

Welding Technology

WT 100

Basic Welding [RE] • 3.0 Credits

This course provides a beginning level of theory and welding processes and applications being used today. This course includes safety, set-up and tear-down, present concepts, applications and methods, and operation of oxy-acetylene, electric arc, and MIG welding. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Acceptance into the Welding Technology program.**

WT 101

Oxy-Acetylene Process [RE] • 1.0 Credit

A theoretical approach to give students an understanding in the areas of oxy-acetylene cutting, welding, and brazing of various metals. This class is for beginning, entry-level students. Subject matter focuses on background of the process and safety of this process and equipment, and its uses. **Prerequisite: Acceptance into the Welding Technology program.**

WT 103

Fundamentals Major Processes & Their Consumables [RE] • 5.0 Credits

This is the systems' approach to welded design, the design of welded joints and allowable for welds. Arc welding consumables are covered and students become familiar with various welding processes. **Prerequisite: Acceptance into the Welding Technology program.**

WT 107

Fabrication Principles Review [RE] • 4.0 Credits

Introduces welding students to many mathematical procedures they will face in the fabrication shop. Topics include the manipulation of fractions and decimals along with an instructor handout intended to familiarize students with the reading of tape measures and rulers. Students work problems involving calculating various dimensions from complex shapes, both fractional and decimal. In conjunction with these exercises, students are exposed to various geometry principles that are extremely beneficial in the fabrication shop for calculating sheet metal parameters, areas, volumes, and the weight of the finished product. The geometry portion also teaches how to calculate angles necessary to be cut and fitted in place in order to complete the finished product. **Prerequisite: Acceptance into the Welding Technology program, and a grade of 0.7 or better in MATH 100 or a higher math class or placement into MATH 100.**

WT 108

Fabrication Technique I [RE] • 1.0 Credit

This course is designed to aid students in understanding the variables that greatly affect welding fabrication. **Prerequisite: Completion of WT 107 and WT 112, both with a 2.0 or higher, or instructor permission.**

WT 111

Oxy-Acetylene Process Lab [RE] • 3.0 Credits

Gives students hands-on experience in a laboratory situation with the use of oxygen-acetylene equipment. Safety equipment set up/shut down, and manual and automatic cutting are covered, as well as identification of metals. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Acceptance into the Welding Technology program.**

WT 112

Introduction to Shield Metal Arc Welding [RE] • 1.0–10.0 Credits

An introduction to mild steel arc welding consisting of manipulative skills using the shield metal arc process with E6010 type mild steel electrode. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Acceptance into the Welding Technology program.**

WT 113

Advanced Shield Metal Arc Welding [RE] • 1.0–10.0 Credits

This course develops welding skills to meet AWS and ASME standards using the shielded metal arc process. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Completion of WT 112 with a 2.0 or higher, or instructor permission.**

WT 131

Metallic Arc Refresher [RE] • 1.0–10.0 Credits

Designed primarily for tradesmen who need upgrading in shielded metallic arc welding. Includes instruction and practice for upgrading skills, test qualifications, and special application. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Trade experience is required; a test may be given to verify experience.**

WT 141

Shield Metal Arc Welding Certification [RE] • 1.0–10.0 Credits

Last course in the three-course series of the SMAW process. This course will finish working through the final open root outside corner joint lesson and transition to either an open root butt joint weld in the 2g, 3g, and 4g positions or a butt joint with a backing bar in the 2g, 3g, and 4g positions. Students will practice each position as individual lessons working towards demonstrating proficiency in all three positions to have the opportunity to take a welder qualification test to gain a structural welding certification to ASME sect. IX code standard. Successful completion of the open root 3 position plate test is required as a prerequisite to WT 211 Intro to pipe welding. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Completion of WT 113 with a 2.0 or better, or instructor permission.**

WT 181

Fabrication Techniques I Lab [RE] • 3.0 Credits

This course is designed to aid students in understanding the variables that greatly affect welding fabrication. Students get hands-on and field work experience utilizing a welding truck for structural fabrication, including hoisting and rigging. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Completion of WT 112 with a 2.0 or higher, or instructor permission.**

WT 195

Supervised Employment [RE] • 1.0–3.0 Credits

This is a supervised work experience involving the application and practice of skills and principles learned in the classroom and lab. The student will be placed with an employer where the environment will build on the student's area of career interest and prepare them to be productive employees. **Prerequisite: Completion of WT 181 with a 0.7 or higher, or instructor permission.**

WT 201

Weldability of Metals [RE] • 5.0 Credits

This course introduces the concepts that explain the metallurgical behavior and determine the weldability of ferrous and non-ferrous metals. **Prerequisite: Completion of WT 108, 141, and 181, all with a 2.0 or higher, or instructor permission.**

WT 202

Welding Inspection [RE] • 5.0 Credits

This course is designed to acquaint students with fundamental information and to help in the preparation for the AWS Welding Inspector Certification examination. **Prerequisite: Acceptance into the Welding Technology program.**

Welding Technology

WT 208

Fabrication Technique II [RE] • 1.0 Credit

This course is designed to aid students in understanding the variables that greatly affect welding fabrication. **Prerequisite: Completion of WT 222 with a 2.0 or better and MATH 100 or a higher math class with a 1.0 or better, or instructor permission.**

WT 211

Introduction to Pipe Welding [RE] • 1.0–10.0 Credits

An introduction to pipe welding using mild steel pipe and the shield metal arc process with E6010/E7081 covered electrode. Develop the necessary welding skills and techniques to prepare for certification in accordance with ASME code. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Completion of either WT 141 with a 2.5 or higher, or instructor permission.**

WT 222

Gas Tungsten Arc Welding (Tig) [RE] • 1.0–10.0 Credits

This course is designed for the welding of plate and pipe using the gas tungsten arc welding (GTAW) process. Instruction stresses developing proper manipulative techniques and skills necessary to certify using the GTAW process. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Completion of WT 211 or WT 251 with a 2.0 or higher, or instructor permission.**

WT 231

Pipe Welding Certification [RE] • 1.0–10.0 Credits

This course emphasizes qualification tests for piping and tubing. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Completion of WT 211 with a 2.0 or higher, or instructor permission.**

WT 233

Pipe Welding Refresher [RE] • 1.0–10.0 Credits

This course is designed for tradesmen who need upgrading on pipe welding procedures and skills for employment in the piping field. Includes instruction and practice for upgrading welding test qualifications and special applications. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Trade experience is required; a test may be given to verify experience.**

WT 251

Gas Metal Arc Welding (Mig) Certificate [RE] • 1.0–10.0 Credits

Formerly WT 151, WT 251

An introduction to gas metal arc welding consisting of manipulative skills using the gas metal arc process. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Completion of WT 141 with a 2.0 or better, or instructor permission.**

WT 255

Structural Certification [RE] • 1.0–10.0 Credits

This course provides advanced development of arc welding skills to meet American Welding Society (AWS), and American Society of Mechanical Engineers (ASME) welder qualification standards. This is the certification class for the structural welding pathway of the AAS welding technology degree. \$11.40 lab fee. \$12 per credit welding course fee.

WT 281

Fabrication Technique II Lab [RE] • 3.0 Credits

This course is designed to aid students in understanding the variables that greatly affect the welding of pipe fabrication. Students get hands-on and field work experience utilizing a welding truck for pipe fabrication including hoisting and rigging. \$12 per credit Welding course fee. \$11.40 lab fee. **Prerequisite: Completion of WT 222 with a 2.0 or better and**

MATH 100 or a higher math class with a 1.0 or better, or instructor permission.