

Industrial Fire Protection (FIRT 1347) Online



Credit: 3 semester credit hours (3 hours lecture, 0 hours lab)

Prerequisite/Co-requisite: Complete the Online Orientation and answer yes to 7+ questions on the Online Learner Self-Assessment:

<http://www.lit.edu/depts/DistanceEd/OnlineOrientation/OOStep2.aspx>

Course Description

Study of industrial emergency response teams and specific concerns related to business and industrial facilities. *This course is time-bound, structured, and completed totally online.*

Required Textbook and Materials

Industrial Fire Brigade Principles and Practice, by International Association of Fire Chiefs and National Fire Protection Association, 1st edition. Jones and Bartlett Publishers, ISBN 13:9780763735029

Course Objectives

Upon completion of this course, the student will be able to:

1. Identify hazards common to industrial facilities. (SCANS: C5.5, C6.5, C7.5 F1.5, F2.5, F5.5, F8.4, F10.3, F11.4)
2. Identify concerns of management regarding fire protection. (SCANS: C5.5, C6.5, C7.5, C14.5, C15.4, F1.5, F2.5, F3.4, F5.5, F10.3, F11.5, F15.5)
3. Examine planning considerations for emergencies at industrial facilities. (SCANS: C1.2, C2.3, C4.3, C5.4, C6.5, C7.5, C15.3, C18.4, F1.5, F2.5, F3.3)
4. Identify Occupational Safety and Health Administration (OSHA) requirements for fire protection. (SCANS: C5.5, C6.5, C7.5, F1.5, F2.5, F10.3, F11.4)

SCANS Skills and Competencies

Beginning in the late 1980's, the U.S. Department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS) conducted extensive research and interviews with business owners, union leaders, supervisors, and laborers in a wide variety of work settings to determine what knowledge workers needed in order to perform well on a job. In 1991 the Commission announced its findings in *What Work Requires in Schools*. In its research, the Commission determined that "workplace know-how" consists of two elements: foundation skills and workplace competencies.

Course Outline

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|---|---|
| A. Introduction | 4. Review Group Project Assignment |
| 1. Introduction of faculty and students | B. Brigade Member Qualifications and Safety |
| 2. Review Syllabus | 1. Roles and responsibilities |
| 3. Review Class Policies | |

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2. Brigade member requirements
3. Member safety and health
4. Personal Protective Equipment (PPE)
5. Respiratory Protection: Self-Contained Breathing Apparatus (SCBA)
- C. Salvage and Overhaul
 1. Lighting Equipment
 2. Salvage to Limit Water Damage
 3. Salvage to Limit Smoke Damage
 4. Overhauling Techniques
 5. Salvage & Overhaul Equipment
- D. Fire Service Communications
 1. The Communications Center
 2. Communications Operations
 3. Radio Systems
 4. Incident Reports
 5. Taking Calls
- E. Incident Management System
 1. History of IMS
 2. IMS characteristics
 3. IMS organization
 4. Standard concepts and terms
 5. Implementing IMS
 6. Working within IMS
- F. Fire Behavior
 1. Fire Tetrahedron
 2. Chemistry of combustion
 3. Products of combustion
 4. Heat transfer
 5. Liquid Fuel Fires
 6. Gas Fuel Fires
 7. Classes of fire
 8. Phases of fire
 9. Interior structure fires
- G. Portable Fire Extinguishers
 1. Classification and labeling
 2. Extinguisher placement
 3. Extinguisher agents
 4. Extinguisher components
 5. Use, care, maintenance, and testing
- H. Brigade Tools and Equipment
 1. Types and functions
 2. Phases of use
 3. Tool staging
 4. Cleaning and inspecting
- I. Response and Size-Up
 1. Response (getting there)
 2. Arrival at the incident scene
 3. Scene size-up
 4. Incident Action Plan
- J. Water Supply
 1. Types of water sources
 2. Water distribution systems
 3. Types of fire hydrants
 4. Fire hydrant operation
 5. Hydrant maintenance
- K. Fire Hose, Nozzles, and Streams
 1. Fire hose function and sizes
 2. Hose care and maintenance
 3. Hose testing & rolls
- L. Fire Cause Determination
 1. Determining the cause and origin
 2. Fire ground observations
 3. Securing and transferring property
- M. Firefighting Foam
 1. How it works
 2. Foam Tetrahedron
 3. Foam concentrates
 4. Making foam
 5. Foam equipment
 6. Foam tactics
- N. Brigade Member Survival
 1. Risk-benefit analysis
 2. Safe operating procedures
 3. Survival procedures
 4. Air management
 5. Rehabilitation
 6. Critical Incident Stress
- O. Fire Suppression
 1. Offensive vs Defensive Operations
 2. Operating hose lines
 3. Protecting exposures
 4. Vehicle fires
 5. Flammable Liquid Fires
 6. Flammable Gas Fires
 7. Electrical fires
 8. Preservation of evidence
- P. Pre-Incident Planning
 1. Pre-incident Plan
 2. Conducting a survey
 3. Tactical information
 4. Occupancy considerations
 5. Special considerations
 6. Fire prevention techniques
- Q. Fire Detection, Protection, and Suppression Systems
 1. Fire alarm and detection systems
 2. Fire suppression systems

