Mt. San Antonio College Welding Program

COURSE DESCRIPTIONS

Several courses below have advisory prerequisites that list courses students are recommended to complete before enrolling in that course. Prior experience may eliminate the prerequisite. Consult with instructor for more information and approval for enrolling in courses with prerequisites. See College catalog or instructor for times and/or semester each class will be offered.

Course #: WELD 30
Units: 2.0
Title: Metal Sculpture
Advisory Prerequisite: None
Description: Fundamentals of Welding processes used in metal sculpting industry. Two and three dimensional art form will be covered.

Course #: WELD 40
Units: 2.0
Title: Introduction to Welding
Advisory Prerequisite: None
Description: Fundamentals of welding processes related to the areas of fabrication, construction, machine tool, aerospace and transportation industries.

Course #: WELD 50
Units: 2.0
Title: Oxyacetylene Welding
Advisory Prerequisites: None
Description: Oxyacetylene fusion welding, non-fusion welding and cutting. Develops understanding of and fundamental skills in modern welding practices.

Course #: WELD 51
Units: 2.0
Title: Basic Electric Arc Welding
Advisory Prerequisite: WELD 50
Description: Basic electric arc welding, weld symbols, standard electrode and allow electrode selection, American Welding Society (A.W.S.) procedure for certification.

Course #: WELD 53A
Units: 3.0
Title: Welding Metallurgy
Advisory Prerequisite: None
Description: Designed for students seeking a career in welding and welding inspection. Covers structure of matter, chemical, physical, and mechanical properties of metals, principles of alloying, solid state diffusion, plastic deformation, and heat treatment. [Spring Semester Only]

Course #: WELD 60
Units: 3.0
Title: Print Reading & Computations for Welding
Advisory Prerequisite: None
Description: Reading prints and performing computations for welding fabrication operations. Interpreting and visualizing prints, title blocks, welding symbols, specifications, notes, and bills of materials. Computations necessary to calculate materials, costs, sizes, and Fractional, decimal and metric conversions. [Fall Semester Only]

Course #: WELD 70A
Units: 3.0
Title: Beginning Arc Welding
Advisory prerequisite: None
Description: Develops manipulative skills and techniques for the beginning student welder on the shielded metal arc (SMAW) and the flux core arc (FCAW) welding processes in the flat and horizontal positions using AC and DC welding currents on carbon steels.

Course #: WELD 70B
Units: 3.0
Title: Intermediate Arc Welding
Advisory Prerequisite: WELD 70A
Description: A continuation of Beginning Arc Welding (WELD 70A). Emphasis on welding high alloy steel with both SMAW and FCAW processes in the vertical and overhead positions. Designed to refine previously acquired welding skills.

Course #: WELD 70C
Units: 3.0
Title: Certification for Welders
Advisory Prerequisite: WELD 70A
Description: This is a study of building construction for the advanced arc welding student. Materials covered will include data on all approved modern welding processes, welding filler metals, approved welding joints design, and welding procedures. Special emphasis will be placed on welding symbols and the American Welding Society’s (AWS) D1.1 and D1.3.

Course #: WELD 80
Units: 3.0
Title: Fabrication and Construction Welding
Advisory Prerequisite: WELD 70A, 40, 51, or work experience in the welding trades.
Description: Theory and practical applications of welding used in industry and the construction work force. Designed to augment present welding skills to those used in the trades. Includes project models such as ornamental iron gates and fences, material storage components and others. Students who repeat this course will improve their skills through further instruction and practice. [Spring Semester Only]

Course #: WELD 81
Units: 3.0
Title: Pipe and Tube Welding
Advisory Prerequisites: WELD 70A, 70B, 70C, or equivalent work experience.
Description: Advanced course designed to enable students with “all positions” welding skills in SMAW to apply welding skills to the pipe welding industry. Welding processes will include SMAW, GTAW, GM, and FCAW on a variety of materials and configurations on sub critical and critical piping and tubing. Students who repeat this course will improve their skills through further instruction and practice. [Fall Semester Only]

Course #: WELD 90A
Units: 3.0
Title: Gas Tungsten Arc Welding
Advisory Prerequisite: WELD 70A
Description: Advanced level class in Gas Tungsten Arc Welding of steel, aluminum, CRES and exotic metals. All position welds with many surfaces and transitions

Course #: WELD 90B
Units: 3.0
Title: Semiautomatic Arc Welding Processes
Advisory Prerequisite: WELD 70A
Description: A consolidation of Semiautomatic Welding Processes including Gas Metal Arc Welding, Flux Core Arc Welding, Submerged Arc Welding with solid and tubular wires with and without gas shielding. All position welds with many varying thicknesses will be covered.

Course #: WELD 96, 97, 98 & 99
Units: 1 to 4 depending on class
Advisory Prerequisite: Approval of college Work Experience supervisor and compliance with regulations as designated in College Catalog.
Description: Combines actual on the job work experience in the field of Welding with related classroom instruction. See Instructor for more information.