Fabrication/Welding Technology

Established in 2017
Graduation Rate: 100%
Placement Rate: 100%

Purpose
To prepare the graduate for employment in entry-level and higher positions in metal fabrication industries. Graduates will begin 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, as well as self-employment. The Fabrication/Welding Certificate Program (the first year of the two-year 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:
- apply knowledge of forming, fitting, and welding processes.
- demonstrate entry-level fabrication techniques and welding processes and application including GTAW, structural and pipefitting, metallurgy, and quality control procedures.
- use appropriate library and information resources to research professional issues and support lifelong learning.
- use blueprint-reading skills, cost estimating, applied science of materials, and mathematics necessary to the profession.
- demonstrate and use industry safety standards.
- use mathematical formulas to calculate area, volume, and weight of metal objects.

Admission Information
Normal program entry is fall term. A mandatory program orientation is held for new students for fall term (dates available from Advance Technology Counselor/Advisor). Contact Advisor/Counselor for assistance for winter and spring term entry, email: AdvTechPrograms@lanecc.edu

Advising and Counseling
classes.lanecc.edu/course/view.php?id=31255

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 Chuck Fike, Fabrication/Welding Co-op Coordinator, Bldg 19, Rm. 231D or Bldg 12, Rm. 119B. 541.463.5078, fikec@lanecc.edu

Job Openings Projected through 2020
Lane County openings - 47 annually
Statewide openings - 547 annually
Lane County average hourly - $19.87 to $26.07; average annual - $41,316 to $54,218
Oregon average hourly - $18.45 to $27.76; average annual - $38,383 to $57,732

Costs
Estimate based on 2017-18 tuition and fees. Consult Lane's website for updated tuition.
Books................................................................. $1,654
Instruments/Tools ...................................................... $845
Program Specific Fees............................................. $3,430
Resident Tuition and General Student Fees.............. $12,648
Total Estimated Cost $18,577

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Course Requirements
- Prerequisites are required for some courses. See course descriptions.
- All WLD and MTH courses must be completed with a letter grade of “C-” or better. MFG course must be completed for a letter grade.
- WR115W and PE/Health requirement must be completed with a “C-” or better or Pass grade.
- Choices for requirements in Arts and Letters, Social Science, and Science are listed on the Associate of Applied Science degree page.
- Minimum placement score of 68 in Reading, or completion of RD 080, or RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 112 Fabrication/Welding 1</td>
<td>12</td>
</tr>
<tr>
<td>MTH 085 Applied Geometry for Technicians</td>
<td>4</td>
</tr>
<tr>
<td>WLD 113 Fabrication/Welding 2</td>
<td>12</td>
</tr>
<tr>
<td>CG 203 Human Relations at Work</td>
<td>3</td>
</tr>
<tr>
<td>WLD 114 Fabrication/Welding 3</td>
<td>12</td>
</tr>
<tr>
<td>WR 115W Introduction to College Writing: Workplace Emphasis</td>
<td>3</td>
</tr>
<tr>
<td>MFG 101 Safety and Basic Shop Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 215 Fabrication/Welding 4</td>
<td>12</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts/Letters Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Requirement</td>
<td>3</td>
</tr>
<tr>
<td>WLD 216 Fabrication/Welding 5</td>
<td>12</td>
</tr>
<tr>
<td>PE/Health Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Science or Computer Science Course</td>
<td>3</td>
</tr>
<tr>
<td>WLD 217 Fabrication/Welding 6</td>
<td>12</td>
</tr>
<tr>
<td>Welding Elective</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Letters Requirement</td>
<td>3</td>
</tr>
</tbody>
</table>

Program Coordinator
Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, reat@lanecc.edu

Lane Community College
2018 - 2019
CareerTechnical Programs
Advanced Technology Division
541.463.5380
lanecc.edu
Fabrication/Welding Technology

Fabrication Welding
Offered by the Advanced Technology Division, 541.463.5380
One-Year Certificate of Completion
Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, reat@lanecc.edu

Purpose
The Fabrication/Welding Certificate Program prepares graduates for employment as Welders/Fabricators.

Learning Outcomes
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 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.

