WELDING TECHNOLOGY

Academic Requirements
- Academic Prerequisites
  - Wire and TIG Welding
  - Wire Welding Customized
  - Wire Welding Certification Preparation
  - Shielded Metal Arc Welding Customized
  - Shielded Metal Arc Welding Certification Preparation
  - Gas Tungsten Arc Welding Customized
  - Gas Tungsten Arc Welding Certification Preparation
  - Pipe Welding Customized
  - Pipe Welding Certification Preparation
  - Welding Technology

WELDING TECHNOLOGY AAS DEGREE

Minimum 100 credits. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. Students must complete a total of sixteen credits of General Education. In addition to required courses in the program of study, students must satisfy MTH 58/65 competency. Students should consult with program/academic advisors for course planning.

Welding Degree Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 101</td>
<td>Welding Processes &amp; Applications</td>
<td>4</td>
</tr>
<tr>
<td>WLD 102</td>
<td>Blueprint Reading</td>
<td>4</td>
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<tr>
<td>WLD 111</td>
<td>Shielded Metal Arc Welding (E7024) and Oxy-acetylene Cutting</td>
<td>4</td>
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<tr>
<td>WLD 112</td>
<td>Shielded Metal Arc Welding: Mild Steel I (E7018)</td>
<td>4</td>
</tr>
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<td>WLD 113</td>
<td>Shielded Metal Arc Welding: Mild Steel II (E7018)</td>
<td>4</td>
</tr>
<tr>
<td>WLD 114</td>
<td>Shielded Metal Arc Welding: Mild Steel III (E6011)</td>
<td>4</td>
</tr>
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<td>WLD 131</td>
<td>Gas Metal Arc Welding</td>
<td>4</td>
</tr>
<tr>
<td>WLD 132</td>
<td>Gas Metal Arc Welding-Pulse</td>
<td>4</td>
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<td>WLD 141</td>
<td>Flux-Cored Arc Welding I (Gas Shielded)</td>
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<td>WLD 142</td>
<td>Flux-Cored Arc Welding II (Self Shielding)</td>
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<tr>
<td>WLD 151</td>
<td>SMAW Certification Practice: Unlimited</td>
<td>4</td>
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<tr>
<td>WLD 152</td>
<td>Thickness Mild Steel</td>
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<tr>
<td>WLD 153</td>
<td>Flux Cored Arc Welding (Gas Shielded)</td>
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<tr>
<td>WLD 154</td>
<td>Flux Cored Arc Welding (Self shielding) Certified Practice</td>
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</tr>
<tr>
<td>WLD 203</td>
<td>Structural Steel Welding Code &amp; Standards</td>
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<td>WLD 221</td>
<td>Gas Tungsten Arc Welding Mild Steel</td>
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<tr>
<td>WLD 222</td>
<td>Gas Tungsten Arc Welding: Aluminum</td>
<td>4</td>
</tr>
<tr>
<td>WLD 223</td>
<td>Gas Tungsten Arc Welding: Stainless Steel</td>
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<tr>
<td>WLD 260</td>
<td>Beginning Fabrication</td>
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</tr>
<tr>
<td>WLD 263</td>
<td>Welding Technology - Capstone</td>
<td>4</td>
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<tr>
<td>WLD Program Electives</td>
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<td>8</td>
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<tr>
<td>General Education</td>
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<tr>
<td>Total Credits</td>
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</tbody>
</table>

Non-Academic Prerequisites
- Contact department for program advising.

Non-Academic Requirements
- None

DEGREES AND CERTIFICATES OFFERED

ASSOCIATE OF APPLIED SCIENCE DEGREE

Welding Technology

LESS THAN ONE-YEAR CERTIFICATE: CAREER PATHWAY

Flux Core Arc Welding Certification Preparation
Gas Tungsten Arc Welding Certification Preparation
Gas Tungsten Arc Welding Customized
General Fabrication Preparation
Metal Fabrication Customized
Pipe Welding Certification Preparation
Pipe Welding Customized
Shielded Metal Arc Welding Certification Preparation
Shielded Metal Arc Welding Customized
Welding Certification Preparation Customized
Welding Technology
Wire Welding Certification Preparation
Wire Welding Customized
Wire and TIG Welding

