

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 EL 107 – Electrical Lineperson VII

UNIT VALUE: 4

MINIMUM NUMBER OF SEMESTER HOURS: 72

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: AP EL 106.

COREQUISITE: None.

RECOMMENDED PREPARATION: None.

SCOPE OF COURSE:

Theory and practicum in the procedures for completing commercial and residential connections, extensive overview of watt-hour installations, and the installation and maintenance of series and multiple circuit street lighting systems.

SPECIFIC COURSE OBJECTIVES:

The student will be able to:

1. Practice standard safety procedures appropriate to the power utility industry.
2. Recognize and deal appropriately with hazardous materials in the power utility industry.
3. Identify and resolve power outages and/or loss (troubleshoot).
4. Explain the installation of a watt-hour meter.
5. Identify and complete a commercial and residential connection.
6. Identify and connect series and multiple circuit connections (street lighting).
7. Analyze, troubleshoot, and repair lighting and power loss.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

I. Rules and Regulations

- A. Safety procedures and equipment
 - 1. Groundings
 - 2. Clearances
 - 3. Hazards
 - 4. Induced voltages
 - 5. Electrical shock
 - B. Recognizing and handling of hazardous waste
- II. Service Connections and Watthour Meters
- A. Service connection hardware
 - B. Making residential and commercial service connections
 - 1. Breaker and control wiring
 - 2. Commercial and residential requirements
 - 3. National Electric Code
 - C. Principles of the operation of watthour meters
 - D. Installing watthour meters
 - E. Troubleshooting customer services
- III. Street Lighting Systems
- A. Introduction to street lighting systems
 - B. Series circuit services
 - 1. Timed circuits
 - 2. Midnight circuits
 - C. Multiple circuit systems
 - D. Circuit maps
 - E. Control equipment
 - F. Troubleshooting and repair

REQUIRED READING:

Electrical Lineman Training Committee. Imperial Irrigation District's Lineman Apprenticeship Training Handbook. Imperial, CA: Imperial Irrigation District, 1990.

SUGGESTED READING:

Kurtz, Edwin D., and Thomas M. Shoemaker. The Lineman and Cableman's Handbook. 8th edition. New York: McGraw-Hill, 1992.

REQUIRED WRITING:

Written homework assignments consisting of nine to ten pages in length, which involve problem-solving analyzation in construction measurements.

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.

Outside class assignments will include reading assigned textbooks, handouts, completion of exercises, periodic research, and critiquing and analyzing problems.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

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

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):

Augmented with a performance review to determine if all course objectives have been met -

Class Participation	20%	A = 100-90
Homework	20%	B = 89-80
Laboratory	20%	C = 79-70
Quizzes	20%	F = Below 70
Pre-test/Final exam	<u>20%</u>	
	100%	

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

Yes 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: 58161 Part C 2A

CONTACT PERSON: Director, Vocational Programs, Ext. 2286

SIGNATURES ON FILE