Admission Information
See lanec.edu/advttech/wld or contact the Advanced Technology Division, AdvTechPrograms@lanecc.edu

Advising and Counseling
classes.lanecc.edu/course/view.php?id=31255

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 Chuck Fike, Fabrication/Welding Co-op Coordinator, Bldg 19, Rm. 231D or Bldg 12, Rm. 119B, 541.463.5078, fikec@lanecc.edu

Job Openings Projected through 2020
Lane County: 23 positions
Statewide: 257 positions
Lane County average hourly - $19.97; average annual - $41,546
Oregon average hourly - $21.38; average annual - $44,477

Costs
Estimates based on 2017-18 data for full-time students. Students attending part-time will incur additional term fees. Consult Lane’s website for updated tuition and fees.

Books ................................................................. $763
Instrument/Tools .................................................. $300
Program Specific Fees ....................................... $1,632
Resident Tuition and General Student Fees .......... $5,865
Total Estimated Cost $8,560

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Gainful Employment Disclosure
51-4121.06
Go to the Department of Labor’s O*Net website for a profile of this occupation: Structural Metal Fabricators and Fitters onetonline.org/link/summary/51-4121.06 Or check on these O*Net Related Occupations: Welders, Cutters, and Welder Fitters onetonline.org/link/summary/51-4121.06

In academic year 2014-15, 6 students completed this certificate.

The program is designed to take 4 terms, or about 15 months of study to complete.

70% of the Title IV students completed this certificate within 1 year.
Note: The federally required method for calculating the on time program completion rate assumes students will declare their completion program major immediately upon entering Lane, enroll full-time each term, and remain enrolled at Lane continuously until they complete their program. In reality, many students attend part-time, explore several majors, stop out for a term or more, and brush-up on their academic skills to be better prepared for college-level courses, all of which affect this narrowly defined on time completion rate.

Explanation of costs: lanec.edu/esfs/credit-fees-and-expenses

Course Requirements
• Prerequisites are required for some courses. See course descriptions.
• All WLD and MTH courses must be completed with a letter grade of “C-” or better.
• WR 115W must be completed with a “C-” or better or Pass grade.
• Minimum placement score of 68 in Reading, or completion of RD 080, or RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.

Welding Processes
Offered by the Advanced Technology Division, 541.463.5380
One-Year Certificate of Completion
Program Coordinator Tracy Rea, Bldg. 15, Rm. 201, 541.463.5151, reat@lanecc.edu

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. Training and experience can lead to careers in technical sales, supervision, estimating, quality control, inspection, specialty welding, and teaching. The welding processes certificate program prepares graduates for employment as welder-trainees or welders.

Learning Outcomes
The graduate of the Welding Processes One-Year Certificate of Completion will:
• read simple blueprints, interpret and apply industrial welding symbols.
• demonstrate proficiency at an 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.

Admission Information
See lanec.edu/advttech/wld or contact the Advanced Technology Division, AdvTechPrograms@lanecc.edu
Advising and Counseling
classes.lanecc.edu/course/view.php?id=31255

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 Chuck Fike, Fabrication/Welding Co-op Coordinator, Bldg 19, Rm. 231D or Bldg 12, Room 119B. 541.463.5078, fikec@lanecc.edu
Fabrication/Welding Technology

Job Openings Projected through 2020
Lane County: 23 positions
Statewide: 257 positions
Lane County average hourly - $19.97; average annual - $41,546
Oregon average hourly - $21.38; average annual - $44,477

Costs
Estimates based on 2017-18 data for full-time students. Students attending part-time will incur additional term fees. Consult Lane's website for updated tuition and fees.

Books .......................................................... $652
Instruments/Tools ................................................. $385
Program Specific Fees ........................................ $1,890
Resident Tuition and General Student Fees ................. $6,339

Total Estimated Cost: $9,266

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Course Requirements
- Prerequisites are required for some courses. See course descriptions.
- All WLD and MTH courses must be completed with a letter grade of "C-" or better.
- Minimum placement score of 68 in Reading, or completion of RD 080, or RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.

