MINNESOTA STATE COLLEGE SOUTHEAST

Welding Technology

Winona Campus

From day one in Welding Technology at Southeast in Winona, you'll be getting hands-on experience in the welding shop. The program begins with training in safety and the proper handling of tools and shop supplies. Our students become skilled in several welding and cutting processes in a variety of positions, including:

- (OFW) oxy-fuel welding and cutting
- (GMAW) mig welding
- (SMAW) stick welding
- (GTAW) tig welding

Students also learn the proper set up and selection of welding equipment and how to read and perform duties from weld shop blueprints. Since quality is critical, you'll also learn how to inspect your welds to meet today's standards and specifications.

Students in the Welding diploma complete a welding capstone, designing a project from concept on through completion. Plus, there's an option to take an elective on-the-job internship, which can help with finding future employment.

Finally, you'll gain the skill to properly set up, complete, and pass a welding bend test to AWS (American Welding Society) D1.1 standards. With your diploma and this credential, you'll have the skills needed to enter today's welding workforce.

Students who earn the certificate in Welding will be ready to start a career in just one semester, by learning all the welding processes in the flat position. When you're ready to learn more, you can come back for one more semester and complete your diploma within 5 years of finishing the certificate.

MAJORS WITHIN

Welding Technology	Diploma	34 credits
Welding Technology	Certificate	17 credits

Estimated costs for each major including tuition, books and supplies are posted on **southeastmn.edu** under Academics > Academic Programs by Degree.

PROGRAM INSTRUCTOR

Casey Mann is a 1982 graduate of Winona Technical College (now Minnesota State College Southeast). Prior to becoming an instructor at Southeast in 2003, he had 27 years of experience in family-owned shops, large scale fabrication shops, and road crews. Casey has project management experience on multi-million dollar projects that have been shipped throughout the world.

PROGRAM HIGHLIGHTS

Learn correct use of personal safety equipment and apparel and how to protect against injury

Get hands-on experience in the welding lab from day one

Learn a wide range of welding processes needed by today's employers

Rigorous classroom standards will prepare you for employer expectations

CAREER OPPORTUNITIES

Production manufacturing welder
Structural design welder
Custom fabrication
Specialized welding machine operator
Cutter, pipe fitter
Construction welding
Heavy equipment welder
And much more!

JOB PLACEMENT

100%

southeastmn.edu/welding

MINNESOTA STATE COLLEGE SOUTHEAST

Welding

Full-time Sample Program Plans

Please note that these are sample program schedules. Your schedule may vary depending upon your needs, goals, and course availability. Please meet with your advisor to plan your schedule each semester.

Welding Technology - Certificate

Course No.	Course Name	Credits
First Semester (Fall)		
GEN ED	Math	2
GEN ED	Elective (see advisor for approved electives)	1
WELD 1405	Safety, Theory, Blueprints, & Processes	4
WELD 1410	SMAW, Principles of Stick Welding	3
WELD 1415	Oxy-fuel Weld, Cutting & Brazing	1
WELD 1420	GMAW - MIG Wire Feed I	3
WELD 1430	GTAW - Tungsten Inert Gas Weld I	3
Total Required Credits		**17**

Welding Skills Lab - 2 credit class

The Welding Skills Lab Course is open laboratory time on Thursday nights for both the skilled and unskilled welder to improve or develop welding application skills.

Class time offers access to SMAW (stick), GMAW (MIG), FCAW (flux-cored), and GTAW (TIG) welding processes, including enhancement and/or introduction of all 1G, 2G, 3G, and 4G welding positions will also be covered.

To sign up for the welding skills lab only, contact Instructor Casey Mann at 507-453-2748, kmann@southeastmn.edu.

Welding Technology - Diploma
FALL START

Course No.	Course Name	Credits
First Semester (Fall)		
GEN ED	Math Requirement	2
GEN ED	Elective (see advisor for approved electives)	1
WELD 1405	Safety, Theory, Blueprints, & Processes	4
WELD 1410	SMAW, Principles of Stick Welding	3
WELD 1415	Oxy-fuel Weld, Cutting & Brazing	1
WELD 1420	GMAW - MIG Wire Feed I	3
WELD 1430	GTAW - Tungsten Inert Gas Weld I	3
Semester total		**17**
Second Semester (Spring)		
GEN ED	English or Communication Requirement	2
WELD 1425	GMAW-MIG Wire Feed II	3
WELD 1435	GTAW - Tungsten Inert Gas Welding II	3
WELD 1440	Workplace Projects & Fabrication Capstone	3
WELD 1443	Welding Fabrication Project	3
WELD 1450	Welding Internship	3
Semester total		**17**
Total Required Credits		**34**

Welding Technology - Diploma
SPRING START (January 2026)

Course No.	Course Name	Credits
First Semester (Spring)		
GEN ED	English or Communication Requirement	2
GEN ED	Elective (see advisor for approved electives)	1
WELD 1405	Safety, Theory, Blueprints, & Processes	4
WELD 1410	SMAW, Principles of Stick Welding	3
WELD 1415	Oxy-fuel Weld, Cutting & Brazing	1
WELD 1420	GMAW - MIG Wire Feed I	3
WELD 1430	GTAW - Tungsten Inert Gas Weld I	3
Semester total		**17**
Second Semester (Summer)		
GEN ED	Math Requirement	2
WELD 1425	GMAW-MIG Wire Feed II	3
WELD 1435	GTAW - Tungsten Inert Gas Welding II	3
WELD 1440	Workplace Projects & Fabrication Capstone	3
WELD 1443	Welding Fabrication Project	3
WELD 1450	Welding Internship	3
Semester total		**17**
Total Required Credits		**34**