This Program of Study may serve as a graduation guide for the next four plus years, along with other career planning and educational materials. Courses listed in this model may include recommended coursework and should be individualized to students’ educational and career goals. Each graduation plan needs to meet minimum high school graduation requirements. Dual Enrollment courses can be high school academic and/or career technical education courses.

### PROGRAM OF STUDY: Welding

**Welding Program of Study:**

**Pathway Completer**
- Industry Fundamentals & Occupational Safety
- Introduction to Metals
- Welding I

#### Postsecondary Certificate (Pathway Completer)

**Required/Selective Electives**
- Health & Personal Fitness (can be taken in grades 9-12)
- Introduction to Business Technology
- Financial Literacy
- Welding II

**Pathway Description**

Construction is one of the nation’s largest industries with over 7 million wage and salary jobs and 1.9 million self-employed workers. Construction includes the building of new structures as well as additions and modifications to existing ones. The construction industry also includes maintenance, repair and improvements on these structures. Workers are required to complete extensive on-the-job-training, apprenticeships, and/or technical college programs. Employment of welders, cutters, solderers, and brazers is expected to grow 15 percent from 2014 to 2024, about as fast as the average for all occupations. This employment growth reflects the need for welders in manufacturing because of the importance of welding as part of the manufacturing process. Welders can easily move from one industry to another because basic welding skills are the same across industries. Welders who work in the automotive manufacturing industry can find work in the oil and gas industry. Growth in the defense industry as well as the need to rebuild bridges, highways and aging buildings will contribute to employment growth. Overall job prospects will vary by skill level. Job prospects should be good for welders trained in the latest technologies. Welding schools report that graduates have little difficulty finding work, but many welding employers report difficulty finding properly skilled welders. However, welders who do not have up-to-date training may face competition for jobs. For all welders, job prospects should be better for those willing to relocate.

#### Welding Career Pathway Completers - Industry Credentialing for High School Students

Upon completion of sequenced courses in the Welding Pathway, students are eligible to complete the Industry-Recognized student credential for fulfillment of the End of Pathway Assessment. Secondary students completing the Welding pathway will be able to sit for the National Industry Credentialed assessment offered on-line from AWS, NCCER, Skills USA, and NOCTI. Once mastery is reached, students will receive recognition for completion and use this credential in conjunction with their job or continuing training. For specific assessment information, refer to: [http://bit.ly/ArchConstEOPA](http://bit.ly/ArchConstEOPA).

### Sample In Demand Careers in Georgia

<table>
<thead>
<tr>
<th>Occupation Specialties</th>
<th>Level of Education Needed</th>
<th>Georgia Average Salary</th>
<th>Annual Average Openings in Georgia</th>
<th>2018 – 2028 Employment Outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural Iron &amp; Steel Workers</td>
<td>High School Diploma</td>
<td>$38,523</td>
<td>33</td>
<td>In Demand, High Skill</td>
</tr>
<tr>
<td>Boilermakers</td>
<td>High School Diploma</td>
<td>$58,177</td>
<td>11</td>
<td>High Skill, High Wage</td>
</tr>
<tr>
<td>Welders, Cutters &amp; Welder Fitters</td>
<td>Postsecondary Certificate</td>
<td>$36,175</td>
<td>371</td>
<td>In Demand, High Skill</td>
</tr>
<tr>
<td>Sheet Metal Workers</td>
<td>Postsecondary Certificate</td>
<td>$43,460</td>
<td>142</td>
<td>In Demand, High Skill</td>
</tr>
</tbody>
</table>

**Related Pathway Occupations**
- Welders, Cutters & Welder Fitters
- Boilermakers
- Metallurgical Workers
- Reinforcing Iron & Rebar Workers
- Pipe Workers
- Machinists
- Carpenters

**Other Related Occupations**
- Sheet Metal Workers
- Plumbers
- Electricians
- Tool & Die Workers

**O*NET Online**
**PROGRAM OF STUDY:**

**Welding**

NOTE: Students have many options to ENTER and EXIT from their academic studies into the workforce. When a student graduates from high school, they are eligible to choose one of many ENTRANCE POINT options: 1. Enroll in either a 2- or 4-year post-secondary program; 2. Enroll in an apprenticeship program or the military; or 3. Enter the workforce using technical skills learned in high school. When a student finishes a 2- or 4-year degree program, they may choose to EXIT and 1. Enroll in an apprenticeship program or the military; 2. Enroll in a professional university degree program; or 3. Enter the workforce using technical skills learned.

### POSTSECONDARY:

<table>
<thead>
<tr>
<th>TCC</th>
<th>DIPLOMA OR AAS</th>
<th>BACHELOR OF SCIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS31 Basic Shielded Metal Arc Welder TCC</td>
<td>WAJ2 Welding and Joining Technology Diploma</td>
<td>The University System of Georgia offers students’ higher education options at 30 institutions throughout the state, providing a wide range of academic programming including certificates and associate, baccalaureate, masters, doctoral and professional degrees. <a href="https://apps.ds.usg.edu/ords/f?p=118:1:0:::USG_Staying_on_Course">https://apps.ds.usg.edu/ords/f?p=118:1:0:::USG_Staying_on_Course</a></td>
</tr>
<tr>
<td>WELD 1010 Oxyfuel and Plasma Cutting</td>
<td>WELD 1030 Blueprint Reading for Welding Technology</td>
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<tr>
<td>WELD 1040 Flat Shielded Metal Arc Welding</td>
<td>WELD 1050 Horizontal Shielded Metal Arc Welding</td>
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<td>WELD 1060 Vertical Shielded Metal Arc Welding</td>
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<td>WELD 1070 Overhead Shielded Metal Arc Welding</td>
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<td>WELD 1090 Gas Metal Arc Welding</td>
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<td>WELD 1110 Gas Tungsten Arc Welding</td>
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<tr>
<td></td>
<td>WELD 1120 Preparation for Industrial Certification</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 Credits Occupational Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COMP 1000 Introduction to Computer Literacy</td>
<td></td>
</tr>
</tbody>
</table>

Go to GAfutures at [www.gafutures.org](http://www.gafutures.org) for more information about your education and career planning, including valuable financial information (grants and scholarships including HOPE Program, grants, and loans, FAFSA, and CSS forms).

### Career Enhancement Opportunities

- Career Awareness
- Career Exploration
- Instructional Related
- Connecting
- Work-Based Learning
- Employability Skill Dev.
- Cooperative Education
- Internship
- Youth Apprenticeship
- Clinicals

### Postsecondary Options:

- 4-Year Universities/COLLEGES
- 2-Year Colleges
- Technical Colleges
- State Registered Apprenticeships
- Special Purpose Schools
- On-the-Job Training
- Military

### Earning Postsecondary Credits While in High School

- Dual Enrollment Program
- Earn postsecondary credit while in high school
- You can complete
  - Industry Credential
  - Technical Certificate of Credit (TCC)
  - Associates of Applied Science Degree
  - Bachelor’s Degree
- Who can help?
  - Parents
  - School Counselor
  - Advisor

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