

**PALOMAR COLLEGE**  
**COURSE OUTLINE OF RECORD FOR**  
**DEGREE CREDIT COURSE**

\_\_\_\_\_ Transfer course   XX   A.A. degree applicable course  
(check all that apply)

**COURSE NUMBER AND TITLE:** FIRE 71 Trench Rescue

**UNIT VALUE:** .5

**MINIMUM NUMBER OF SEMESTER HOURS:** 24

**BASIC SKILLS REQUIREMENTS:** Physically demanding course

**ENTRANCE REQUIREMENTS**

**PREREQUISITE:** None

**COREQUISITE:** None

**RECOMMENDED PREPARATION:** None

**SCOPE OF COURSE:** Comprehensive instruction with extensive hands-on application of the techniques necessary to safely effect a rescue from an excavation or trenching cave-in. Topics include: critical considerations while responding to trenching emergencies; establishing and operating the Incident Command System; evaluation of cave-in scenes; specialized tool usage; shoring techniques; below grade safety procedures; patient packaging; and patient removal techniques. Upon successful completion of the course, students will receive a California State Fire Marshal certificate.

**SPECIFIC COURSE OBJECTIVES:**

The student will be able to:

1. Define all technical and specific terms regarding to trench
2. Properly assess and mitigate hazards
3. Recognize and construct emergency shoring systems
4. Implement and utilize the incident command system
5. Participate in simulated rescue scenario

## **CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:**

- I. Introduction
  - A. Identify the high cost of cave-ins
  - B. On-site safety practices
  - C. Overview of Cal-OSHA
  - D. Designing adequate protection
  - E. Glossary of terms
  
- II. The Law
  - A. California Administrative Code, Title 8, Construction Safety Orders
  - B. Excavations
  - C. Shoring, Sloping and Benching Systems
  - D. Shafts
  - E. Earthwork and Excavating
  - F. Overburden
  - G. Face and Inspection Control
  - H. Protection of Workers at the Face
  - I. Before You Dig
  
- III. Confined Space Regulations
  - A. Scope, Application and Definitions
  - B. Permit Required Confined Spaces
  - C. Procedures for Atmospheric Testing
  - D. Confined Space Entry Permit
  
- IV. Soil Analysis
  - A. Glossary of Terms
  - B. Soil Classification
  - C. Identifying Soil Types
  - D. Pressure Examples
  
- V. Types of Trenches/Collapse Patterns
  - A. Components of a Trench
  - B. Types of Collapses
  - C. Factors that may contribute to Trench Accidents
  - D. Theory of a Collapse
  - E. Additional Collapse Patterns
  
- VI. Emergency Rescue Guide
  - A. Developing a Preplan for Trench Incidents
  - B. Enroute Considerations
  - C. Immediate Considerations
  - D. Immediate Actions
  - E. Immediate Operations
  - F. Trench Rescue Command Structure
  - G. Incident Worksheets
  - H. Incident Control Zones

- VII. . Making the Trench Safe
- A. Trench Shoring Basics
  - B. Making the Trench Safe
  - C. Shoring Thrust Pressures

**REQUIRED READING:**

Palomar Collage. Emergency Trench Rescue. 1<sup>st</sup> edition. San Marcos, CA: Palomar College, 1997

**SUGGESTED READING:**

James B. Gargan. 1<sup>st</sup> Due Trench Rescue. 2<sup>nd</sup> edition. St. Louis, MO. Mosby Lifeline, 1996

**REQUIRED WRITING:**

None

**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.**

Students are required to perform manipulative skills.

**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):

Students will be evaluated on a regular basis on both technical and manipulative skills. The evaluations will be based on objective criteria as outlined by the State Fire Marshal's Office. This is a **credit/ no credit** class. Credit is given when the student meets 70% of the below requirements.

Grading Policy:

Participation	50%
Manipulative Skills	50%

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

Yes  X  No      Number of times course may be taken for credit:  4

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

58161 (3C)

**CONTACT PERSON:**     **Brett Van Wey (760) 744-1150 ext.2760**

**SIGNATURES:**

SIGNATURES ON FILE