Basic Course Information

Semester	**Spring 2016**	Instructor Name	**Kenneth Herbert**
Course Title & #	**Fire Protection Equipment and Systems FT 102**	Email	**kenneth.herbert@imperial.edu**
CRN #	**CRN: 20888**	Webpage (optional)	
Room	**3212**	Office	**By appointment**
Class Dates	**2/16/16-6/10/16**	Office Hours	**By appointment**
Class Days	**Thursday**	Office Phone #	**760-545-4517**
Class Times Units	**6:00-9:10pm** **3**	Office contact if student will be out or emergency	**Message or text to 760-545-4517**

Course Description

This course provides information relating to the features of design and operation of fire detection and alarm systems, heat and smoke systems, special protection and sprinkler systems, water supply for fire protection and portable fire extinguishers. This is one of six CORE courses required for an associate degree in Fire Technology. (CSU)

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Analyze the relationship between fire prevention efforts and the reduction of life and property loss. (IL02, IL05)
2. Draw and describe the basic elements of a public water supply system including sources, distribution networks, piping and hydrants. (ILO2, ILO3)
3. Identify the components of sprinkler, standpipe and foam systems. (ILO2, ILO4)
4. Identify five different types of non-water based fire suppression systems and describe how these systems extinguish fire (ILO2, ILO4)
5. Describe fire protection systems in various structures and the history of sprinkler ordinances and legislation. (ILO2)
6. Describe the components of a fire alarm system and different types of detectors and
7. Explain the operation and application of portable fire extinguishing systems. (ILO2, ILO3)
8. Identify and analyze the causes of line of duty firefighter deaths and training and research into the reduction of risk and accidents. (ILO2, ILO3, ILO4)

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Demonstrate a working knowledge of fire cause and effect, including hazards of materials, building construction, and heat and smoke control with an overall exam score of 70%.
2. Demonstrate a working knowledge of portable fire extinguishers, including description and classification, effectiveness rating, distribution, installation, and the application, operation, inspection, and maintenance of various types with an overall exam score of 70%.
3. Demonstrate a working knowledge of the characteristic of protection systems and equipment for special hazards with an overall score of 70%.
4. Demonstrate a working knowledge of public and private water supplies, equipment, and services for

fire protection with an overall exam score of 70%.

5. Demonstrate a working knowledge of sprinkler protection, including types of systems, installation requirements, hazards and installation conditions, exposure protection, plans review procedure, inspection and testing procedures, and residential systems with an overall exam score of 70%.
6. Demonstrate a working knowledge of protective signaling systems with an overall exam score of 70%.
7. Demonstrate a working knowledge of standpipe systems with an overall exam score of 70%.
8. Demonstrate a working knowledge of heat and smoke control systems with an overall exam score of 70%.
9. Participate in the following and receive an overall score of 70%: Within a given scenario, analyze, prepare, and present a fire protection system that demonstrates complete coverage with regards to sprinkler, hood and duct, and special application protection of the following: A. Residential B. Commercial C. Industrial D. School

Textbooks & Other Resources or Links

A. Maurice Jones 2008. *Fire Protection Systems* 1st. IFSTA ISBN: 978-1401862626.
Private Fire Protection and Detection, IFSTA

Course Requirements and Instructional Methods

Required Information—

In addition to in course work the student must complete a written assignment and prepare a presentation. Blackboard will be utilized for all test, quizzes, and to post supplemental information. Students must have access to Blackboard.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

Course Grading Based on Course Objectives

Your course grade will be based on the following activities:

• Participation	80 points	12.5%
• Quizzes	80 points	12.5%
• Presentation	80 points	12.5%
• Written Assignment	100 points	15.625%
• Midterm Exam	100 points	15.625%
• Final Exam	200 points	31.25%
• TOTAL	640 points	100%

Participation

- Active participation will enhance the course delivery. Every student is expected to be prepared to discuss the topics covered.

Quizzes

- A quiz shall be administered for each class session chapter.
- Quizzes shall be due prior to the start of the next class. Late quizzes will not receive credit.
- Ten (10) points possible for each quiz.

Presentation

- Each student will present a topic as assigned by the instructor. The presentation time frame will be 10 minutes. Details for completing the assignment will be provided.