Academic Prerequisites
- None

Academic Requirements
- None

WELDING PROGRAM ELECTIVES

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
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<tr>
<td>WLD 115</td>
<td>Shielded Metal Arc Welding: Mild Steel IV (E6011)</td>
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<tr>
<td>WLD 116A</td>
<td>Beginning Shielded Metal Arc Welding</td>
<td>3</td>
</tr>
<tr>
<td>WLD 116B</td>
<td>Basic Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 126A</td>
<td>Beginning Gas Tungsten Arc Welding (Heliarc)</td>
<td>3</td>
</tr>
<tr>
<td>WLD 126B</td>
<td>Basic Gas Tungsten Arc Welding (Heliarc)</td>
<td>3</td>
</tr>
<tr>
<td>WLD 136A</td>
<td>Beginning Wire Welding</td>
<td>3</td>
</tr>
<tr>
<td>WLD 136B</td>
<td>Basic Wire Welding</td>
<td>3</td>
</tr>
<tr>
<td>WLD 146A</td>
<td>Beginning Pipe Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 146B</td>
<td>Basic Pipe Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 156A</td>
<td>Beginning Oxy-Acetylene Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 156B</td>
<td>Basic Oxy-Acetylene Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 166A</td>
<td>Beginning Weld Practice Metal Sculpting</td>
<td>3</td>
</tr>
</tbody>
</table>

Rock Creek Campus
Building 2, Room 131 - Shop
Building 2, Room 230 - Office
971-722-7600 or 971-722-7331

Swan Island
Welding Center
5555 N Channel Ave
503-247-1724

pcc.edu/programs/welding/
WLD 166B  ^1  Basic Weld Practice Metal Sculpting
WLD 176A  ^1  Beginning Fabrication Welding Practice
WLD 176B  ^1  Basic Fabrication Welding Practice
WLD 186A  ^1  Beginning Certification Welding Practice
WLD 186B  ^1  Basic Certification Welding Practice
WLD 190A  ^1  Beginning Welding Practice
WLD 190B  ^1  Basic Welding Practice
WLD 190C  ^1  Intermediate Welding Practice
WLD 216  Intermediate Welding Practice
WLD 216A  ^1  Intermediate Welding Practice
WLD 216B  ^1  Advanced Metal Arc Welding
WLD 224  Gas Tungsten Arc Welding: (Mild Steel) Pipe I
WLD 225  Gas Tungsten Arc Welding: (Mild Steel) Pipe II
WLD 226A  ^1  Intermediate Gas Tungsten Arc Welding (Heliarc)
WLD 226B  ^1  Advanced Gas Tungsten Arc Welding (Heliarc)
WLD 236A  ^1  Intermediate Wire Welding
WLD 236B  ^1  Advanced Wire Welding
WLD 246A  ^1  Intermediate Pipe Welding Practice
WLD 246B  ^1  Advanced Pipe Welding Practice
WLD 253  SMAW Certification Practice 3/8" Mild Steel (E6011)
WLD 254  SMAW Certification Practice 3/8" Mild Steel (E7018)
WLD 256  Preparation for Pipe Certification I
WLD 256A  ^1  Intermediate Oxy-Acetylene Welding Practice
WLD 256B  ^1  Advanced Oxy-Acetylene Welding Practice
WLD 257  Preparation for Pipe Certification II
WLD 258  Preparation for Downhill Pipe Certification I
WLD 259  Preparation for Downhill Pipe Certification II
WLD 261  Basic Fabrication
WLD 262  Intermediate Fabrication
WLD 266A  ^1  Intermediate Weld Practice Metal Sculpting
WLD 266B  ^1  Advanced Weld Practice Metal Sculpting
WLD 271  Oxy-acetylene Welding Projects
WLD 276A  ^1  Intermediate Fabrication Welding Practice
WLD 276B  ^1  Advanced Fabrication Welding Practice
WLD 280A  ^1  Cooperative Education: Welding
WLD 280B  ^1  Cooperative Education: Welding - Seminar
WLD 286A  ^1  Intermediate Certification Welding Practice
WLD 286B  ^1  Advanced Certification Welding Practice
WLD 290  Submerged Arc Welding
WLD 295  

^1  A maximum of 6 credits from courses with a letter designation after them (such as 126B, 136A) may be used towards completion of the 12 credit elective requirement. The Welding Department Chair may allow exceptions to this rule.

