

# Course Outline of Record

Los Medanos College

2700 East Leland Road

Pittsburg CA 94565

(925) 439-2181

**Course Title: Fire Protection Equipment and systems**

**Subject Area/Course Number: FIRE-103**

Approval Date: 1/16/07

New Course  OR Existing Course

Instructor(s)/Author(s): John P. Kelleher

Subject Area/Course No.: FIRE-103

Units: 3

Course Name/Title: Fire Protection Equipment and Systems

Discipline(s): Fire Technology

Pre-Requisite(s):

Co-Requisite(s):

**Advisories: Completion of FIRE-101 and FIRE-102; Eligibility for ENGL-095**

**Catalog Description:** An overview of fire protection equipment and systems includes portable fire extinguishing equipment; protection systems; special hazards, sprinkler systems and fire detection systems. Fire Protection Systems are continually changing due to technology and different types of occupancies need different types of fire protection.

**Schedule Description:** This is one of the five courses required for an Associate Degree in Fire Technology. The course explains the different types of fire protections systems and how they function; how these protective devices work, when they activate and how they are maintained. Fire Protection Systems are continually changing due to technology and different types of occupancies need different types of fire protection. Included is a field trip of an actual fire protection system for a real life Fire Service experience.

This course is accredited by the International Fire Service Training Association (IFSTA), the National Fire Protection Association (NFPA), and the California State Firefighters Association (CSFA).

Credit <input checked="" type="checkbox"/> Credit Degree Applicable (DA)	Grading <input type="checkbox"/> Credit/Non-Credit (CR/NC)	Repeatability <input checked="" type="checkbox"/> 0
<input type="checkbox"/> Credit Non-Degree (NDA)	<input type="checkbox"/> Letter (LR)	<input type="checkbox"/> 1
(If Non-Credit desired, contact Dean.)	<input checked="" type="checkbox"/> Student Choice (SC)	<input type="checkbox"/> 2
		<input type="checkbox"/> 3

Hours/Mode of Instruction: Lecture 3 Lab      Composition      Activity      Total Hours 54  
(Weekly hours) (Total for course)

**Meets the Following Competency/Graduation Requirement(s):**

**Please apply for:**

Transfer to:  CSU  UC  IGETC CAN Number      CAN Sequence Number     

Course is Baccalaureate Level:  Yes  No

**Signatures:**

Department Chair _____	Date _____
Librarian _____	Date _____
Dean/Sr. Dean _____	Date _____
Curriculum Committee Chair _____	Date _____
President/Designee _____	Date _____
CCCCD Approval Date (Board or Chancellor's Office) _____	Date _____

## FOR OFFICE OF INSTRUCTION ONLY. DO NOT WRITE IN THE SECTION BELOW.

Begin in Semester Summer

Catalog year 2007/2008

Class Max: 50

Dept. Code/Name: Fire

T.O.P.s Code: 2133.00

Crossover course 1/ 2:     

ESL Class: No

DSPS Class: No

Coop Work Exp: No

Class Code  A Liberal Arts & Sciences  
 B Developmental Preparatory  
 C Adult/Secondary Basic Education  
 D Personal Development/Survival  
 E For Substantially Handicapped  
 F Parenting/Family Support  
 G Community/Civic Development  
 H General and Cultural  
 I Occupational Educational

SAM Code  A Apprenticeship  
 B Advanced Occupational  
 C Clearly Occupational  
 D Possibly Occupational  
 E Non-Occupational  
 F Transfer, Non-Occupational  
*\*Additional criteria needed*  
 1 One level below transfer  
 2 Two levels below transfer  
 3 Three levels below transfer  
 3+ Four levels below transfer

Remediation Level  ES Elementary and Secondary Basic Skills  
 P Pre-collegiate Basic Skills  
 B Basic Skills  
 NBS Not Basic Skills

Course approved by Curriculum Committee as Baccalaureate Level: Yes / No

Distribution: Original: Office of Instruction

Copies: Admissions Office, Department Chairperson

Rev 8-2006

# Course Outline of Record

Los Medanos College

2700 East Leland Road

Pittsburg CA 94565

(925) 439-2181

Course Title: Fire Protection Equipment  
and systems

Subject Area/Course Number: FIRE-103

---

## Institutional Student Learning Outcomes

Implementation date: Spring 2007

The development of institutional SLOs is overseen by the Teaching and Learning Project in collaborations with the General Education Committee, the Occupational Education Committee, the Developmental Education Program, the Student Services Advisory Committee, and the faculty and staff representing the Library & Learning Support Services.

