

WELDING



One-Year Technical Diploma 31-442-1

Welding is the most common way of permanently joining metal parts. Heat is applied to the pieces to be joined, melting and fusing them to form a permanent bond. Because of its strength, welding is used to construct and repair parts of ships, automobiles, spacecraft, and thousands of other manufactured products. Welding is used to join beams and steel reinforcing rods when constructing buildings, bridges, and other structures, and also in utilities such as nuclear power plants.

Graduates of the program will be experienced to welding structural steel, aluminum, stainless steel and other metals. They will develop the ability of blueprint reading, sketching, and layout for welding. Major job skills learned will include: Oxygen-Fuel Cutting (OFC), Plasma Arc Cutting (PAC), Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Core Arc Welding (FCAW), Metal Core Arc Welding (MCAW), and Gas Tungsten Arc Welding (GTAW).

Program Outcomes

- Demonstrate industry-recognized safety practices
- Interpret welding drawings
- Produce Gas Metal Arc Welds (GMAW)
- Produce Shielded Metal Arc Welds (SMAW)
- Produce Flux Cored Arc Welds (FCAW)
- Produce Gas Tungsten Arc Welds (GTAW)
- Perform cutting operations

View the entire course listing (<http://catalog.blackhawk.edu/courses/>).

Semester 1		Credits
442-109	Mechanics of Learning for Welding	1
449-300	Safety for General Industry	1
442-318	Introduction to Welding	1
442-343	Welding Blueprint Reading 1	1

421-310	Print Reading for Manufacturing	1
442-154	Thermal Cutting	1
442-155	Gas Metal Arc Welding 1	1
442-156	Gas Metal Arc Welding 2	1
442-157	Gas Metal Arc Welding 3	1
442-158	Gas Metal Arc Welding 4	1
442-159	Gas Metal Arc Welding 5	1
442-160	Gas Metal Arc Welding 6	1

Credits **12**

Semester 2

442-148	Flux Cored Arc Welding 1	1
442-149	Flux Cored Arc Welding 2	1
442-150	Flux Cored Arc Welding 3	1
442-151	Flux Cored Arc Welding 4	1
442-152	Flux Cored Arc Welding 5	1
442-336	Shielded Metal Arc Welding 1	1
442-337	Shielded Metal Arc Welding 2	1
442-338	Shielded Metal Arc Welding 3	1
442-339	Shielded Metal Arc Welding 4	1
442-340	Shielded Metal Arc Welding 5	1
442-161	Gas Tungsten Arc Welding 1	1
442-162	Gas Tungsten Arc Welding 2	1
442-163	Gas Tungsten Arc Welding 3	1
442-164	Gas Tungsten Arc Welding 4	1
442-165	Gas Tungsten Arc Welding 5	1
442-341	Welding Certification	1
442-342	Advanced Welding Techniques	1

Credits **17**

Total Credits **29**