LESS THAN ONE-YEAR CERTIFICATE: CAREER PATHWAY

Flux Core Arc Welding Certification Preparation (p. 2)
Gas Tungsten Arc Welding Certification Preparation (p. 2)
Gas Tungsten Arc Welding Customized (p. 2)
General Fabrication Preparation (p. 2)
Metal Fabrication Customized (p. 3)

Pipe Welding Certification Preparation (p. 3)
Pipe Welding Customized (p. 3)
Shielded Metal Arc Welding Certification Preparation (p. 3)
Shielded Metal Arc Welding Customized (p. 3)
Welding Certification Preparation Customized (p. 3)
Welding Technology (p. 3)
Wire Welding Certification Preparation (p. 4)
Wire Welding Customized (p. 4)
Wire and TIG Welding (p. 4)

FLUX CORE ARC WELDING CERTIFICATION PREPARATION CAREER PATHWAY CERTIFICATE
Minimum 14 credits. Students must meet all certificate requirements. The Fluxed Cored Arc Welding Certification Preparation Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

Flux Core Arc Welding Certificate Courses
WLD 136A  Beginning Wire Welding  3
WLD 136B  Basic Wire Welding  3
WLD 141  Flux-Cored Arc Welding I (Gas Shielded)  4
WLD 142  Flux-Cored Arc Welding II (Self Shielding)  4
Total Credits  14

GAS TUNGSTEN ARC WELDING CERTIFICATION PREPARATION CAREER PATHWAY CERTIFICATE
Minimum 12 credits. Students must meet all certificate requirements. The Gas Tungsten Arc Welding Certification Preparation Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

Gas Tungsten Arc Welding Certification Preparation Certificate Courses
WLD 221  Gas Tungsten Arc Welding Mild Steel  4
WLD 222  Gas Tungsten Arc Welding: Aluminum  4
WLD 223  Gas Tungsten Arc Welding: Stainless Steel  4
Total Credits  12

GAS TUNGSTEN ARC WELDING CUSTOMIZED CAREER PATHWAY CERTIFICATE
Minimum 12 credits. Students must meet all certificate requirements. The Gas Tungsten Arc Welding Customized Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

Gas Tungsten Arc Welding Customized Certificate Courses
WLD 126A  Beginning Gas Tungsten Arc Welding (Heliarc)  3
WLD 126B  Basic Gas Tungsten Arc Welding (Heliarc)  3
WLD 226A  Intermediate Gas Tungsten Arc Welding (Heliarc)  3
WLD 226B  Advanced Gas Tungsten Arc Welding (Heliarc)  3
Total Credits  12

GENERAL FABRICATION PREPARATION CAREER PATHWAY CERTIFICATE
Minimum 12 credits. Students must meet all certificate requirements. The General Fabrication Preparation Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.
### General Fabrication Preparation Certificate Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 260</td>
<td>Beginning Fabrication</td>
<td>4</td>
</tr>
<tr>
<td>WLD 261</td>
<td>Basic Fabrication</td>
<td>4</td>
</tr>
<tr>
<td>WLD 262</td>
<td>Intermediate Fabrication</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
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</tr>
</tbody>
</table>

### Metal Fabrication Customized Certificate Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>WLD 176B</td>
<td>Basic Fabrication Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 176A</td>
<td>Beginning Fabrication Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 276A</td>
<td>Intermediate Fabrication Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 276B</td>
<td>Advanced Fabrication Welding Practice</td>
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</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

### Pipe Welding Certification Preparation Career Pathway Certificate

Minimum 24 credits. Students must meet all certificate requirements. The Pipe Welding Certification Preparation Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

#### Pipe Welding Certification Preparation Certificate Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 224</td>
<td>Gas Tungsten Arc Welding: (Mild Steel) Pipe I</td>
<td>4</td>
</tr>
<tr>
<td>WLD 225</td>
<td>Gas Tungsten Arc Welding: (Mild Steel) Pipe II</td>
<td>4</td>
</tr>
<tr>
<td>WLD 256</td>
<td>Preparation for Pipe Certification I</td>
<td>4</td>
</tr>
<tr>
<td>WLD 257</td>
<td>Preparation for Pipe Certification II</td>
<td>4</td>
</tr>
<tr>
<td>WLD 258</td>
<td>Preparation for Downhill Pipe Certification I</td>
<td>4</td>
</tr>
<tr>
<td>WLD 259</td>
<td>Preparation for Downhill Pipe Certification II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
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</tr>
</tbody>
</table>

### Pipe Welding Customized Certificate

Minimum 12 credits. Students must meet all certificate requirements. The Pipe Welding Customized Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

#### Pipe Welding Customized Certificate Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 146A</td>
<td>Beginning Pipe Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 146B</td>
<td>Basic Pipe Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 246A</td>
<td>Intermediate Pipe Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 246B</td>
<td>Advanced Pipe Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

