## Welding (31-442-1)

Technical Diploma

**Effective 2021/2022**

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.

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

### Minimum Program Total Credits Required: 43

### AVAILABLE CONCENTRATION: ROBOTICS – ONLY AVAILABLE AT THE ELKHORN CAMPUS

Instead of these courses

<table>
<thead>
<tr>
<th>Course #</th>
<th>Cr.</th>
<th>Course Title</th>
<th>Requisites (prereq- before/ coreq-with)</th>
<th>E-D</th>
<th>R-D</th>
</tr>
</thead>
<tbody>
<tr>
<td>*442-308</td>
<td>3</td>
<td>Welding / Pipe Shield Metal Arc Welding</td>
<td>Prereq: *442-303; Coreq: *442-308</td>
<td>F</td>
<td>S</td>
</tr>
<tr>
<td>*442-307</td>
<td>3</td>
<td>Welding / Pipe Gas Tungsten Arc Welding</td>
<td>Prereq: *442-305</td>
<td>F</td>
<td>S</td>
</tr>
<tr>
<td>*442-306</td>
<td>3</td>
<td>Welding / Pipe Gas Metal Arc Welding</td>
<td>Prereq: *442-304</td>
<td>F</td>
<td>S</td>
</tr>
</tbody>
</table>

* 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.

(*) 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: O-A-Oxyacetylene welding, 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 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 reading, writing, and math placement assessments.

Graduation Requirements
1. Minimum 43 credits with an average 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.

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 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.