

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

 X Transfer Course X A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: AP C 108 Welding

UNIT VALUE: 3.0

MINIMUM NUMBER OF SEMESTER HOURS: 80

BASIC SKILLS REQUIREMENTS:

Appropriate language and computational skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: None.

COREQUISITE: None.

RECOMMENDED PREPARATION: None.

SCOPE OF COURSE:

Introduction to trade welding. Emphasis is given to the importance of safe work practices on the construction site and the goal of welder certification. The AWS welding codes for structural, light gauge, and re-bar certifications are reviewed.

SPECIFIC COURSE OBJECTIVES:

The student will be able to:

1. Explain and demonstrate skill in the use of the oxy acetylene torch in cutting and welding.
2. Explain and demonstrate skill in arc welding.
3. Explain and demonstrate skill in performing flat, vertical and horizontal welds.
4. Apply welding safety principles while using arc or oxy acetylene.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Introduction
 - A. Orientation
 - B. Applications
 - C. Definition of terms
 - D. Shop safety
 - E. Personal safety

- II. Oxy-acetylene Welding
 - A. Oxy-acetylene equipment
 - B. Safety and hazardous materials
 - C. Equipment set-up
 - D. Operation of equipment
 - E. Welding techniques
 - F. Cutting

- III. Arc Welding
 - A. Arc welding process
 - B. Safety
 - C. Arc welding machines
 - D. Electrodes
 - E. Metal preparations
 - F. Welding techniques
 - G. Welding exercises

- IV. Inert Gas Welding
 - A. Welding process
 - B. Safety
 - C. Equipment, care and use
 - D. Material preparations
 - E. Welding techniques
 - F. Welding exercises

- V. Welding of Thermoplastics
 - A. Applications
 - B. Hot-gas welding
 - C. Heated tool welding
 - D. Induction welding
 - E. Friction welding

- VI. Welding Certification
 - A. Job potential
 - B. Structural steel
 - C. Re-bar
 - D. Light gauge steel

- VII. Review and evaluation
 - A. Standardized welding exercises
 - B. Written examination
 - C. Standardized test plates in three positions

REQUIRED READING:

Welding, Cutting & Heating Guide. Wichita, KS: Victor Equipment Company, 1992.

Weldirectory. Cleveland, OH: Lincoln Electric Company, 1992.

SUGGESTED READING:

Carpenter. Washington, DC: United Brotherhood of Carpenters and Joiners of America.

Reference materials supplied by program sponsor.

REQUIRED WRITING:

Completion of written assignments in student workbook consisting of ten to twelve pages in length.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.

Read assignment text. Review trade journals and periodicals on welding.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

DISTANCE LEARNING:

This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply:

- Television Course (Video one-way, e.g. ITV, video cassette, etc.)
- Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
- Two-Way Video Conferencing (Two-way interactive video and audio)
- One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
- Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

Class Participation	10%	A = 100 - 90
Quizzes	20%	B = 89 - 80
Lab/Shop Projects	20%	C = 79 - 70
Written Reviews	20%	F = Below 70
Final Exam	<u>30%</u>	
	100%	

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes X No _____ Number of times course may be taken for credit: 2

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON: Director, Vocational Programs, Ext. 2286.

SIGNATURES ON FILE