### Shielded Metal Arc Welding Certification Preparation Career Pathway Certificate

Minimum 16 credits. Students must meet all certificate requirements. The Shielded Metal Arc Welding Certification Preparation Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

#### Shielded Metal Arc Welding Certification Preparation Certificate Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 111</td>
<td>Shielded Metal Arc Welding (E7024) and Oxy-acetylene Cutting</td>
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</tr>
<tr>
<td>WLD 112</td>
<td>Shielded Metal Arc Welding: Mild Steel I (E7018)</td>
<td>4</td>
</tr>
<tr>
<td>WLD 113</td>
<td>Shielded Metal Arc Welding: Mild Steel II (E7018)</td>
<td>4</td>
</tr>
<tr>
<td>WLD 151</td>
<td>SMAW Certification Practice: Unlimited Thickness Mild Steel</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td><strong>16</strong></td>
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</tbody>
</table>

### Shielded Metal Arc Welding Customized Certificate

Minimum 12 credits. Students must meet all certificate requirements. The Shielded Metal Arc Welding Customized Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

#### Shielded Metal Arc Welding Customized Certificate Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 116A</td>
<td>Beginning Shielded Metal Arc Welding</td>
<td>3</td>
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<tr>
<td>WLD 116B</td>
<td>Basic Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 216A</td>
<td>Intermediate Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 216B</td>
<td>Advanced Metal Arc Welding</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

### Welding Certification Preparation Customized Career Pathway Certificate

Minimum 12 credits. Students must meet all certificate requirements. The Welding Certification Preparation Customized Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

#### Welding Certification Preparation Customized Certificate Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLD 186A</td>
<td>Beginning Certification Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 186B</td>
<td>Basic Certification Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 286A</td>
<td>Intermediate Certification Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td>WLD 286B</td>
<td>Advanced Certification Welding Practice</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

### Welding Technology Career Pathway Certificate

Minimum 44 credits. Students must meet all certificate requirements. The Welding Technology Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

#### Welding Technology Certificate Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>WLD 102</td>
<td>Blueprint Reading</td>
<td>4</td>
</tr>
<tr>
<td>WLD 111</td>
<td>Shielded Metal Arc Welding (E7024) and Oxy-acetylene Cutting</td>
<td>4</td>
</tr>
<tr>
<td>WLD 112</td>
<td>Shielded Metal Arc Welding: Mild Steel I (E7018)</td>
<td>4</td>
</tr>
<tr>
<td>WLD 113</td>
<td>Shielded Metal Arc Welding: Mild Steel II (E7018)</td>
<td>4</td>
</tr>
<tr>
<td>WLD 131</td>
<td>Gas Metal Arc Welding</td>
<td>4</td>
</tr>
<tr>
<td>WLD 132</td>
<td>Gas Metal Arc Welding-Pulse</td>
<td>4</td>
</tr>
<tr>
<td>WLD 141</td>
<td>Flux-Cored Arc Welding I (Gas Shielded)</td>
<td>4</td>
</tr>
<tr>
<td>WLD 142</td>
<td>Flux-Cored Arc Welding II (Self Shielding)</td>
<td>4</td>
</tr>
<tr>
<td>WLD 151</td>
<td>SMAW Certification Practice: Unlimited Thickness Mild Steel</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Total Credits</strong></td>
<td><strong>44</strong></td>
</tr>
</tbody>
</table>
WELDING TECHNOLOGY

WLD 152  Flux Cored Arc Welding (Gas Shielded) Certification Practice 4
WLD 153  Flux Cored Arc Welding (Self shielding) Cert. Practice 4

Total Credits 44

WIRE WELDING CERTIFICATION PREPARATION CAREER PATHWAY CERTIFICATE

Minimum 24 credits. Students must meet all certificate requirements. The Wire Welding Certification Preparation Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

Wire Welding Certification Preparation Certificate Courses

WLD 131  Gas Metal Arc Welding 4
WLD 132  Gas Metal Arc Welding-Pulse 4
WLD 141  Flux-Cored Arc Welding I (Gas Shielded) 4
WLD 142  Flux-Cored Arc Welding II (Self Shielding) 4
WLD 152  Flux Cored Arc Welding (Gas Shielded) Certification Practice 4
WLD 153  Flux Cored Arc Welding (Self shielding) Cert. Practice 4

Total Credits 24

WIRE WELDING CUSTOMIZED CAREER PATHWAY CERTIFICATE

Minimum 12 credits. Students must meet all certificate requirements. The Wire Welding Customized Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

Wire Welding Customized Preparation Certificate Courses

WLD 136A  Beginning Wire Welding 3
WLD 136B  Basic Wire Welding 3
WLD 236A  Intermediate Wire Welding 3
WLD 236B  Advanced Wire Welding 3

Total Credits 12

WIRE AND TIG WELDING CAREER PATHWAY CERTIFICATE

Minimum 44 credits. Students must meet all certificate requirements. The Wire and TIG Welding Pathway Certificate is a Career Pathway. All courses are contained in the Welding AAS Degree.

