Full-Time Pathway to Success

School of Manufacturing, Engineering, and Information Technology

https://www.gtc.edu/welding

Welding (31-442-1)

Technical Diploma

Effective 2025/2026

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.).

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

Term	Course #	Cr.	Course Title	Requisites (prereq- before/ coreq-with)	E-D	R-D
1	890-155	1	Gateway to Success (G2S)		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[1]	Prereq: 854-760	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		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

Notes associated with courses (identified by a superscript number at the end of the course title) are located on the back of the sheet.

Mastery of this course will put students on a path to achieve successful degree completion, on-time graduation, and enrich the college experience. Students are required to take this course in their first semester of enrollment. Please see an advisor for details.

= Milestone Course. Faculty have identified this course as providing a strong foundation for success throughout the program.

(*) indicates students must achieve a combined average of 2.0 ("C") or above for these major courses 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:

- Communication Competence
- Professionalism and Career Management
- Cultural Competence
- Critical Thinking and Problem Solving
- Teamwork and Collaboration
- Technology Competence

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 math placement assessment.

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. Satisfactory college placement results (through multiple measures or placement test scores) 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 before the program start to obtain prescription and glasses.
3. 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.
4. Welding PPE kits are available at the campus bookstore.