

WELDING TECHNOLOGY (ATC)

Advanced 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.

Contact Information:

Trades & Industry Division
Parker Technical Education Center
7064 West Lancaster Road
Rathdrum, ID 83858
Phone: (208) 769-3448

Program Website (<https://www.nic.edu/programs/welding-technology/>)

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-106	Welding Theory II	2
WELD-131	Advanced Blueprint Reading	3
WELD-182L	Welding Lab II	6
ATEC-117	Occupational Relations and Job Search	2
ENGL-101 or ENGL-101P	Writing and Rhetoric I or Writing and Rhetoric I	3
Credits		16
Semester 3		
WELD-225	Advanced Welding Theory	3
WELD-226	Layout/Mechanical Drawing	2

WELD-281L	Shielded Metal Arc Welding	7
Credits		12
Semester 4		
WELD-227	Advanced Welding Theory II	3
WELD-228	Advanced Mechanical Drawing	3
WELD-291L	Gas Tungsten Arc Welding Lab	6
Credits		12
Total Credits		55

Course Key



GEM



AAS
Institutionally
Designated



Gateway



Milestone

Program Outcomes

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

1. Demonstrate and apply the proper safety requirements for set-up and operation of welding and fabrication equipment per industry standards and specifications.
2. Demonstrate proper welding techniques in SMAW, GMAW, FCAW, OFC, CAC-A and PAC processes on structural steel.
3. Interpret and create welding blueprints and shop drawings that are used in the welding industry and in the lab environment.
4. Interpret and apply AWS welding symbols and non-destructive symbols that are standard to the welding industry.
5. Demonstrate appropriate work relationships and habits, communication skills, and computation skills used in the welding industry.
6. Demonstrate the proper welding techniques in SMAW, FCAW, GMAW, GTAW, OFC, and CAC-A processes on pipe.
7. Apply common principles and practices of welding metallurgy and its effects in the welding, heating, and cooling of different metals.
8. Describe the concept of quality, and be able to produce quality welds per industry standards per quality control documents and codes.