Wire and TIG Welding Pathway Certificate Courses

WLD 101  Welding Processes & Applications 4
WLD 102  Blueprint Reading 4
WLD 131  Gas Metal Arc Welding 4
WLD 132  Gas Metal Arc Welding-Pulse 4
WLD 141  Flux-Cored Arc Welding I (Gas Shielded) 4
WLD 142  Flux-Cored Arc Welding II (Self Shielding) 4
WLD 152  Flux Cored Arc Welding (Gas Shielded) Certification Practice 4
WLD 153  Flux Cored Arc Welding (Self shielding) Cert. Practice 4
WLD 221  Gas Tungsten Arc Welding Mild Steel 4
WLD 222  Gas Tungsten Arc Welding: Aluminum 4
WLD 223  Gas Tungsten Arc Welding: Stainless Steel 4

Total Credits 44

WLD 101. Welding Processes & Applications. 4 Credits.
Covers welding processes, safety, equipment, and essential variables of operation. Prerequisite: (RD 90 or IRW 90) and MTH 20. Prerequisite/concurrent: WR 90 or IRW 90. Audit available.

WLD 102. Blueprint Reading. 4 Credits.
Covers the language of blueprints including lines, views, dimensioning, print organization, welding symbols and structural shapes. Prerequisites: WR 80, MTH 20. Prerequisite/concurrent: RD 90 or IRW 90. Audit available.

WLD 111. Shielded Metal Arc Welding (E7024) and Oxy-acetylene Cutting. 4 Credits.
Covers uses, safety, nomenclature, equipment operation, set-up and shutdown procedures for SMAW and OAC. Prerequisite: Department permission required. Audit available.

WLD 112. Shielded Metal Arc Welding: Mild Steel I (E7016). 4 Credits.
Develops knowledge and skills in the use of E7016 mild steel electrodes when performing various welds in the flat, horizontal and vertical positions. Prerequisite: Department permission required. Audit available.

WLD 113. Shielded Metal Arc Welding: Mild Steel II (E7018). 4 Credits.
Develops knowledge and skills in the use of E7018 mild steel electrodes when performing various welds in the vertical and overhead positions. Prerequisite: Department permission required. Audit available.

WLD 114. Shielded Metal Arc Welding: Mild Steel III (E6011). 4 Credits.
Develops knowledge and skills in the use of E6011 mild steel electrodes when performing various welds in the flat, horizontal and vertical positions. Prerequisite: Department approval required. Audit available.

WLD 115. Shielded Metal Arc Welding: Mild Steel IV (E6011). 4 Credits.
Develops knowledge and skills in the use of E6011 mild steel electrodes when performing welds in the vertical and overhead positions. Prerequisite: Department permission required. Audit available.

WLD 116A. Beginning Shielded Metal Arc Welding. 3 Credits.
Introduces intermediate shielded metal arc welding process on mild steel plate in accordance with AWS D1.1 Structural Steel welding codes and to industry standards. Introduces welding in the 1F and 2F positions. First class in a four course sequence. Audit available.

WLD 116B. Basic Welding Practice. 3 Credits.
Introduces intermediate shielded metal arc welding practice on mild steel plate in accordance with AWS D1.1 Structural Steel welding codes and to industry standards. Introduces welding in the 3F and 4F positions. Second class in a four course sequence. Audit available.

WLD 126A. Beginning Gas Tungsten Arc Welding (Heliarc). 3 Credits.
Introduces gas tungsten arc welding and industry standards. Weld common joint configurations in the 1F and 2F positions. Develops foundational skills required for advancement in future coursework. First class in a four course sequence. Audit available.

WLD 126B. Basic Gas Tungsten Arc Welding (Heliarc). 3 Credits.
Introduces gas tungsten arc welding and industry standards. Weld common joint configurations in the 3F and 4F positions. Develops foundational skills required for advancement in future coursework. Second class in a four course sequence. Audit available.

