

2011 - 2012 Career and Technical Programs

Advanced Technology Division 541.463.5380

lanecc.edu

Fabrication/Welding Technology

Two-Year Associate of Applied Science Degree, Fabrication/Welding Technology

> One-Year Certificate of Completion, Fabrication/Welding Technology

> One-Year Certificate of Completion, Welding Processes

Career Pathway Certificate of Completion, Welding Processes: Shielded Metal Arc Welder

Career Pathway Certificate of Completion, Welding Processes: Wire Drive Welder

Purpose To prepare the graduate for employment for entry-level and higher positions in metal fabrication industries. The graduate begins work in light or heavy metal fabrication as welders and/or fabricators. Training and experience can lead to careers in technical sales, supervision, estimating, quality control, inspection, specialty welding, and teaching. The fabrication/welding certificate program (the first year of the twoyear degree) prepares graduates for employment as welders/ fabricators. The welding processes certificate program prepares graduates for employment as welder-trainees or welders.

Learning Outcomes The graduate of the AAS degree will:

- use blueprint-reading skills, cost estimating, applied science of materials, and mathematics necessary to the profession.
- apply knowledge of forming, fitting, and welding processes.
- develop manufacturing plans for commercially viable metal products.
- demonstrate advanced fabrication techniques and welding processes and application including GTAW, structural and pipefitting, metallurgy, quality control procedures, and business operation.
- demonstrate and use industry safety standards.
- use appropriate library and information resources to research professional issues and support lifelong learning.
- use mathematical formulas to calculate area, volume, and weight of metal objects.

The graduate of the Fabrication/Welding Technology One-Year Certificate of Completion will:

- read and build metal products from simple blueprints.
- use blueprints and other reference materials to calculate cost of materials necessary to the building of metal products.
- apply mathematics necessary to fabricate metal products.
- perform at entry-level typical industrial welding processes.
- demonstrate at industry entry-level use of certain machine tools commonly found in industry.
- demonstrate and use industry safety standards.
- use appropriate library and information resources to research professional issues and support lifelong learning.

The graduate of the Welding Processes One-Year Certificate of Completion will:

- read simple blueprints, interpret and apply industrial welding symbols.
- demonstrate proficiency at a industry entry-level with Shielded Metal Arc Welding, various wire drive processes and Gas Tungsten Arc Welding.

- weld and cut metal as is typical of circumstances found in industrial environments.
- demonstrate and use industry safety standards.

Employment Trends Statewide, 210 annual openings for welders/fabricators are projected in Oregon and 28 openings are projected annually in Lane County. Competitively trained workers should find reasonable employment opportunities. Those with an associate degree will have a competitive advantage in this labor market.

Wages Statewide average \$16 hourly, \$35,000 average annually (\$45,000 annually for fabricators). Lane County average, \$15 hourly, \$32,000 annually.

Costs in Addition to Tuition and Registration Fees (estimates)*		
Books	\$	750
Tools	\$	405
Class Fees	\$	1,692
	Total	\$2,847

* Subject to change without notice.

Licensing or Other Certification Exams Exams for Welder Qualification Certification - wire drive and arc welding processes.

Prerequisites Minimum placement score- of 68 in Reading OR completion of RD 080 OR prior college. A high school diploma or equivalent is recommended for all applicants to this program.

Admission Information Normal program entry is fall term. A program orientation is held for new students for fall term (dates available in Counseling or Enrollment and Student Financial Services). Contact advisor/counselor for assistance for winter and spring term entry.

Cooperative Education (Co-op) Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. In certain circumstances, Co-op experience may be substituted for major course work. Contact Marv Clemons, Fabrication/Welding Co-op Coordinator, Bldg. 8, Rm. 111,

541.463.3158, clemonsm@lanecc.edu

Fabrication/Welding Technology

Fabrication/Welding

Two-Year Associate of Applied Science Degree

First Year	Fall
MTH 076 Applied Geometry for Technicians *,D,G or higher mathematics	4
Total Credits	16
	Winter
WLD 113 Fabrication/Welding 2 *,D,G CG 203 Human Relations at Work	12 3
Total Credits	15
WLD 114 Fabrication/Welding 3 ^{*,D,G} PE/Health requirement ^{D,R}	Spring 12 3
Total Credits	15
Second Year WLD 215 Fabrication/Welding 4 ^{*,D,G} MFG 197 Manufacturing Technology ^{*,G} Choice of: Arts/Letters requirement ^R	Fall 12 3 3
Social Science requirement ^R	
Total Credits	18
WLD 216 Fabrication/Welding 5 *, ^{D,G} WR 115W Introduction to College Writing:	Winter 12
Workplace Emphasis ^D or higher writing Science or Computer Science course ^R	3 3
Total Credits	18
WLD 217 Fabrication/Welding 6 ^{*,D,G} Arts and Letters requirement ^R Welding elective ^{D,G}	Spring 12 3 3
Total Credits	18
Echrication Wolding	

