



Effective 2013/2014

Career Cluster ►



Career Pathway ►

Production

**WELDING**  
 (31-442-1C) – Pipe Welding  
*Technical Diploma*  
 Most Courses Offered at Elkhorn  
 and Racine Campuses

<sup>Δ</sup> Suggested Sequence	✓	Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1		442-321	* Welding / Gas Metal Arc Welding		3	2-4
		442-322	* Welding / Shielded Metal Arc Welding		3	2-4
		442-323	* Welding / Gas Tungsten Arc Welding		3	2-4
		442-324	* Weld Printreading & Fab. Procedures		2	2-2
		442-334	* Welding / Oxyacetylene		3	2-4
		625-125	* Workplace Safety A MSSC		1	1-0
		801-301	Writing Principles	Prereq: 851-760 (See Note 1)	1	2-0
		804-370	Mathematics I / Applied	Prereq: 854-760 (See Note 1)	2	4-0
Semester 2		442-302	* Metal Fabrication I	Prereq: 442-324	3	2-4
		442-342	* Welding / Pipe Oxyacetylene Fitting	Prereq: 442-334	1	0-2
		442-343	* Welding / Pipe Shielded Metal Arc Welding	Prereq: 442-322	2	2-2
		442-344	* Welding / Pipe Shielded Metal Arc Welding Certification	Prereq: 442-322	2	2-2
		442-345	* Welding / Pipe Gas Tungsten Arc Welding	Prereq: 442-322; 442-323	2	2-2
		442-346	* Welding / Pipe Gas Tungsten Arc Welding Certification	Prereq: 442-323	2	2-2
		442-347	* Welding / Pipe Gas Metal Arc Welding	Prereq: 442-321	2	2-2

**Program Total Required 32**

<sup>Δ</sup> Courses may be taken out of suggested sequence as long as requisites have been met.

Federal regulations require disclosure of the following information for this program:

Books and Supplies	Resident Tuition and Fees	U.S. Department of Labor Standard Occupational (SOC) Code & Occupational Profile – available at <a href="http://www.onetonline.org">http://www.onetonline.org</a>
\$850	\$4,925	<u>Welders, Cutters, Solderers, Brazers (51-4121)</u>



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**PROGRAM DESCRIPTION**

*Welding* provides concentrated instruction, primarily through practical experience, on various welding techniques. The following processes are covered: O-A-Oxyacetylene welding, brazing, and cutting; GMAW-gas metal arc welding (wire, MIG, short arc); GTAW-gas tungsten arc welding (TIG, heliarc); SMAW-shielded metal arc welding (stick, arc), including plasma arc cutting; and robotic welding and cutting.

**PROGRAM LEARNING OUTCOMES**

**Graduates of the Welding Technical Diploma Program should be able to:**

1. Prepare three groups of metal plate (stainless steel, aluminum, and mild steel) for a butt joint.
2. Use correct filler wire on welding machines.
3. Use and demonstrate proper safety gear and equipment.
4. Prepare pipe coupons for welding.
5. Use a WPS for AWS D1.1 and ASME Sec IX.
6. Correctly program housekeeping codes for processes used.
7. Have robots perform operations with 100% accuracy.

**CORE ABILITIES**

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

- |  |   |
|--|---|
| 1. Act responsibly                     | 6. Respect themselves and others as a member of a diverse community |
| 2. Communicate clearly and effectively | 7. Think critically and creatively                                  |
| 3. Demonstrate essential comp. skills  | 8. Work cooperatively   |
| 4. Demonstrate essential math skills   | 9. Value learning   |
| 5. Develop job seeking skills          |   |

**ADMISSION REQUIREMENTS**

1. Students must submit an application & \$30 fee.
2. Students must complete reading, writing, math, and computer skills placement assessments.
3. Students must submit official high school, GED, or HSED transcript.

**GRADUATION REQUIREMENTS**

1. 32 Credits with an average of 2.0 or above.
2. \*Average of 2.0 ("C") or above for these major courses.

*For a complete list of Graduation Requirements check the Student Handbook.*

**NOTES**

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. Safety glasses are required in labs. If prescription glasses are required, allow a minimum of 90 days.
3. A hand calculator capable of trigonometric functions is recommended for 442-324; the cost is approximately \$20.
4. Students are required to have an arc welding helmet, oxy-acet goggles, chipping hammer and welding gloves (leather); the cost is approximately \$50. Students must be prepared to bring their own equipment.
5. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with department approval).
6. Metal fabrication skills may also be enhanced by enrolling in 442-336 Metal Fabrication II.

**OTHER INFORMATION**

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult the Master Class Schedule for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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You may call Student Services at 1-800-247-7122 for additional information.  
For a complete list of course descriptions (and possible online courses) for this program, please consult Web Advisor on our web page at [www.gtc.edu](http://www.gtc.edu).

My advisor is \_\_\_\_\_. My advisor's contact information is \_\_\_\_\_.