WLD 131. Gas Metal Arc Welding. 4 Credits.
Develops knowledge and skills welding with GMAW on ferrous materials using short circuit and axial spray transfers in common welding positions. Prerequisite: Department permission required. Audit available.

WLD 132. Gas Metal Arc Welding-Pulse. 4 Credits.
Develops knowledge and skills using the gas metal arc welding - pulse transfer process on common mild steel and aluminum joints in all positions. Prerequisite: Department permission required. Audit available.

WLD 136A. Beginning Wire Welding. 3 Credits.
Introduces common weld joint in the 1F and 2F positions. Develops foundational skills required for advancement in future coursework. First class in a four course sequence. Audit available.

WLD 136B. Basic Wire Welding. 3 Credits.
Develops basic welding skills and industry standards as they apply to the wire welding process. Introduces common weld joints in the 2F and 3F positions. Develops foundational skills required for advancement in future coursework. Second class in a four course sequence. Audit available.

WLD 141. Flux-Cored Arc Welding I (Gas Shielded). 4 Credits.
Develops knowledge and skills in the flux shielded flux-cored arc welding process in the flat, vertical, horizontal and overhead positions. Prerequisite: Department permission required. Audit available.
WLD 142. Flux-Cored Arc Welding II (Self Shielding). 4 Credits.
Develops knowledge skills in the self-shielded flux cored arc welding process in the flat, vertical, horizontal and overhead positions. Prerequisite: Department permission required. Audit available.

WLD 146A. Beginning Pipe Welding Practice. 3 Credits.
Introduces joining pipe per ASME Section IX and industry standards. First class in a four course sequence. Audit available.

WLD 146B. Basic Pipe Welding Practice. 3 Credits.
Introduces joining pipe in the 2G position per ASME Section IX Welding Code. Second class in a four course sequence. Audit available.

WLD 151. SMAW Certification Practice: Unlimited Thickness Mild Steel. 4 Credits.
Checks safety, welding technique, and qualification procedures in compliance with AWS D1.1 Structural Welding Test with the E7018 electrode. Prerequisite: Department permission required. Audit available.

WLD 152. Flux Cored Arc Welding (Gas Shielded) Certification Practice. 4 Credits.
Checks safety, welding technique, and qualification procedures in compliance with AWS D1.1 structural test. Prerequisite: Department permission required. Audit available.

WLD 153. Flux Cored Arc Welding (Self shielding) Cert. Practice. 4 Credits.
Checks safety, welding technique, and qualification procedures in compliance with AWS D1.1 structural test. Prerequisite: Department permission required. Audit available.

WLD 156A. Beginning Oxy-Acetylene Welding Practice. 3 Credits.
Introduces the joining of plate using oxygen-fuel welding. First class in a four course sequence. Audit available.

WLD 156B. Basic Oxy-Acetylene Welding Practice. 3 Credits.
Introduces the joining of plate using oxygen-fuel welding. Second class in a four course sequence. Audit available.

WLD 166A. Beginning Weld Practice Metal Sculpting. 3 Credits.
Introduces welding processes and weld shop safety. Safety and operation of the oxy-acetylene cutting process as well as an overview of multiple weld processes and their essential variables as related to the fabrication of metal sculpture. First class in a four course sequence. Audit available.

WLD 166B. Basic Weld Practice Metal Sculpting. 3 Credits.
Reviews, incorporates and builds upon material presented in WLD 166A. Introduces common weld joints as they apply to the fabrication of metal sculpture. Second class in a four course sequence. Audit available.

WLD 176A. Beginning Fabrication Welding Practice. 3 Credits.
Introduces beginning fabrication of welded structures. First class in a four course sequence. Audit available.

WLD 176B. Basic Fabrication Welding Practice. 3 Credits.
Introduction to basic fabrication of welded structures. Develops foundational skills required for advancement. Second class in a three course sequence. Audit available.

WLD 186A. Beginning Certification Welding Practice. 3 Credits.
Introduces preparing and joining plates for certification as per AWS D1.1 Structural Steel Welding codes. First class in a four course sequence. Audit available.

WLD 186B. Basic Certification Welding Practice. 3 Credits.
Introduces preparing and joining plates in the 2G position for certification as per AWS D1.1 Structural Steel Welding codes. Second class in a four course sequence. Audit available.

WLD 190A. Beginning Welding Practice. 1 Credit.
Introduces welding and industry standards. Develops foundational skills required for advancement in future coursework. First class in a three course sequence. Audit available.

