

Welding Technology

Welding I

WELD 1100 - 3 Credits

Basic electric arc, oxy-fuel, gas metal arc and gas tungsten arc welding processes. Safety procedures required to set up and shut down welding equipment for the various processes. Hands-on experience includes practice with the four welding systems using various thickness materials. Industrial standards and American Welding Society (AWS) standards for quality are discussed. (2 lecture hours, 2 lab hours)

Oxy-Fuel, Welding, Plasma Cutting and Br

WELD 1112 - 3 Credits

Operation of oxyacetylene welding and cutting equipment and plasma cutting. Students learn to produce quality welds and braze joints in the flat, horizontal, overhead and vertical positions. Also introduces cutting methods of profile, pipe, square and bevel. Prerequisite: Welding Technology 1100 or equivalent (1 lecture hour, 4 lab hours)

Shielded Arc Welding (SMAW)

WELD 1122 - 3 Credits

Theory and practice in the preparation and welding of steel joints in various positions. Safety, electrode selection, inspection and testing. Skill is developed in producing different position butt and fillet welds. American Welding Society testing is stressed. Prerequisite: Welding Technology 1100 or equivalent (1 lecture hour, 4 lab hours)

Gas Metal Arc (MIG)

WELD 1132 - 3 Credits

Solid steel and cored wire welding on common industrial joints. Travel direction, weave motion, bead sequence and gun angles for out-of-position welding on steel are emphasized. Setup and operation of MIG welder for flux-core, stainless steel and aluminum welding under varying conditions. Prerequisite: Welding Technology 1100 or equivalent (1 lecture hour, 4 lab hours)

Gas Tungsten Arc (TIG)

WELD 1142 - 3 Credits

Theory and practice of welding in all positions and on various joint configurations using the Gas Tungsten Arc Welding (GTAW or TIG) welding process on carbon steel, stainless steel and aluminum. This course may be taken four times for credit. Prerequisite: Welding Technology 1100 or equivalent (1 lecture hour, 4 lab hours)

Pipe Welding and Fabrication

WELD 1151 - 3 Credits

Covers safety inspections, minor repairs, operating parameters, and operation of shielded metal arc welding (SMAW), gas metal arc welding (GMAW), and flux core arc welding (FCAW) equipment in a variety of positions on various materials used in pipe joints. Evaluating and solving complex welding and fabrication problems. This course may be taken four times for credit. Prerequisite: Welding Technology 1100, Welding Technology 1112, Welding Technology 1122, Welding Technology 1132 and Welding Technology 1142 or equivalent or consent of instructor (1 lecture hour, 4 lab hours)

Skill Assessment

WELD 1160 - 3 Credits

Theory and practice of test qualification procedures for certification in accordance with AWS, API or other welding codes. Simple non-qualifying bend tests and/or non-destructive tests are performed at no extra cost. Additional testing may be performed by a private laboratory at the student's expense. Prerequisites: Welding Technology 1100 Welding Technology 1112, Welding Technology 1122, Welding Technology 1132 and Welding Technology 1142 or equivalent or consent of instructor (1 lecture hour, 4 lab hours)

Independent Study - Individualized

WELD 1840 - 1-4 Credits

Exploration and analysis of topics within the discipline to meet individual student-defined course description, goals, objectives, topical outline and methods of evaluation in coordination with and approved by the instructor. Prerequisite: Consent of instructor is required (2 to 8 lab hours)

Introduction to AWS Level 1

WELD 2000 - 2 Credits

Covers occupational orientation, safety and health of welders, drawing and welding symbol interpretation, thermal cutting processes and welding inspection and training utilizing American Welding Society (AWS) Sense 1 standards. This course may be taken three times for credit for skills development. Prerequisite: Welding 1100 with a grade of "C" or better, or equivalent or consent of instructor. (2 lecture hours)

AWS Level 1-Shielded Metal Arc Welding

WELD 2001 - 3 Credits

Welding Technology

Theory and practice in the preparation and welding of steel joints in various positions. Safety, electrode selection, inspection, and testing. Skill is developed in producing different position butt and fillet welds. American Welding Society (AWS) testing is emphasized. This course may be taken three times for credit for skills development. Prerequisite: Welding 1100 with a grade of "C" or better, or equivalent and Welding 2000 with a grade of C or better or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

AWS Level 1 Gas Tungsten Arc Welding

WELD 2002 - 3 Credits

Theory and practice in the preparation and welding of steel joints in various positions. Safety, equipment selection, inspection, and testing. Skill is developed in producing different position butt and fillet welds. American Welding Society testing is emphasized. This course may be taken three times for credit for skills development. Prerequisite: Welding 1100 with a grade of C or better and Welding 2000 with a grade of C or better or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

AWS Level 1 Flux Core Arc Welding

WELD 2003 - 3 Credits

Theory and practice in the preparation and welding of steel joints in various positions. Safety, electrode selection, inspection, and testing. Skill is developed in producing different position butt and fillet welds. American Welding Society (AWS) testing is emphasized. This course may be taken three times for credit for skills development. Prerequisite: Welding 1100 with a grade of C or better and Welding 2000 with a grade of C or better or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

AWS Level 1 Gas Metal Arc Welding

WELD 2004 - 3 Credits

Theory and practice in the preparation and welding of steel joints in various positions. Safety, electrode selection, inspection, and testing. Skill is developed in producing different position butt and fillet welds. American Welding Society (AWS) testing is emphasized. This course may be taken three times for credit for skills development. Prerequisite: Welding 1100 with a grade of C or better and Welding 2000 with a grade of C or better or equivalent or consent of instructor. (2 lecture hours, 2 lab hours)

Internship (Career & Technical Ed)/Coop Ed/Internship Occup

WELD 2860 - 1-4 Credits

Course requires participation in Career and Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. Prerequisite: 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the Associate Dean from the academic discipline where the student is planning to earn credit.

Internship Advanced (Career & Tech Ed)

WELD 2865 - 1-4 Credits

Continuation of Internship (Career and Technical Education). Course requires participation in Career & Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. Prerequisite: 2.0 cumulative grade point average; 12 semester credits earned in a related field of study; students work with Career Services staff to obtain approval of the internship by the Associate Dean from the academic discipline where the student is planning to earn credit.