

School of Manufacturing Technology
Welding - Entry Level
Pathway to Completion

Course Listing (Must Complete 4 Courses) :

- (100) **Blueprint Reading for Welding**
*** *This course provides a study of occupationally specific prints for welders. Advanced study of multi-view drawings, assembly drawings, datum dimensions, numerical control drawings, sheet metal prints, castings and forgings, instrumentation and control charts, diagrams, working drawings, geometric dimensioning, tolerance, and use of reference materials and books are included. Occupational specifics including welding drawings, symbols, joint types, grooves, pipe welding symbols, testing symbols, and specification interpretations are stressed.*
- (100) **Oxy-fuel Systems OR Cutting Processes**
*** *This course provides a working knowledge of oxy-fuel identification, set up, inspection, and maintenance; consumable identification, selection and care; principles of operation; and effects of variables for manual and mechanized oxy-fuel cutting, welding, brazing principles and practice, and metallurgy. Shop safety and equipment use are also covered.*
- (200) **Shielded Metal Arc Welding**
*** *Students will learn the required manipulative skills to arc weld pipe using mild steel electrodes in the 2G and 5G positions including proper pipe preparations, electrodes, safety precautions, and welding sequences. Fillet welds on pipe joints are also included in 2F, 2FR, 4F, and 5F positions.*
- (300) **Gas Metal Arc Welding**
*** *This course covers identification, inspection, and maintenance of GMAW machines; identification, selection and storage of GMAW electrodes; principles of GMAW; and the effects of variables on the GMAW process. Theory and applications of related processes such as FCAW, SMAW, and metallurgy are also included. Students learn the practical application and manipulative skills of Gas Metal Arc Welding and the proper safety situations needed in this process. Both ferrous and non-ferrous metals will be covered, as well as various joint designs on plate in all positions.*
- (300) **Gas Tungsten Arc Welding**
*** *This course covers identification, inspection, and maintenance of GTAW machines; identification, selection and storage of GTAW electrodes; principles of GTAW; effects of variables on the GTAW process; and metallurgy. This course also teaches the theory and application of Plasma Arc Cutting.*

End of Program Assessments:

Department of Transportation Testing (Given in Class)

OSHA 10 Certification