WLD 190B. Basic Welding Practice. 2 Credits.
Develops basic knowledge and practice with a welding process and perform welding in accordance with industry standards. Develops foundational skills required for advancement in future coursework. Second class in a three course sequence. Audit available.

WLD 190C. Intermediate Welding Practice. 3 Credits.
Introduction to the fillet weld in the 3F and 4F position to build the skills required to successfully certify in accordance with AWS D1.1 Welding Code. This class in a three course sequence. Audit available.

WLD 203. Structural Steel Welding Code & Standards. 4 Credits.
Develops technical knowledge necessary for the reading and understanding of the AWS Structural Steel Welding Code, D1.1. Enables the use of a systematic method in the application and understanding of the Structural Steel Welding Code. Prerequisite: MTH 20. Prerequisite/concurrent: (WR 90 or IRW 90) and (RD 115 or IRW 115). Audit available.

WLD 210. Aviation Welding. 2 Credits.
Introduces basic knowledge and manipulative skills with oxy-acetylene welding, torch brazing, and gas tungsten arc welding processes on steel and aluminum when performing various welds. Training will conform to current FAA 14CFR Part 147 requirements. Prerequisites: Placement into RD 90 or higher; placement into WR 90 or higher; MTH 60 or higher; AMT 101 with a "C" or higher. Audit available.

WLD 211. Auto Collision Repair Welding Aluminum. 2 Credits.
Develops knowledge and manipulative skills using the Gas Metal Arc Welding-Pulse transfer process on aluminum performing various welds to I-CAR industry standards. Covers safety, uses, nomenclature, equipment operation and set up and shut down procedures. Audit available.

WLD 216. Miscellaneous Electrodes & Advanced Positions. 4 Credits.
Introduces intermediate and advanced welding positions. Develops knowledge in the use of a variety of welding electrodes when welding complex joints in advanced positions. Prerequisites: WLD 114, WLD 151, WLD 152, and department permission required. Audit available.

WLD 216A. Intermediate Welding Practice. 3 Credits.
Introduces intermediate shielded metal arc welding process in accordance with AWS D1.1 Structural Steel Welding Codes, and to industry standards. Weld mild steel in the 3F and 4F positions. Third class in a four course sequence. Audit available.

WLD 216B. Advanced Metal Arc Welding. 3 Credits.
Introduces intermediate shielded metal arc welding, in accordance with AWS D1.1 Structural Steel Welding Codes, and to industry standards. Weld mild steel in the 3G and 4G positions. Fourth class in a four course sequence. Audit available.

WLD 217. Diesel Welding. 3 Credits.
Introduces joining of plate using oxy-fuel welding. Second class in a four course sequence. Audit available.

WLD 221. Gas Tungsten Arc Welding Mild Steel. 4 Credits.
Develops knowledge and skills in the use of a variety of welding electrodes when welding common joints in all positions on mild steel using the Gas Tungsten Arc Welding (GTAW) process. Prerequisite: Department permission required. Audit available.

WLD 222. Gas Tungsten Arc Welding: Aluminum. 4 Credits.
Develops knowledge and skills required to weld common joints in all positions on aluminum using the gas tungsten arc welding (GTAW) process. Prerequisite: Department permission required. Audit available.

WLD 223. Gas Tungsten Arc Welding: Stainless Steel. 4 Credits.
Develops knowledge and skills required to weld common joints in all positions on stainless steel using the gas tungsten arc welding (GTAW) process. Prerequisite: Department permission required. Audit available.

WLD 224. Gas Tungsten Arc Welding: (Mild Steel) Pipe I. 4 Credits.
Develops knowledge and skills required to weld mild steel pipe in all positions using the gas tungsten arc welding (GTAW) process. Prerequisite: Department permission required. Audit available.

WLD 225. Gas Tungsten Arc Welding: (Mild Steel) Pipe II. 4 Credits.
Develops knowledge and skills required to weld two-inch diameter schedule 80 mild steel pipe in the 5G and 6G positions using the gas tungsten arc welding (GTAW) process. Prerequisite: Department permission required. Audit available.

WLD 226A. Intermediate Gas Tungsten Arc Welding (Heliiarc). 3 Credits.
Introduces gas tungsten arc welding on Aluminum to industry standards. Weld common joint configurations. Develops foundational skills required for advancement in future course work. Third class in a four course sequence. Audit available.

WLD 226B. Advanced Gas Tungsten Arc Welding (Heliiarc). 3 Credits.
Introduces gas tungsten arc welding on Stainless Steel to industry standards. Welds common joint configurations. Develops foundational skills required for advancement in future course work. Fourth class in a four course sequence. Audit available.