Check the institutional student learning outcomes (or category of outcomes) below that are reflected in your course:

- General Education SLOs (Recommended by GE Committee)**  
At the completion of the LMC general education program, a student will:
1. Read critically and communicate effectively as a writer and speaker.
  2. Understand connections among disciplines and apply interdisciplinary approaches to problem solving.
  3. Think critically and creatively
  4. Consider the ethical implications inherent in knowledge, decision-making and action.
  5. Possess a worldview informed by diverse social, multicultural and global perspectives.
- (Each of the above student learning outcomes for the general education program has a written explanation with illustrations and examples of its application within courses, as well as specific assessment criteria. Consult the GE program information pages.)
- Occupational Education SLOs (Recommended by Occupational Education Committee)**  
At the completion of the LMC occupational certificate or degree, a student will:
1.  Be academically prepared to **obtain an entry-level or a mid-level position** in their industry.
  2.  Apply **critical thinking** to research, evaluate, analyze and synthesize information.
  3.  Demonstrate strong **communication skills** (written and/or oral) and **interpersonal skills** (customer service and team work).
  4.  Appropriately apply **industry materials and technology**.
  5.  Demonstrate the skills and knowledge necessary to take and pass **certification exams** for career **advancement** in their industry.
- (Individual certificates or degree programs in occupational education may adopt some or all of these SLOs. Please check all those that apply to this course.)
- Developmental Education SLOs (Recommended by Developmental Education Committee)**  
At the completion of the LMC Developmental Education Program, a student will:
1.  Demonstrate the skills necessary for the first transfer level courses in English and Math or for the English and Math competencies for the Certificate of Achievement.
  2.  Think critically to construct meaning and solve problems.
  3.  Read with comprehension.
  4.  Communicate effectively both in writing and orally.
  5.  Demonstrate the characteristics, habits, and attitudes of an effective learner.
- Student Services SLOs**  
(SLOs are currently being developed)
- Library and Learning Support Services SLOs**  
(SLOs are currently being developed)
- None of the Above**

# Course Outline of Record

Los Medanos College

2700 East Leland Road

Pittsburg CA 94565

(925) 439-2181

**Course Title: Fire Protection Equipment  
and systems**

**Subject Area/Course Number: FIRE-103**

---

## **Program-Level Student Learning Outcomes (PSLOs)**

*Identify the program (eg. Nursing, Engineering), major (eg. Music, Chemistry), or sequence of courses (eg. ESL) to which this course belongs. List 3-8 over-arching or broad student learning outcomes for the program, major, or course sequence that this course is designed to help students attain.*

**Implementation date: Spring 2007**

**Students graduating from the Fire Technology Department can graduate with an A.S. degree.**

**By the end of this degree, the student will be able to:**

- 1) Be academically prepared to be an entry-level Firefighter in the Fire Service.
- 2) Apply critical thinking to research, evaluate, analyze and synthesize Fire Service information.
- 3) Comprehend a broad knowledge of Fire History, Fire Chemistry and Behavior, Fire Prevention and Building Construction for Firefighters.
- 4) Be able to apply information attained in this degree for success and advancement in the Fire Service.
- 5) Identify what particular area would be best suited for an individual's career in the Fire Service.
- 6) Implement this degree as potential advancement in the Fire Service.

**Course-Level Student Learning Outcomes (CSLOs):** What abilities will the student have at the end of this course?

*List 3-8 over-arching or broad student learning outcomes for this course. These are the course "objectives" written in terms of what the student will know or be able to do at the end of the course. Title V requires that courses for Associate Degree credit must have SLOs that "reflect critical thinking and the understanding of application of concepts determined by the curriculum to be at college level".*

*Relate these course-level SLOs to the program-level SLOs and/or Institutional SLOs, as appropriate.*

**By the end of this course, the student will be able to:**

- 1) Comprehend the history and implementation of fire suppression systems and fire detection systems. (PSLO 1 and 3)
- 2) Distinguish between the different types of fire suppression systems: sprinklers, standpipe systems, fire pumps, fire extinguishers and special extinguishing systems. (PSLO 2 and 3)
- 3) Identify the function and its use for each type of fire suppression system. (PSLO 3)
- 4) Determine and describe the different types of fire detection and signaling systems.
- 5) Illustrate the function and its use for each type of detection system. (PSLO 2 and 3)
- 6) Characterize and communicate one of the fire suppression or detection system to their respective classmates. (PSLO 2 and 3)

