

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, GMAW, 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.