Fabrication Welding

One-Year Certificate of Completion

WLD 112 Fabrication/Welding 1 *,D,G	Fall 12
higher mathematics	4
Total Credits	16
	Winter
WID 113 Estrication/Welding 2 *.D.G	12
WB 115W Introduction to College Writing: Workplace	12
Emphasis ^W or higher writing	3
Total Credits	15
	Spring
WID 114 Estrication Welding 3 * D.G	12
CC 202 Human Palations at Work	21
	3
Total Credits	15

Welding Processes

One-Year Certificate of Completion

	Fall
MTH 076 Applied Geometry for Technicians *,D,G or	
higher mathematics	4
WLD 121 Shielded Metal Arc Welding 1 *,D,G	4
WLD 143 Wire Drive Welding 1 *,D,G	4
-	

Total Credits 12

	Winter
ULD 122 Shielded Metal Are Wolding 2 * D G	3
WLD 122 Shielded Metal Arc Weiding 2 ^{-,0,0}	4
	-
Total Credits	11
	Spring
WLD 159 Wire Drive Welding 3 *,D,G	4
WLD 160 Wire Drive Welding 4 *,D,G	4
WR 115W Introduction to College Writing: Workplace	
Emphasis ^W or higher writing	3
Total Credits	11
	Fall
WLD 111 Blueprint Reading for Welders *,D,G	3
WLD 165 Industrial Welding Practices *,D,G	3
WLD 242 Gas Tungsten Arc Welding 1 *,D,G	3
Total Credits	9
	Winter
WLD 256 Gas Tungsten Arc Welding 2 ^{*,D,G}	3
WLD 257 Gas Tungsten Arc Welding 3 *,D,G	3
Total Credits	6
Welding Elective Courses:	
DRF 167 Cad 1	4
ENGR 280W Co-op Ed: Welding	3
WLD 139 Welding Lab * [Available only as pass/no pass].	1-3
WLD 140 Welder Qualification (Certification):	
Wire Drive *	3
WLD 141 Welder Qualification (Certification): SMAW *	3
WLD 142 Pipe Welding Lab: Carbon Steel	

Fabrication/Welding Technology

Welding Processes: Shielded Metal Arc Welder

Career Pathway Certificate of Completion

Learning Outcomes The graduate will:

- read simple blueprints, interpret and apply industrial welding symbols
- demonstrate proficiency at a industry entry-level with Shielded Metal Arc Welding
- weld and cut metal as is typical of circumstances found in industrial environments
- demonstrate and use industry safety standards

MTH 076 Applied Geometry for Technicians *,D,G or

higher mathematics	4
WLD 121 Shielded Metal Arc Welding 1 *,D,G	4
WLD 122 Shielded Metal Arc Welding 2 *,D,G	4
WLD 141 Welder Qualification (Cert): SMAW	3

Total Credits 15

Welding Processes: Wire Drive Welder

Career Pathway Certificate of Completion

Learning Outcomes The graduate will:

- read simple blueprints, interpret and apply industrial welding symbols
- demonstrate proficiency at a industry entry-level with various wire drive processes
- weld and cut metal as is typical of circumstances found in industrial environments
- demonstrate and use industry safety standards

WLD	154 Wire Dr	rive Welding 2	^,D,G		4
WLD	140 Welder	Qualification	(Certification): Wi	re Drive *	3

Total Credits 15

an equal opportunity/affirmative action institution committed to cultural diversity and compliance with the Americans with Disabilities Act 6/11

Standard footnotes:

- Prerequisite required
 B Must be passed with grade of "B" or better to use as a prerequisite
- D Degree or certificate requirement; must be passed with grade of "C-" or better G Must be taken for a grade, not P/NP; major requirement

R Required for AAS degree