# Course Outline of Record

Los Medanos College

2700 East Leland Road

Pittsburg CA 94565

(925) 439-2181

**Course Title: Fire Protection Equipment  
and systems**

**Subject Area/Course Number: FIRE-103**

---

**Assessment Criteria:** How will the student demonstrate these abilities?

*Give the criteria that will be used to judge whether students have attained the course level student learning outcomes.*

**Implementation date: Spring 2007**

# Course Outline of Record

Los Medanos College

2700 East Leland Road

Pittsburg CA 94565

(925) 439-2181

**Course Title: Fire Protection Equipment and systems**

**Subject Area/Course Number: FIRE-103**

---

**Assessments:** What instruments will be used to assess student learning outcomes? (Eg. Tests, papers, projects, assignments etc.)

*For each CSLO, list the assessment instrument/s that will be used to evaluate student achievement of the knowledge and abilities described in the CSLO.*

*Provide one sample assessment instrument that will be used to evaluate student achievement and indicate which CSLO it is assessing.*

*For a degree applicable course, give an example of an essay question or a problem-solving exercise and indicate which CSLO it is assessing.*

**Homework Assignments:** *The student has ten reading assignments and must write a one-two page paper on what was read. The student must also keep up on reading the material covered in class through the textbook.*

**Quizzes:** *There are ten quizzes during the course. Each quiz covers the weekly lecture, presented visual media and the assigned reading. One of the quizzes' exclusively involves the assigned reading material.*

**Midterm and Final Exams:** *Each exam covers half of the course and involves all of the material covered.*

**Class Project:** *Each student must give an oral presentation relevant to the course. The student must stand in front of the class and give a five-minute speech on their respective topic.*

**Class Discussion:** *Every week at the beginning of the class, students give updates on upcoming Firefighter Tests and share information relevant to a Fire Service career. It gives the student a chance to network and help each other get a job in the profession.*

**Notebook:** *The student keeps a complete and neat notebook of all materials used in the class. It is kept as a reference so that it can be used while working in the fire service.*

**Method of Evaluation/Grading:** *Explain how "the course provides for measurement of student performance in terms of stated course objectives", Title V. (LMC calls "objectives", CSLOs.)*

<b>Homework Assignments</b>	Points worth:200
<b>Quizzes</b>	Points worth:100
<b>Midterm and Final Exams</b>	Points worth:200
<b>Class Project</b>	Points worth:200
<b>Notebook</b>	Points worth:100
<b>Class Participation</b>	Points worth:200
	<b>Total Points: 1000</b>

# Course Outline of Record

Los Medanos College

2700 East Leland Road

Pittsburg CA 94565

(925) 439-2181

**Course Title: Fire Protection Equipment  
and systems**

**Subject Area/Course Number: FIRE-103**

---

**Course Content:** *Provide the detailed content of the course.*

Orientation to the Course	1 hour
<b>Fire Suppression Systems:</b>	
Sprinklers	9 hours
Standpipe Systems	3 hours
Fire Pumps	3 hours
Portable Fire Extinguishers	9 hours
Special Extinguishing Systems	6 hours
<b>Fire Detection Systems:</b>	
Fire Detection and Signaling Systems	6 hours
Fire Detection Alarms and Communications	3 hours
<b>Class Projects:</b>	
Student Presentations	8 hours
<b>Exams:</b>	
Midterm and Final Exams	6 hours

# Course Outline of Record

Los Medanos College

2700 East Leland Road

Pittsburg CA 94565

(925) 439-2181

**Course Title: Fire Protection Equipment  
and systems**

**Subject Area/Course Number: FIRE-103**

---

**Instructional Methods:** *Check all the instructional methods that will be used in teaching this course. Keep in mind that the method of instruction and activities should relate to the CSLOs.*

- Lecture
- Lab
- Activity
- Problem-based Learning/Case Studies
- Collaborative Learning/Peer Review
- Demonstration/Modeling
- Role-Playing
- Discussion
- Computer Assisted Instruction
- Other (explain) \_\_\_\_\_

**Textbooks:** *Indicate name of text (or list of text choices), author, publisher and date of publication. For degree applicable courses, text should be **College Level**. Include sample pages and the contents page of the instructor designed module if it is the only text.*

***Fire Detection and Suppression Systems: Third Edition***

***Author:*** IFSTA (International Fire Service Training Association)

***Published by:*** Fire Protection Publications Oklahoma State University

***Date of Publication:*** 2005