WELDING TECHNOLOGY (ITC)

Intermediate Technical Certificate

Career-Technical Program
Interest Areas:
Manufacturing and Trades

This program is designed to prepare students for entry-level employment as a welder. The program complies with national standards established by the American Welding Society (AWS). It combines theory and applied shop practice designed to develop welding skills. Students receive instruction on welding processes including OAC (oxy-acetylene cutting), SMAW (shielded metal arc welding), GMAW (gas metal arc welding), and GTAW (gas tungsten arc welding), as well as blueprint reading, layout procedures, metallurgy, and safety.

Successful completion of each semester and/or permission of the instructor is required for acceptance into the next semester. Placement in specific English and math courses is determined by the college assessment test.

Current industry professionals may enroll in individual courses on a space-available basis and with the instructor's permission.

Gainful Employment Information (https://www.nic.edu/programs/ge/82-CC1/Gedt.html)

Program Website (https://www.nic.edu/programs/viewprogram.aspx?program_id=82)

Program Requirements

Course	Title	Credits
Semester 1		
WELD-105	Welding Theory	2
WELD-112	Safety and Leadership	2
WELD-121	Blueprint Reading for Welders	2
WELD-187L	SMAW Practical	4
WELD-188L	Advanced SMAW Practical	1
WELD-197L	Oxy/Fuel Cutting Lab	1
MCTE-106	Technical Mathematics for Industrial Mechanic/ Millwright; HVAC; Welding	3
	Credits	15
Semester 2		
WELD-100B	Welding Theory	2
WELD-131	Advanced Blueprint Reading	3
WELD-182L	Welding Lab II	6
ATEC-117	Occupational Relations and Job Search	2
ECTE-100 or ENGL-101	Fundamentals for Writing or English Composition	3
	Credits	16
	Total Credits	31

Course Key

GEM — WCHE — AAS Institutionally Designated — Gateway — Milestone

Program Outcomes

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

- Demonstrate and apply the proper safety requirements for set-up and operation of welding and fabrication equipment per industry standards and specifications.
- Understand and demonstrate proper welding techniques in SMAW, GMAW, FCAW, OFC, CAC-A and PAC processes on structural steel.
- Read, interpret, and create welding blueprints and shop drawings that are used in the welding industry and in the lab environment.
- Read, interpret and apply AWS welding symbols and non-destructive symbols that are standard to the welding industry.
- Demonstrate appropriate work relationships and habits, communication skills, and computation skills used in the welding industry.