

WELDING FABRICATION AND ROBOTICS



Associate of Applied Science Degree

In the Welding Fabrication & Robotics Associate Degree program learners program and operate CNC cutting and forming equipment, as well as robotic welders, developing the skills needed to work in an advanced metal manufacturing environment. Learners also expand their print reading skills through fabrication layout, fixturing and precision measurement. Welding metallurgy and machine shop principles are also studied. Critical thinking skills are built through problem solving activities that foster teamwork, positive attitudes and an understanding of global competition.

Upon successful completion of this program, students will be able to:

- Demonstrate industry recognized safety practices
- Form materials to detailed drawings
- Cut materials to detailed drawings
- Join materials to detailed drawings
- Layout components/assemblies
- Inspect product

Semester 1		Credits
442-109	Mechanics of Learning for Welding	1
442-317	Welding Shop Safety	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

442-132	GMAW Stainless Steel 1	1
442-177	GMAW Aluminum 1	1
804-113	College Technical Mathematics 1A	3

Credits **17**

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
442-161	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
442-172	Welding Codes	1
442-173	Weld Inspection and Testing	1
442-139	Metal Finishing-General Fabrication	1
457-100	Material Handling	1
801-136	English Composition 1	3

Credits **17**

Semester 3

620-146	Basic Mechanics	1
620-168	Lathe Operations for Industrial Technicians	1
620-169	Milling Operations for Industrial Technicians	1
606-480	CAD Fundamentals - 2D Drawing	1
606-176	CAD Fund-Solid Modeling	1
620-903	Troubleshooting Integrated Manufacturing Systems 1	1

620-101	Fundamentals of DC Circuits 1	1
620-111	Programming Fundamentals 1	1
620-112	Programming Fundamentals 2	1
620-126	Robotics 1	1
620-127	Robotics 2	1
457-101	Jig and Fixture for Welding	1
442-175	Robotic GMAW	1
442-176	Robotic GMAW 2	1
801-197	Technical Reporting	3
Credits		17
Semester 4		
442-174	Resistance Welding	1
457-102	CNC Cutting	1
457-103	CNC Bending	1
442-116	Welding Metal Fabrication	1
442-117	Welding Metal Fabrication 2	1
457-104	Sheet Metal Fabrication	1
457-105	Sheet Metal Fabrication 2	1
457-106	Metal Fab Application 1	1
457-107	Metal Fab Application 2	1
457-108	Metal Fab Application 3	1
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology	3
Credits		16
Total Credits		67

General Education Courses Within Program

Code	Title	Credits
801-136	English Composition 1	3
801-197	Technical Reporting	3
804-113	College Technical Mathematics 1A	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology	3