WLD 236A. Intermediate Wire Welding. 3 Credits.
Introduces welding in the 3F and 3G positions and welding quality as it applies to industry standards in the wire welding process. Develops foundational skills required for advancement in future coursework. Third class in a four course sequence. Audit available.

WLD 2018-19
WLD 238B. Advanced Wire Welding. 3 Credits.
Introduces welding in 4F and 4G positions. Puddles and heat control in the overhead position. Knowledge of weld quality as it applies to the wire welding process. Develops foundational skills required for "out of position welding." Fourth class in a four course sequence. Audit available.

WLD 246A. Intermediate Pipe Welding Practice. 3 Credits.
Introduces joining pipe in the 6G position per ASME Section IX Welding Code. Third class in a four course sequence. Audit available.

WLD 246B. Advanced Pipe Welding Practice. 3 Credits.
Introduces joining pipe in the 5G position per ASME Section IX Welding Code. Fourth class in a four course sequence. Audit available.

WLD 253. SMAW Certification Practice 3/8" Mild Steel (E6011). 4 Credits.
Provides an opportunity to practice for the American Welding Society Mild Steel Welding Certification tests using SMAW mild steel electrodes in the horizontal, vertical and overhead positions. Prerequisite: Department permission required. Audit available.

WLD 254. SMAW Certification Practice 3/8" Mild Steel (E7018). 4 Credits.
Provides an opportunity to practice for the American Welding Society Mild Steel Welding Certification tests using SMAW low hydrogen electrodes in the vertical, horizontal and overhead positions. Prerequisite: Department permission required. Audit available.

WLD 256A. Intermediate Oxy-Acetylene Welding Practice. 3 Credits.
Introduces the joining of plate using oxy-fuel welding. Third class in a four course sequence. Audit available.

WLD 256B. Advanced Oxy-Acetylene Welding Practice. 3 Credits.
Introduces the advanced joining techniques of plate using oxy-fuel welding. Fourth class in a four course sequence. Audit available.

WLD 257. Preparation for Pipe Certification I. 4 Credits.
Develops knowledge and skills in the use of melt-through procedures in preparation for pipe welding with the shielded metal arc process. Prerequisite: Department permission required. Audit available.

WLD 258. Preparation for Downhill Pipe Certification I. 4 Credits.
Provides an opportunity to practice using the downhill SMAW process to weld pipes in the basic position (2G) for pipe certification. Prerequisite: Department permission required. Audit available.

WLD 259. Preparation for Downhill Pipe Certification II. 4 Credits.
Provides an opportunity to practice using the downhill SMAW process to weld pipes in the advanced positions (5G and 6G) for pipe certification. Prerequisite: Department permission required. Audit available.

WLD 260. Beginning Fabrication. 4 Credits.
Develops knowledge and skills in the selection and use of layout tools and equipment to assemble a beginning fabrication project from given specifications. Prerequisite: Department approval required. Audit available.

WLD 261. Basic Fabrication. 4 Credits.
Develops knowledge and skills in the selection and use of layout tools and equipment to assemble a basic fabrication project from given specifications. Prerequisite: Department permission required. Audit available.

WLD 262. Intermediate Fabrication. 4 Credits.
Develops knowledge and skills in the proper selection and safe use of hand tools and machinery while working on specific fabrication projects. Prerequisite: Department permission required. Audit available.

WLD 263. Welding Technology - Capstone. 4 Credits.
Provides an opportunity to demonstrate readiness for welding employment through the development and performance of a comprehensive welding project and the successful completion of an industry-based written assessment. Requires: Completion of One-Year Certificate in Welding Technology. Prerequisite/concurrent: WLD 260 or WLD 261. Audit available.

WLD 266A. Intermediate Weld Practice Metal Sculpting. 3 Credits.
Focuses on producing grade quality welds as they apply to the fabrication of metal sculpture. Introduces AWSD1.1 welding code and visual inspection techniques. Third class in a four course sequence. Audit available.

WLD 266B. Advanced Weld Practice Metal Sculpting. 3 Credits.
Reviews, practice and strengthen previously learned welding techniques in the fabrication of welded metal sculpture. Fourth class in a four course sequence. Audit available.

WLD 271. Oxy-acetylene Welding Projects. 4 Credits.
Develops knowledge and skills for welding and brazing common joints in all positions using the oxy-acetylene process. Prerequisites: Department permission required. Audit available.