

# Welding

This program prepares students to enter welding-related occupations, offers retraining for those seeking a new career, and provides an opportunity for those employed in welding occupations to learn new skills and upgrade themselves in their positions.

The department is a member of the American Welding Society's Educational Institution Program for entry level welders and is entitled to all the privileges. This entry level welder program is part of the National Skills Standards Program, which is being enacted across a wide range of industries in the United States.

The program prepares students to pass the written test and welding performance test necessary to acquire a welding license from the Los Angeles Department of Building and Safety. The program offers a certificate of achievement in welding, and an associate degree may be obtained upon completion of 20 units of welding course work in addition to general education.



Educational Institution Member



**Fabricators & Manufacturers  
Association, International®  
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## Career Opportunities

Boilermakers, Iron Workers, Maintenance Worker, Millwrights, Sheet Metal Workers, Welder, Welder-Fitter, Welding Estimator, Welding Inspector, Welding Instructor, Welding Operator, Welding Sales Representative, Welding Service Representative, Welding Supervisor, Welding Technician

## Degrees and Certificates Awarded

Associate in Science, Welding

Welding Certificate

## Program Learning Outcomes

A student receiving a degree or certificate in this field will be able to:

- Demonstrate acceptable safety practices daily in order to prevent injuries of any type.
- Practice and perform welder qualification testing at the appropriate level for the course.
- Interpret drawings and welding symbols in order to weld the correct weld type and size per the detailed joint design.
- Practice and demonstrate welding and cutting job practices in multiple processes appropriate for being a combination welder.

## Associate Degree

To earn an Associate in Science degree with a major in Welding (04947), complete 20 units from Welding courses and meet all Victor Valley College graduation requirements. WELD 138 (Cooperative Education) may be used as elective credit, but may not be used to fulfill major requirements.

## Transfer

Not a transfer major.

## WELDING CERTIFICATE OF ACHIEVEMENT (20542)

The Welding Technology courses included in the certificate program will give the students the skills necessary to become an entry-level combination welder.

**Units Required: 20.0**

*All of the following must be completed:*

|          |  |     |
|----------|--|-----|
| WELD 51  | Oxyacetylene Welding, Cutting, and Brazing | 3.5 |
| WELD 52  | Shielded Metal Arc Welding-Basic           | 3.5 |
| WELD 53  | Shielded Metal Arc Welding-Advanced        | 4.0 |
| WELD 57A | Gas Tungsten Arc Welding-Basic             | 2.0 |
| WELD 57B | Gas Tungsten Arc Welding-Advanced          | 2.0 |
| WELD 58A | Gas Metal Arc Welding-Basic                | 2.0 |
| WELD 58B | Gas Metal Arc Welding-Advanced             | 2.0 |
| WELD 59  | Welding Symbols and Blueprint Reading      | 1.0 |

## Welding Courses

### WELD 50 INTRODUCTION TO WELDING

**Units: 2.0** | 16-18 hours lecture and 48-54 hours laboratory

*(No prerequisite)*

Survey course in arc and oxyacetylene welding which covers safety practices, use of equipment, and oxyacetylene cutting and braze welding.

### WELD 51 OXYACETYLENE WELDING, CUTTING AND BRAZING

**Units: 3.5** | 32-36 hours lecture and 72-81 hours laboratory

*(No prerequisite)*

Develops entry-level skills for the welder in gas welding, braze welding, and cutting.

### WELD 52 SHIELDED METAL ARC WELDING - BASIC

**Units: 3.5** | 32-36 hours lecture and 72-81 hours laboratory

*(No prerequisite.)*

Develops entry-level shielded metal arc welding (SMAW) skills for the welder.

### WELD 53 SHIELDED METAL ARC WELDING - ADVANCED

**Units: 4.0** | 32-36 hours lecture and 96-108 hours laboratory

*(No prerequisite)*

Develops skills to produce high quality multi-pass all position groove welds with and without backing.

### WELD 54 PREPARATION FOR WELDER CERTIFICATION

**Units: 1.0** | 16-18 hours lecture

*(No prerequisite)*

This course prepares the welder to take the Los Angeles Department of Building and Safety written examination required for the L.A. City welding license.

### WELD 57A GAS TUNGSTEN ARC WELDING - BASIC

**Units: 2.0** | 16-18 hours lecture and 48-54 hours laboratory

*(No prerequisite)*

Develops entry-level gas tungsten arc welding skills; setting up and adjusting equipment, and in-position welding on mild steel, stainless steel, and aluminum.

# Welding Courses

## WELD 57B GAS TUNGSTEN ARC WELDING - ADVANCED

**Units: 2.0** | 16-18 hours lecture and 48-54 hours laboratory

*(No prerequisite)*

Develops advanced gas tungsten arc welding skills in out-of-position welding on mild steel, stainless steel, and aluminum.

## WELD 58A GAS METAL ARC WELDING - BASIC

**Units: 2.0** | 16-18 hours lecture and 48-54 hours laboratory

*(No prerequisite)*

Develops entry-level skills in gas metal arc welding. Specifically develops skills on all position groove and fillet welds, set-up, adjustment and equipment maintenance.

## WELD 58B GAS METAL ARC WELDING - ADVANCED

**Units: 2.0** | 16-18 hours lecture and 48-54 hours laboratory

*(No prerequisite)*

Develops advanced skills in gas metal arc welding. Specifically develops skills on single-vee groove butt joints in all positions and welder qualification practice.

## WELD 59 WELDING SYMBOLS AND BLUEPRINT READING

**Units: 1.0** | 16-18 hours lecture

*(No prerequisite)*

Develops a technical understanding of engineering drawings and use of information to communicate instructions from the design to the welder and fitter to achieve design objectives.

## WELD 60A WELDING LABORATORY SHIELD METAL ARC WELDING

**Units: 1.0-2.0** | 48-54 hours of laboratory for one unit of credit

*(No prerequisite)*

A laboratory class to develop skills in arc welding and welder qualification preparation. Offered Fall/Winter/Spring/Summer sessions

## WELD 60B WELDING LABORATORY GAS TUNGSTEN ARC WELDING

**Units: 1.0-2.0** | 48-54 hours of laboratory for one unit of credit

*(No prerequisite)*

A laboratory class to develop skills in gas tungsten arc welding and welder performance qualification. Offered Fall/Winter/Spring/Summer sessions

## WELD 60C WELDING LABORATORY GAS METAL ARC WELDING

**Units: 1.0-2.0** | 48-54 hours of laboratory for one unit of credit

*(No prerequisite)*

A laboratory class to develop skills in gas metal arc welding and welder performance qualification. Offered Fall/Winter/Spring/Summer sessions

## WELD 60D WELDING LABORATORY FCAW

**Units: 1.0** | 48-54 hours of laboratory

*(No prerequisite)*

A laboratory class to develop skills in flux cored arc welding or welder performance qualification. Offered Fall/Winter/Spring/Summer sessions.

## WELD 60D WELDING LABORATORY FCAW

**Units: 4.0** | 32-36 hours lecture and 96-108 hours of laboratory

*(No prerequisite)*

Develops skills to produce high quality multi-pass all position groove welds with backing on varying thicknesses of base material utilizing Gas-Shielded and Self-Shielded Flux Core Wires.

# Welding Courses

## **WELD 98 SPECIAL TOPICS**

See Special Topics listing (Variable units).

## **WELD 99 INDEPENDENT STUDY**

See Independent Study listing (1-3 units).

## **WELD 138 COOPERATIVE EDUCATION**

See Cooperative Education listing (1-8 units). [CSU](#)