Written Assignment

- A three to five page paper will be required to be completed by the 11th class meeting. Details for completing the assignment will be provided.

Final Exam

- A final exam will be given that covers the stated course objectives.

Your final grade will be determined based on the following percentages:

- A 100 – 90
- B 89 – 80
- C 79 – 70
- D 69 – 60
- F 59 – 0

Attendance

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

Classroom Etiquette

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
- Food and Drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed.
- Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the General Catalog.
- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

Academic Honesty

- Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to 'cite a source' correctly, you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

  Anyone caught cheating or will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General

School Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

Additional Help – Discretionary Section and Language

- **Blackboard Support Site.** The Blackboard Support Site provides a variety of support channels available to students 24 hours per day.
- **Learning Services.** There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your Campus Map for the Math Lab; Reading, Writing & Language Labs; and the Study Skills Center.
- **Library Services**. There is more to our library than just books. You have access to tutors in the Study Skills Center, study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- **Student Health Center**. A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC Student Health Center at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services**. Short-term individual, couples, family, and group therapy are provided to currently enrolled students. Contact the IVC Mental Health Counseling Services at 760-355-6196 in Room 2109 for more information.

Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC General Catalog.

Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC Library Department provides numerous Information Literacy Tutorials to assist students in this endeavor.

Anticipated Class Schedule / Calendar

Date	Time	Subject
2/18/16	6:00-9:10pm	Fire Protection Equipment and Systems • Introductions • Syllabus Review • Textbook/Handout Review • Fire and Emergency Service Higher Education **I. Introduction to Fire Protection Systems** a. Role of Fire Protection Systems in Protecting Life
2/25/16	6:00-9:10pm	b. Different Types of Fire Protection Systems c. Role of Codes and Standards **II. Water Supply Systems for Fire Protection Systems** A. Sources of fire protection water supply B. Distribution networks C. Piping D. Hydrants E. Utility company interface with fire department
3/3/16	6:00-9:10pm	**III. Water Based Fire Suppression Systems** A. Properties of Water 1. Water as an Effective Extinguishing Agent 2. How water extinguishes fire B. Sprinkler systems 1. Types of systems and applications 2. Types of sprinklers and applications 3. Piping, valves, hanger, and alarm devices
3/11/16	6:00-9:10pm	4. Fire Department operations in buildings with sprinkler systems C. Residential Sprinkler Systems

3/17/16	6:00-9:10pm	D. Standpipe Systems 1. Types and applications 2. Fire Department operation in buildings with standpipes
3/24/16	6:00-9:10pm	E. Foam systems F. Water mist systems G. Fire Pumps 1. Types 2. Components 3. Operation 4. Fire pump curves
3/31/16	No class	Spring break
4/7/16	6:00-9:10pm	Midterm
4/14/16	6:00-9:10pm	**IV. Non-Water-Based Fire Suppression Systems** A. Carbon dioxide systems 1. Application 2. Extinguishing properties 3. System components B. Halogenated Systems 1. Halon 1301 and the environment 2. Halon alternatives 3. Extinguishing properties 4. System components C. Dry/Wet chemical extinguishing systems 1. Extinguishing properties

		2. Applications 3. UL 300
4/21/16	6:00-9:10pm	**V. Fire Alarm Systems** A. Components B. Types of Fire Alarm Systems C. Detectors D. Audible/Visual devices E. Alarm monitoring F. Testing and maintenance of fire alarm systems
4/28/16	6:00-9:10pm	Field Study- Location TBA
5/5/16	6:00-9:10pm	Project Presentations Paper due
5/12/16	6:00-9:10pm	**VI. Smoke Management Systems** A. Hazards of smoke B. Smoke movement in buildings C. Types of smoke management systems
5/19/16	6:00-9:10pm	D. Firefighter operations is buildings with smoke management systems
5/26/16	6:00-9:10pm	**VII. Portable Fire Extinguishers** A. Types and applications B. Selection C. Placement

6/2/16	6:00-9:10pm	D. Maintenance E. Operations Fire protection system selection, design, placement based on occupancy classification
6/9/16	6:00-9:10pm	Final Exam

*****Tentative, subject to change without prior notice*****