Fall
MTH 085 Applied Geometry for Technicians .................. 4
WLD 111 Blueprint Reading for Welders ....................... 3
WLD 256 Gas Tungsten Arc Welding 2 ......................... 3
WLD 121 Shielded Metal Arc Welding 1 ........................ 4
WLD 143 Wire Drive Welding 1 .................................. 4
WLD 160 Wire Drive Welding 4 .................................. 4

Winter
Directed Elective .................................................. 1 - 4
WLD 257 Gas Tungsten Arc Welding 3 .......................... 3
CG 203 Human Relations at Work ............................. 3
WLD 122 Shielded Metal Arc Welding 2 ....................... 4
WLD 154 Wire Drive Welding 2 .................................. 4

Spring
WLD 242 Gas Tungsten Arc Welding 1 ........................ 3
WR 115W Introduction to College Writing: Emphasis .... 3
WLD 159 Wire Drive Welding 3 .................................. 4

Directed Electives
DRF 160 Computer-Aided Drafting and Design .............. 4
ENGR 280W Co-op Ed: Welding ................................. 3 - 12
WLD 139 Welding Lab ............................................. 1 - 3
WLD 140 Welder Qualification (Cert): Wire Drive Processes ................................................................. 3
WLD 141 Welder Qualification (Cert): SMAW ................. 3
WLD 142 Pipe Welding Lab: Carbon Steel ...................... 3

Resident Tuition and General Student Fees ................. $630

Total Estimated Cost: $2,192

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Course Requirements
- Prerequisites are required for some courses. See course descriptions.
- Minimum placement score of 68 in Reading, or completion of RD 080, or RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.
- Students may be able to substitute an alternative welding course. Please see an academic advisor to arrange pre-approved substitutions.

Fall
WLD121 Shielded Metal Arc Welding 1 .......................... 4
MTH 085 Applied Geometry for Technicians .................. 4

Winter
WLD122 Shielded Metal Arc Welding 2 .......................... 4

Spring
WLD141 Welder Qualification (Certification): SMAW .... 3

Wire Drive Welder
Offered by the Advanced Technology Division, 541.463.5380

Career Pathway Certificate
Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5380, reat@lanecc.edu

Purpose To prepare the graduate for employment for entry-level positions in the metal fabrication industry.

Learning Outcomes The graduate will:
- 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.

Shielded Metal Arc Welder
Offered by the Advanced Technology Division, 541.463.5380

Career Pathway Certificate
Program Coordinator Tracy Rea, Bldg 15, Rm. 201, 541.463.5151, reat@lanecc.edu

Purpose To prepare the graduate for employment for entry-level positions in the metal fabrication industry.

Learning Outcomes The graduate will:
- demonstrate proficiency at a industry entry-level with Shielded Metal Arc Welding.
Fabrication/Welding Technology

Admission Information See lanecc.edu/advtech/wld or contact the Advanced Technology Division, AdvTechPrograms@lanecc.edu

Advising and Counseling classes.lanecc.edu/course/view.php?id=31255

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 Chuck Fike, Fabrication/Welding Co-op Coordinator, Bldg 19, Rm. 231D or Bldg 12, Rm. 119B. 541.463.5078, fikec@lanecc.edu

Job Openings Projected through 2020
Lane County: 1 positions
Statewide: 11 positions
Lane County average hourly - $20.23; average annual - $42,075
Oregon average hourly - $18.45; average annual - $38,383

Costs Estimate based on 2017-18 tuition and fees. Consult Lane’s website for updated tuition.
Books ................................................................. $274
Program Specific Fees........................................... $702
Resident Tuition and General Student Fees ............... $2,192
Total Estimated Cost $3,168

*Course fees may change during the year. See the online credit class schedule for fees assigned to courses.

Course Requirements
• Prerequisites are required for some courses. See course descriptions.
• Minimum placement score of 68 in Reading, or completion of RD 080, or RD 087 AND EL 115, or prior college. A high school diploma or equivalent is recommended for all applicants to this program.
• Students may be able to substitute an alternative welding course. Please see an academic advisor to arrange pre-approved substitutions.

Fall
WLD143 Wire Drive Welding 1 .................................. 4
MTH 085 Applied Geometry for Technicians............ 4

Winter
WLD154 Wire Drive Welding 2 .................................. 4

Spring
WLD140 Welder Qualification (Certification): Wire Drive .... 3