

ADVANCED WELDING TECHNOLOGIES, A.A.S.

Entry Time

Fall

Award

Associate of Applied Science degree
2 years (5 terms including summer)

The Advanced Welding Technologies Associate degree program includes Shielded Metal Arc Welding, Gas Metal Arc Welding and Gas Tungsten Arc Welding. Prepares students for a SENSE 1 and SENSE 2 level credential from the American Welding Society. Graduates of this program can transfer to the University of Northern Iowa to pursue a Technology Management Bachelor of Arts degree and the University of Iowa to pursue an Applied Studies Bachelor of Arts degree.

Welder certifications to American Welding Society codes is available in several welding processes.

This program requires completion of 6G pipe carbon steel certifications and 3G vertical up with backing and open-root certifications.

Career Opportunities

Trade unions such as:

- ironworkers, plumbers and pipefitters, and boilermakers
- production welder
- welding fabrication
- weld shop owner
- maintenance welder
- welding inspection
- welding instructor
- welding equipment sales

Degree Requirements

Term 1		
Fall		Credit Hours
MAT-765	Welding Mathematics	3
WEL-228	Welding Safety/Health: SENSE1	1
WEL-319 or WEL-269	Material Processing or Thermal Cutting Processes	1
Select one of the following:		3
WEL-279	GMAW Processes	
WEL-244 & WEL-245	GMAW Sh Cir Transfer: SENSE1 and GMAW Spray Transfer: SENSE1	
WEL-297 or WEL-251	GTAW for Carbon or Gas Tungsten Arc Welding for Carbon Steel: SENSE1	3
WEL-274	SMAW I: SENSE1	3

Communications Elective		3
	Term Totals:	17
Term 2		
Spring		
CAD-300	AutoCAD for Applied Engineer	2
WEL-233	Print Read/Sym Inter: SENSE1	3
WEL-254	Inspection/Test Princ: SENSE1	1
WEL-317	Flux Cored Arc Welding	2
WEL-273	GTAW Stainless and Aluminum	3
WEL-318	Welding Fabrication	2
WEL-275	Shielded Metal Arc Welding II: SENSE1	3
	Term Totals:	16
Term 3		
Summer		
WEL-271	Welding Docs and Inspection	3
Communications Elective		3
	Term Totals:	6
Term 4		
Fall		
MFG-103	Applied Metallurgy	3
WEL-272	Advanced GTAW Pipe	6
WEL-287	Layout and Fitup	3
WEL-291	GMAW Pipe	3
MGT-145 or PSY-111	Human Relations in Management or Intro to Psychology	3
	Term Totals:	18
Term 5		
Spring		
WEL-137	Industrial Welding Robotics	2
WEL-286	Advanced SMAW	6
WEL-321	Quality Assurance	2
WEL-932 or WEL-800	Internship or Welding Capstone	3
Humanities or History/Culture Course (https://creditcatalog.kirkwood.edu/aas-degree-humanities-requirement/)		3
	Term Totals:	16
	Program Totals:	73

Optional Courses

Code	Title	Credit Hours
WEL-924	Honors Project	1
WEL-928	Independent Study	1-3

Advanced Welding Technologies Tool Requirements

Students in the Advanced Welding Technologies program are required to have a tool set for lab activities in the first semester of the program. Instructors will provide students with a list of minimum requirements. Students can purchase tool set through the Industrial Technologies Department or on their own. Payment plans can be arranged with the financial aid office.