Program

This program prepares students for entry-level employment in the aerospace technology manufacturing specifically pertaining to composite fabrication and repair, Quality Assurance methods, CNC machine operation, and non-destructive testing and inspection. The curriculum provides students with the knowledge and skills necessary to work in various phases of the aerospace advanced manufacturing field. Students receive hands-on working knowledge from a qualified instructor in a lab setting where the focus is on manufacturing fabrication, repair, quality assurance, and non-destructive testing methods used by the aerospace industry.

Visit www.nic.edu/gainfulemployment for important information about the educational debt, earnings, and completion rates of students who attended this program.

Electives:

AERO-101	Aviation Science	3
AERO-160	Introduction to 3-D Printing	3
AERO-192	Liquid Penetrant	1
AERO-193	Magnetic Particle	2
AERO-194	Eddy Current	3
AERO-195	Ultrasonic	4
CADT-104M	CAD Graphics I - Mechanical	2
CADT-106M	CAD Graphics II - Mechanical	2
CADT-250	Solid Works I	2
CADT-252	Solid Works II	2
CADT-253	Industrial Processes	3
MACH-153	Precision Measuring	1
MACH-231	Computers in Machining	3

Program Requirements

First Semester

Course No.	Title	Credit Hrs
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
MCTE-103	Technical Mathematics for Aerospace Technology (or higher)	3
or MCTE-101	Technical Mathematics	(3)
or MCTE-105	Technical Mathematics for Machining and Computer Aided Design Technologies	(3)
or MCTE-106	Technical Mathematics for Industrial Mechanic/Millwright; Heating, Ventilation, Aid Conditioning, and Refrigeration; Welding	(3)
or _____	A.A.S. Mathematical Ways of Knowing ¹	(3-5)
		Semester Total 15-17

Second Semester

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	Fundamentals for Writing	3
or ENGL-101	English Composition	(3)
		Semester Total 12

Third Semester

AERO-191	Visual Inspection	1
_____	Aerospace Technology Advanced Manufacturing Electives	10
		Semester Total 11

Fourth Semester

AERO-141	Geometric Dimensioning and Tolerance	1
AERO-150	Computer Numerical Control (CNC) Mill Basics	2
AERO-152	Computer Numerical Control (CNC) Mill Setup and Operation	3
AERO-153	Aerospace Computer Numerical Control (CNC) Mill Operation	3
AERO-154	5-Axis Mill Setup and Operation	3
AEC-117	Occupational Relations and Job Search	2
		Semester Total 14
		Program Total 52-54

¹ Select from the A.A.S. degree requirements listed on page 50.