



Welding (31-442-1)

Technical Diploma
Effective 2026/2027

The course sequence shown on this sheet is the recommended path to completion. Courses will be scheduled in the terms indicated here. All courses should be taken in the order shown to help you stay on track and graduate according to your academic plan. Courses in this program may be offered in a variety or combination of formats (for example: in-person, video conferencing, online, etc.). More detailed scheduling information for this program can be found at <https://www.gtc.edu/welding>. Please see your academic advisor for additional information.

E-D = Elkhorn/days, R-D = Racine/days, F=Fall, S=Spring, SU=Summer

Term	Course Number	Credits	Course Title	Requisites (prereq- before/ coreq-with)	Notes	E-D	R-D
1	890-155	1	Gateway to Success (G2S)		• Students are required to take this course in their first semester of enrollment. Please see an advisor for details.	F/S/SU	F/S/SU
1	*442-321	3	Welding / Gas Metal Arc Welding			F/S/SU	F/S/SU
1	*442-322	3	Welding / Shielded Metal Arc Welding			F/S/SU	F/S/SU
1	*442-323	3	Welding / Gas Tungsten Arc Welding			F/S/SU	F/S/SU
1	*442-334	3	Welding/Thermal Cutting			F/S/SU	F/S/SU
1	804-370	2	Mathematics I / Applied	Prereq: 854-760	• Satisfactory college placement results (through multiple measures or placement test scores) or successful remediation is required prior to enrollment. See an advisor for details.	F/S/SU	F/S/SU
2	*442-324	2	Weld Printreading & Fab. Procedures			F/S/SU	F/S/SU
2	*457-309	2	Metal Fabrication I		• Faculty have identified this milestone course as providing a strong foundation for success throughout the program.	F/S/SU	F/S/SU
2	*442-330	3	Welding / Adv. Shielded Metal Arc Welding	Prereq: 442-322		F/S/SU	F/S/SU
2	*442-332	3	Welding / Adv. Gas Metal Arc Welding	Prereq: 442-321		F/S/SU	F/S/SU
2	*442-333	3	Welding / Adv. Gas Tungsten Arc Welding	Prereq: 442-323		F/S/SU	F/S/SU
3	*457-336	3	Metal Fabrication II	Prereq: 457-309; 442-324; 442-321; 442-322 or 442-323		F/S/SU	F/S/SU
3	*457-337	3	Metal Fabrication III	Prereq: 804-370; Coreq: 457-336		F/S/SU	F/S/SU
3	*442-308 OR *442-318	3	Welding / Pipe Shield Metal Arc Welding OR Structural Gas Metal Arc Welding	Prereq: 442-321 OR Prereq: 442-321; 442-332		F/S/SU	F/S/SU
3	*442-307 OR *442-317	3	Welding / Pipe Gas Tungsten Arc Welding OR Structural Flux Cored Arc Welding	Prereq: 442-322; 442-323 OR Prereq: 442-321; 442-332		F/S/SU	F/S/SU
3	*442-306 OR *442-316	3	Welding / Pipe Gas Metal Arc Welding OR Structural Shielded Metal Arc Welding	Prereq: 442-321 OR Prereq: 442-322; 442-330		F/S/SU	F/S/SU

Minimum Program Total Credits Required: 43

(*) Students must achieve a combined average of 2.0 ("C") or above for this major course to meet graduation requirements.

Welding (31-442-1)

Welding provides concentrated instruction, primarily through practical experience, on various welding techniques. The following processes are covered Welding/Thermal Cutting, brazing, and cutting; GMAW-gas metal arc welding (wire, MIG, short circuit); GTAW-gas tungsten arc welding (TIG, heliarc); and SMAW-shielded metal arc welding (stick, arc), including robotic welding, pipe welding and cutting.

Program Learning Outcomes

Graduates will be able to:

- 1 Demonstrate Industry recognized safety practices.
- 2 Interpret molding drawings.
- 3 Produce shielded metal arc welds (SMAW).
- 4 Produce gas metal arc welds (GMAW).
- 5 Produce flux cored welds (FCAW).
- 6 Produce gas tungsten arc welds (GTAW).
- 7 Perform cutting operations.

Essential Career Competencies

Gateway's six essential career competencies are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will develop skills in:

- 1 Communication Competence
- 2 Critical Thinking and Problem Solving
- 3 Professionalism and Career Management
- 4 Teamwork and Collaboration
- 5 Cultural Competence
- 6 Technology Competence

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for one year or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. The District reserves the right to modify, cancel, or relocate course offerings in response to factors such as low enrollment, resource availability, or other relevant considerations to ensure high-quality educational experiences. Students will be notified in writing and are encouraged to meet with their Academic Advisor to adjust their academic plan.

Admission Requirements

- 1 Students must submit an application and pay \$30 fee.
- 2 Students must meet one of the following: minimum cumulative high school GPA of 2.6 (unweighted); earned at least 12 college credits with a minimum GPA of 2.0; or complete valid reading, writing, and math placement assessments.

Graduation Requirements

- 1 Minimum 43 credits with a cumulative GPA of 2.0 or above.
- 2 *Average of 2.0 ("C") or above for these major courses.
- 3 Complete 890-155 Gateway to Success (G2S) in the first semester.

For a complete list of Graduation Requirements, check the Student Handbook or [Graduation Requirements](#).

Notes

- 1 Safety glasses are required in labs. If prescription glasses are required, allow a minimum of 90 days before the program start to obtain prescription and glasses.
- 2 Students are required to have an arc welding helmet, oxy-acet goggles, welding gloves (leather), pliers, and tape measure. Students must be prepared to bring their own equipment.
- 3 Welding PPE kits are available at the campus bookstore.

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