

COURSE OUTLINE

**Fire Technology 106**  
**Principles of Fire and Emergency Services Safety and Survival**

**I. Catalog Statement**

Fire Technology 106 introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk evaluation and control procedures for emergency and non-emergency situations. The course curriculum will be guided by NFPA standards, such as National Fire Protection Association 1500, Fire Department Occupational Health and Safety Programs.

Units – 3.0

Lecture Hours– 2.0

Prerequisite: Fire 101 or equivalent.

Recommended Preparation: Eligibility for English 120 or ESL 151.

**II. Course Entry Expectations**

Skills Level Ranges: Reading 5; Writing 5; Listening/Speaking 5; Math 3.

Prior to enrolling in the course, the student should be able to:

1. describe and discuss the components of the history and philosophy of the modern day fire service;
2. analyze the basic components of fire as a chemical reaction, the major phases of fire, and examine the main factors that influence fire spread and behavior;
3. list and describe the major organizations that provide emergency response service and illustrate how they interrelate;
4. identify fire protection and emergency-service careers in both the public and private sectors;
5. describe the role of national, state and local support organizations in fire protection and emergency services.

**III. Course Exit Standards**

Upon successful completion of the required coursework, the student will be able to:

1. define and describe the need to start early the cultural and behavioral changes within the emergency services relating to safety, incorporating leadership, supervision, accountability and personal responsibility;

2. define how the concepts of risk management affect strategic and tactical decision-making;
3. identify the need for additional training standards as they correlate to professional development inclusive of qualifications, certifications, and re-certification;
4. identify how technological advancements can produce higher levels of emergency service safety and survival;
5. describe how incorporating the lessons learned from investigations can support cultural change through the emergency services;
6. demonstrate an awareness of how adopting standardized policies for responding to emergency scenes can minimize near misses, injuries, and deaths.

**IV. Course Content**

**Total Contact Hours = 48**

A.	Introduction	4 hours
	1. History of fire service culture	
	2. Organizational culture	
	3. Individual role in culture/behavior	
	4. History of line of duty deaths and injury statistics	
	5. Definition of the nature of the problem	
B.	The National Context: Health and Safety	8 hours
	1. National Fire Protection Association	
	2. Occupational Safety and Health Administration	
	3. National Institute of Occupational Safety and Health	
	4. National Institute of Standards and Technology	
	5. Medical and fitness standards	
	6. Data collection: National Fire Incident Reporting System	
	7. Research and investigation	
C.	Training, Equipment and Response	10 hours
	1. Training, certification and credentialing	
	2. Apparatus and equipment	
	3. Response to emergency scenes	
	4. Violent incidents	
	5. Emerging technologies	
	6. Developing standard operating procedures and safety policies	
	7. Incident Command System	
D.	Organizational Health and Safety Profile	10 hours
	1. Personal and organizational accountability	
	2. Present condition and culture	
	3. Internal investigations	
	4. External investigations	
	5. Analyzing your profile	
	6. Utilizing grants to meet needs	
E.	Risk Management	8 hours
	1. Risk management concepts and practices	
	2. Unsafe acts	

3. Empowerment definition
4. Risk identification
5. Risk evaluation
6. Risk control
- F. Illness and Injury Prevention Programs 8 hours
  1. Safety program evaluations
  2. Statistical data base analysis of internet resources on public safety employee health and safety programs
  3. Education of fire and life safety programs
  4. Counseling and psychological support associated with Critical Incident Stress Debriefing (CISD) programs

**V. Methods of Presentation**

The following instructional methodologies may be used in the course:

- a. lecture;
- b. multi-media;
- c. guest speakers;
- d. individual and group projects;
- e. field trips.

**VI. Assignments and Methods of Evaluation**

1. Midterm examination.
2. Individual projects. (i.e. Completion of book tutorials.)
3. Final presentation. (i.e. Creation of a portfolio of mechanical, electrical and piping plans. Portfolio will be critiqued by instructor and class.)
4. Final examination.

**VII. Textbooks**

Angle, J., Occupational Safety and Health in the Emergency Services, 2<sup>nd</sup> edition.

New York: Thompson Delmar Learning, 2005.

10<sup>th</sup> Grade Textbook Reading Level      ISBN: 9781401859039

**VIII. Student Learning Outcomes**

1. The student will be able to recognize how cultural and behavioral changes affect safety, leadership, supervision, accountability and personal responsibility related to emergency services.
2. The student will be able to discuss how risk management affects strategic and tactical decision making.
3. The student will be able to identify standardized emergency response policies for public safety personnel.

4. The student will be able to identify how technological advancements affect the level of emergency service safety and survival.