**WELDING, FABRICATION AND ALLIED PROCESSES - COURSE DESCRIPTIONS**

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| **Class** | **Hours** | **Description** |
| Math for Welders | 39 | Reviews basic mathematics skills and provides practical exercises useful in the welding field. Topics include working with whole numbers, common fractions, decimal fractions, measurement, percentages and the metric system. Topics are presented in a step-by-step approach. Activities include drills and exercises focused on solutions to welding-related problems. |
| Lab Safety | 13 | Reviews the safety precautions that must be taken to insure the safe operation of welding and fabrication equipment as well as general industry safety.  |
| Oxy Fuel Cutting | 13 | Learn how to safely operate oxy fuel gas cutting equipment. |
| Weld Print Reading | 26 | Provides instruction on interpreting and using the type of engineering drawings and prints found in the welding trade. |
| OSHA 10 Safety Certification | 13 | Covers the Occupational Health and Safety Administration’s OSHA 10-hour general industrial safety training course. Covers recognition, avoidance abatement and prevention of safety and health hazards in workplaces in general industry. |
| Employability – Soft Skills | 13 | Covers the Ohio Means Jobs and Ohio Job and Family Services’ curriculum for 21st Century Skills for Job Readiness and Soft Skill Training for Career Technology Jobs. |
| SMAW – Shielded Metal Arc Welding | 91 | Gain an understanding of arc welding, welding safety, arc welding power sources, electrode classifications and electrode selection. Class focuses on developing the necessary skills to make shielded metal arc welds in all positions from 3/16” to 1” plate. |
| FCAW – Flux Cored Arc Welding | 91 | Gain an understanding of flux cored arc welding, welding safety, flux cored arc welding power sources, types of shielding gases used in flux core are welding, electrode classifications and electrode selection. Class focuses on developing the necessary skills to produce quality fillet and groove welds on carbon steel. Students will weld on carbon steels using small and large diameter flux-cored electrodes, with and without shielding gas, in flat and horizontal positions on fillet and groove welds. |
| Structural Fabrication | 13 | Learn basic welding related fabrication skills. Course covers the safe use of hand and power tools. Topics covered include layout, sawing, shearing, punching and fabrication. |
| Carbon Arc Cutting and Gouging | 13 | Allow students to learn how to safely use the carbon arc method to cut and gouge structural steel material. |
| GMAW – Gas Metal Arc Welding | 91 | Students will gain an understanding of gas metal arc welding, welding safety, gas metal arc welding power sources, types of shielding gases used in gas metal arc welding, electrode classifications and electrode selection. Class focuses on developing the necessary skills to produce quality gas metal arc welds on carbon steel. Students will weld on carbon steels on up to 3/8” plate, single and multiple passes. |
| GTAW – Gas Tungsten Arc Welding | 91 | Students will gain an understanding of gas tungsten arc welding, welding safety, gas tungsten arc welding power sources, types of shielding gases used in gas tungsten arc welding, electrode classifications and electrode selection. Class focuses on developing the necessary skills to produce quality gas tungsten arc welds on carbon steel. Students will weld on carbon steels on up to 1/8” steel, stainless and aluminum. |
| Intro to Pipe Welding | 78 | Allow students to develop skills necessary to complete entry level pipe welding. Students will begin by practicing open root groove welds on plate using the shielded metal arc welding and gas tungsten arc welding processes. Students will practice open root pipe welding in the 1G position on schedule 80 pipe using the stick and tig process to deposit the root weld. |
| Intro to Lincoln / FANUC Robotic Welding | 52 | Designed to introduce students to Lincoln Electric Robotic Welding with FANUC Arcmate Robot. Prior to beginning this class students must complete the FANUC foundational training module. |
| Employability – Job Search Techniques  | 13 | Prepares students for resume submission, interviewing and follow up. Class is designed to teach job search strategies to prepare applicants for a successful job search. |