

Minnesota North College-Mesabi, Eveleth Campus Academic Year 2023-24
Welding, Advanced Diploma (65 credits)

| FIRST YEAR | | CREDITS | HOURS LEC/LAB |
|--|---|----------------|--------------------------|
| FALL SEMESTER 2022 – 16 Credits | | | |
| WELD 1221 | Introduction to Shielded Metal Arc Welding (SMAW) | 1 | 1/0 |
| WELD 1222 | Basic Shielded Metal Arc Welding (SMAW) Skills | 2 | 0/4 |
| WELD 1223 | Shielded Metal Arc Welding (SMAW) Low Hydrogen Skills | 2 | 0/4 |
| WELD 1224 | Shielded Metal Arc Welding (SMAW) Alloyed Metal Skills | 2 | 0/4 |
| WELD 1231 | Introduction to Thermal Cutting Processes | 1 | 1/0 |
| WELD 1232 | Flame Joining Processes | 1 | 0/2 |
| WELD 1233 | Cutting and Gouging Processes | 4 | 0/8 |
| WELD 1234 | Metal Prep Equipment, Operation, and Safety | 1 | .5/1 |
| WELD 1255 | Welding Mathematics | 1 | 1/0 |
| GENS 1170 | Introduction to Computer Applications | 1 | 0/1 |
| SPRING SEMESTER 2023 – 17 Credits | | | |
| WELD 1241 | Blueprint Reading | 1 | 1/0 |
| WELD 1261 | Gas Metal Arc Welding (GMAW) 1 | 1 | .5/1 |
| WELD 1262 | Gas Metal Arc Welding (GMAW) 2 | 2 | 0/4 |
| WELD 1271 | Gas Tungsten Arc Welding (GTAW) 1 | 3 | 1/4 |
| WELD 1272 | Gas Tungsten Arc Welding (GTAW) 2 | 2 | 0/4 |
| WELD 1281 | Flux Core Arc Welding (FCAW) 1 | 2 | 0/4 |
| WELD 1282 | Flux Core Arc Welding (FCAW) 2 | 2 | 0/4 |
| WELD 2257 | Rigging for Welders | 1 | .5/1 |
| COMM 1400 | Communication for Career Success | 3 | 3/0 |
| SECOND YEAR | | | |
| FALL SEMESTER 2023 – 15 Credits | | | |
| WELD 2240 | Properties of Welding 1 | 1 | 1/0 |
| WELD 2242 | Advanced Blueprint Reading | 1 | 1/0 |
| WELD 2244 | Shielded Metal Arc Welding (SMAW) – Structural | 2 | 0/4 |
| WELD 2245 | Gas Tungsten Arc Welding (GTAW) – Pipe and Tube | 3 | 0/6 |
| WELD 2252 | Gas Tungsten Arc Welding (GTAW) 3 | 3 | 0/6 |
| WELD 2265 | Computed Numerically Controlled (CNC) Programming and Cutting | 3 | 2.5/1 |
| WELD 2275 | Stainless Steel Welding | 2 | 0/4 |
| SPRING SEMESTER 2024 – 17 Credits | | | |
| WELD 1251 | Assigned Projects | 1 | 0/2 |
| WELD 2241 | Shielded Metal Arc Welding (SMAW) – Pipe | 5 | 0/10 |
| WELD 2243 | Flux Core Arc Welding (FCAW) 3 | 4 | 0/8 |
| WELD 2251 | Gas Metal Arc Welding (GMAW) 3 | 4 | 0/8 |
| WELD 2253 | Template Development | 2 | 2/0 |
| PDEV 1130 | Employment Strategies | 1 | 1/0 |

PROGRAM DESCRIPTION

Advanced Welding is a 65 credit, 4 semester diploma program which includes the Entry Level Welding Diploma (Semesters 1 and 2) and an additional two semester (3 and 4) of advanced work.

PROGRAM OUTCOMES

- Build skills toward industry standards.
- Build skills toward American Welding Society certifications.
- Work as an effective and dependable team member as well as independently.
- Demonstrate safe work habits that reflect concern and care for self, others, and the environment.
- Develop the skills necessary to secure employment.

Welding, Advanced Diploma

Page 2

ACCREDITATION

The [American Welding Society \(AWS\)](#) was founded in 1919, as a nonprofit organization with a global mission to advance the science, technology and application of welding and allied joining and cutting processes, including brazing, soldering and thermal spraying. AWS strives to move the industry forward in both thought and action, as well as inspire new generations to see the exciting career opportunities available today.

PROGRAM NOTES

- The typical Welding Technology Program student applicant has had some experience with welding and cutting. However, students that have never welded before have successfully completed this program and have gone on to become certified welders.
- Differential tuition is assessed for the WELD courses.

EMPLOYMENT OPPORTUNITIES

Successful graduates have gone to work at USX MinnTac, Virginia, MN; ArcelorMittal Minorca Mine, Virginia, MN; L & M Radiator, Hibbing, MN; Electric Power Door, Hibbing, MN; Furin & Shea, Hibbing, MN; Terex, Grand Rapids, MN; Serco Loaders, Two Harbors Machine, Two Harbors, MN; Stanley/LaBounty, Two Harbors, MN; Savage Trailers, Angora, MN; Boilermakers Local Union; Millwrights Local Union, Virginia, MN; Ironworkers Local Union, Minneapolis, MN; and many places in the Minneapolis/St. Paul Metro Area and the surrounding suburbs. Some have gone out-of-state, and a few have even gone overseas.

Positions include welder, fitter, welder helper, weld shop supervisor, welder/lead-man, welding apprentice trainer, boilermaker, pipefitter, welding robot operator, sheet metal worker, millwright/welder, quality assurance manager, welding inspector, plant superintendent, welding business owner and more.

PROGRAM FACULTY

Dall, Ryan L

218-550-2604

ryan.dall@minnesotanorth.edu

Stitt, Eugene W

218-550-2620

eugene.stitt@minnesotanorth.edu

Washenesky, Randall A

218-550-2624

randall.washenesky@minnesotanorth.edu

MISSION

Minnesota North College prepares lifelong learners and engaged citizens through inclusive, transformative experiences reflecting the character and natural environment of the region.



Minnesota North College, a member of Minnesota State, is an affirmative action, equal opportunity employer and educator.
This document is available in alternate formats upon request by going to www.MinnesotaNorth.edu to obtain the contact information of your home campus Accessibility Services coordinator.

AASC Approval Date: 12-06-2021
Document Updated: 11-13-2023