



*Career Opportunities in  
Welding Technology*  
**WELDER (Certificate Programs)**



**Nature of the Occupation:**

Welders join metal parts using heat and/or pressure to form a permanent bond. Parts are welded to manufacture products, build structures, or to repair broken or cracked parts. Welders are important because they permanently join metals in an efficient and economic way. Welders generally work from drawings or specifications that are already laid out. Some of their duties may include:

- selecting proper welding equipment and accessories.
- adjusting equipment to properly weld materials.
- applying proper heat and/or pressure to bond the materials.
- setting machine guides and work-holding devices.
- aligning and feeding the work piece and removing it after the weld is completed.

**Education and Training:**

Certificate options and an associate in applied science degree are available. Courses in blueprint reading, shop mathematics, mechanical drawing, and welding processes are useful. Knowledge of computers is gaining in importance, especially for welding machine operators.

**Certification and Advancement:**

Some welding positions require general certifications in welding or certifications in specific skills such as inspection or robotic welding. The American Welding Society certification courses are offered at Tyler Junior College. Some employers have developed their own internal certification tests. Welding, soldering, and brazing workers need good eyesight, hand-eye coordination, and manual dexterity. They should be able to concentrate on detailed work for long periods and be able to bend, stoop, and work in awkward positions. In addition, welders increasingly must be willing to receive training and perform tasks in other production jobs. Welders can advance to more skilled welding jobs with additional training and experience. For example, they may become welding technicians, supervisors, inspectors, or instructors. Some experienced welders open their own repair shops. Other welders, especially those who obtain a bachelor's degree, become welding engineers.

**Salary Range:**

\$20,400 - \$48,600 per year

**Employment Outlook:**

Retirements and job growth in the oil and gas and other industries are expected to create excellent opportunities for welders. Welding schools report that graduates have little difficulty finding work, and some welding employers report difficulty finding trained welders. Employment of welding, soldering, and brazing workers is expected to grow about 5% over the 2006-16 decade.

Note: Information and data obtained from Occupational Outlook Handbook and CareerOneStop.

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**TYLER JUNIOR COLLEGE  
2009-2010 CATALOG  
WELDING TECHNOLOGY**

(THEA/TASP Waived Certificate Programs)

**Certificate of Proficiency, Entry Level – WLDG\_EL\_CERT  
(THEA/TASP Waived)**

**Fall Semester**

WLDG 1428 Introduction to Shielded Metal Arc  
Welding (SMAW)  
WLDG 1457 Intermediate Shielded Metal Arc  
Welding (SMAW)  
WLDG 1313 Introduction to Blueprint Reading  
for Welders

**Spring Semester**

WLDG 2443 Advanced Shielded Metal Arc Welding (SMAW)  
WLDG 1430 Introduction to Gas Metal Arc Welding (GMAW)  
WLDG 1453 Intermediate Layout and Fabrication

**Summer Session I**

WLDG 2447 Advanced Metal Arc Welding (GMAW)

**Summer Session II**

WLDG 1412 Introduction to Flux-cored Welding (FCAW)

**Total Semester Hours: 31**

**Certificate of Proficiency, Advanced Level – WLDG\_AL\_CERT  
(THEA/TASP Waived)**

**Fall Semester**

WLDG 1435 Introduction to Pipe Welding  
WLDG 2453 Advanced Pipe Welding

**Spring Semester**

WLDG 1434 Introduction to Gas Tungsten Arc  
Welding (GTAW)  
WLDG 2451 Advanced Gas Tungsten Arc  
Welding (GTAW)

**Summer Session I**

WLDG 1327 Welding Codes

**Total Semester Hours: 19**

- Applicants must meet the admission requirements for TJC and achieve minimum scores on tests for Bennett Mechanical Comprehension and reading.
- Department-specific courses must be taken in sequence and may have a prerequisite course. Exceptions must be approved in writing by the department chair.

**FOR MORE INFORMATION, CONTACT:**

**Bryan Baker**  
Department Chair, Industrial Trades  
Tyler Junior College  
1530 SSW Loop 323  
Tyler, Texas 75701  
Phone: (903) 510-2390  
West Campus – TJC Skills Training Center (Welding)  
Office Location: STC 112  
E-mail: [bbak@tjc.edu](mailto:bbak@tjc.edu)

**James King**  
Professor, Industrial Trades  
Tyler Junior College  
1530 SSW Loop 323  
Tyler, Texas 75701  
(903) 510-3754  
West Campus – TJC Skills Training Center (Welding)  
Office Location: STC 110  
E-mail: [jkin@tjc.edu](mailto:jkin@tjc.edu)