

Lassen Community College Course Outline

WT-50 Welding for Artists (Design and Fabrication)

2.0 Units

I. Catalog Description

Students will become proficient in the use of oxy-acetylene, arc/stick, TIG, and MIG welding techniques in addition to metal cutting tools found in a welding studio.

Students will also become knowledgeable with stationary tools common to a welding shop such as: breaks, shears, bench grinders, hand grinders and drills. This class will focus on welding and metal fabrication as a fine art medium.

Co-requisite: ART-50 Welding for Artists

102 hours lab

II. Coding Information

Repeatability: Not Repeatable, Take 1 Time

Grading Option: Graded or Credit/No Credit

Credit Type: Credit - Degree Applicable

TOP Code: 095650

III. Course Objectives

A. Course Student Learning Outcomes

1. Construct four (4) each, Archimedean and Platonic solids

B. Course Objectives

Upon completion of this course the student will be able to:

1. Safely set-up and operate oxy-acetylene torches
2. Safely set-up and operate gas metal arc welding (GMAW) equipment
3. Safely set-up and operate gas tungsten arc welding (GTAW) equipment
4. Safely set-up and operate shielded metal arc welding (SMAW) equipment
5. Safely set-up and operate various hand and machine tools as they relate to metal fabrication
6. Work and cooperate with fellow students on a group assignment
7. Understand construction techniques as they apply to metal structures

IV. Course Content

A. Safety Precautions

1. Electrical shock
2. Radiation hazards
3. Compressed gases
4. Air contamination
5. Emergency shop procedures
6. Oxyacetylene equipment
7. Oxygen and acetylene cylinders
8. Oxygen and acetylene regulators

B. Material Identification and Selection

1. Mild Steel
2. Aluminum

3. Stainless Steel
 4. Silicon Bronze
- C. Oxyacetylene Equipment setup and use**
1. Oxyacetylene welding torches and tips
 2. Oxyacetylene flame types and adjustments
 3. Oxygen and acetylene pressure requirements
 4. Cutting and welding tip requirements
 5. Filler rod selection
- D. Plasma Cutter Equipment Setup and Use**
- E. GTAW Equipment setup and use**
1. Torch body
 2. Polarity settings
 3. Amperage control
 4. High frequency adjustments
 5. Shielding gas selection
 6. Flowmeter settings
- F. GMAW Equipment setup and use**
1. Voltage setting
 2. Wire speed
 3. Shielded gas setting
 4. Filler rod type and diameter
- G. SMAW Equipment setup and use**
1. Amperage determination
 2. Filler rod selection
 3. Polarity selection

V. Assignments

A. Appropriate readings

Trade manuals will be primary reference sources for course readings. Additional information sources will include product and use guides from industry manufacturers to enhance the learning process.

B. Writing assignments

None

C. Out of class assignments

May include:

1. Researching artists and their mediums
2. Contribute to the design of a group project

D. Specific assignments that demonstrate critical thinking

Students will be required to demonstrate an understanding of various welding concepts and practices by applying the technical information to multiple manipulative performance objectives and artistic designs.

VI. Methods of Evaluation

The student will earn the same grade in both WT-50 and ART-50 based on a combined average of the two courses and assignments completed. Methods for determining student grades will be accomplished by the following:

- A. Completion of required manipulative performance objectives and projects while meeting assignment deadlines
- B. Quality of form, fit and finish

- C. Portfolio
- D. Critique
- E. Written tests/quizzes
- F. Performance

VII. Methods of Delivery

Check those delivery methods for which, this course has been separately approved by the Curriculum/Academic Standards Committee.

Traditional Classroom Delivery Correspondence Delivery

Hybrid Delivery

Online Delivery

VIII. Representative Texts and Supplies

Supplies:

Appropriate welding gloves (gauntlet style)

Safety glasses (clear polycarbonate)

IX. Discipline/s Assignment

Welding Technology

X. Course Status

Current Status: Active

Original Approval Date: 03/25/2014

Board Approval Date: 04/08/2014

Chancellors' Approval Date: 04/17/2014

Revised By: Kory Konkol, Randle Panfilio

Latest Curriculum/Academic Standards Committee Revision Date: 11/15/2022