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3. Specialized extinguishing systems

Grade Scale

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

Course Evaluation

Final grades will be calculated according to the following criteria:

Chapter Pre-Tests	20%
Chapter Discussions	30%
Chapter Tests	30%
Research Paper	20%

The instructor will respond to e-mail and voice mail communication within 24 hours Monday through Friday. Assignment grades will be published within 48 hours of the assignment due date.

Course Requirements

1. The student will post weekly, online responses to weekly student-to-student and student-to-instructor discussions centered on the “You Are the Brigade Member” chapter scenarios. Due dates for these assignments are shown on the course calendar.
2. The student will access the textbook publisher’s website and complete the pre-tests for each chapter and submit the results by typing in the course instructor’s faculty email address, wflyons@lit.edu in the space provided at the bottom of each chapter pre-test.
3. The student will complete the online chapter tests by the due dates shown on the course calendar.
4. The student will research, write, and submit a paper. The topic of the paper shall be a fire or explosion at an industrial production, transportation, or storage facility. It is important that you describe OSHA requirements for fire protection that were in place, whether they were effective, or were they lacking in effectiveness or use. The research paper requirements are posted online under assignments. The research paper is to be submitted as an attachment using the assignment submission function. The due date for research papers is shown on the course calendar.

Course Policies

1. You must log onto Blackboard and access this course a minimum of three times per week.
2. Cheating of any kind will not be tolerated.

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3. If you wish to drop a course, the student is responsible for initiating and dropping the course. If you stop logging-in to the course and do not complete the course drop process, then you will receive an “F” grade for the course
4. Internet Usage – Students are expected to use proper net etiquette while participating in course emails, assignment submissions, and online discussions. Please read the material on proper netiquette then send the instructor a message using the course email stating the same.

Technical Requirements

The latest technical requirements, including hardware, compatible browsers, operating systems, software, Java, etc. can be found online at:

<http://kb.blackboard.com/pages/viewpage.action?pageId=25368512>

A functional broadband internet connection, such as DSL, cable, 3G, 4G, WiMAX, WiFi, satellite, or other broadband access is necessary to maximize the use of the online technology and resources.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the online resource:

<http://www.lit.edu/depts/stuserv/special/defaults.aspx>

Course Schedule

Week	Topic	Reference
1	Course Introduction – Syllabus, instructor, netiquette, and course navigation	Syllabus, netiquette link
	Learning Module 1: Chapter 1 Brigade Member Qualifications and Safety	pp. 1-54
	<i>Chapter 1 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 55 Online
	<i>Complete Chapter 1 Pre-Test</i>	Online
	<i>Complete Chapter 1 Test</i>	Online
2	Learning Module 3: Chapter 3 Fire Service Communications	pp. 66-86
	<i>Chapter 3 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 88-89 Online
	<i>Complete Chapter 3 Pre-Test</i>	Online
	<i>Complete Chapter 3 Test</i>	Online
3	Learning Module 4: Chapter 4 IMS	pp. 90-117
	<i>Chapter 4 Online Discussion: Post answers to You Are</i>	pp. 115-117

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4	<i>the Brigade Member Scenario</i>	Online
	<i>Complete Chapter 4 Pre-Test</i>	Online
	<i>Complete Chapter 4 Test</i>	Online
	Learning Module 5: Chapter 5 Fire Behavior	pp. 118-137
	<i>Chapter 5 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 138-139 Online
	<i>Complete Chapter 5 Pre-Test</i>	Online
5	<i>Complete Chapter 5 Test</i>	Online
	Learning Module 7: Chapter 7 Portable Fire Extinguishers	pp. 168-204
	<i>Chapter 7 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 205 Online
	<i>Complete Chapter 7 Pre-Test</i>	Online
6	<i>Complete Chapter 7 Test</i>	Online
	Learning Module 8: Chapter 8 Brigade Member Tools and Equipment	pp. 206-230
	<i>Chapter 8 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 231 Online
	<i>Complete Chapter 8 Pre-Test</i>	Online
7	<i>Complete Chapter 8 Test</i>	Online
	Learning Module 10: Chapter 10 Response and Size-Up	pp. 268-284
	<i>Chapter 10 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 285 Online
	<i>Complete Chapter 10 Pre-Test</i>	Online
8	<i>Complete Chapter 10 Test</i>	Online
	Learning Module 15: Chapter 15 Water Supply	pp. 438-454
	<i>Chapter 15 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 455 Online
	<i>Complete Chapter 15 Pre-Test</i>	Online
9	<i>Complete Chapter 15 Test</i>	Online
	Learning Module 16: Chapter 16 Fire Hose, Nozzles, and Streams	pp. 456-522
	<i>Chapter 16 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 523 Online
	<i>Complete Chapter 16 Pre-Test</i>	Online
10	<i>Complete Chapter 16 Test</i>	Online
	Learning Module 17: Chapter 17 Foam	pp. 524-542
	<i>Chapter 17 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 543 Online
	<i>Complete Chapter 17 Pre-Test</i>	Online
11	<i>Complete Chapter 17 Test</i>	Online
	Learning Module 18: Chapter 18 Brigade Member Survival	pp. 544-560
	<i>Chapter 18 Online Discussion: Post Answers to You Are</i>	pp. 561

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Week	Topic	Reference
	<i>the Brigade Member Scenario</i>	Online
	<i>Complete Chapter 18 Pre-Test</i>	Online
	<i>Complete Chapter 18 Test</i>	Online
12	Learning Module 19: Chapter 19 Salvage and Overhaul	pp. 562-594
	<i>Chapter 19 Online Discussion: Post Answers to You Are the Brigade Member Scenario</i>	pp. 564 Online
	<i>Complete Chapter 19 Pre-Test</i>	Online
	<i>Complete Chapter 19 Test</i>	Online
13	Learning Module 21: Chapter 21 Fire Suppression	pp. 612-640
	<i>Chapter 21 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 641 Online
	<i>Complete Chapter 21 Pre-Test</i>	Online
	<i>Complete Chapter 21 Test</i>	Online
	Research Papers Due	Online
14	Learning Module 22: Chapter 22 Pre-incident Planning	pp. 642-664
	<i>Chapter 22 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 665 Online
	<i>Complete Chapter 22 Pre-Test</i>	Online
	<i>Complete Chapter 22 Test</i>	Online
15	Learning Module 25: Chapter 25 Fire Detection, Protection, and Suppression Systems	pp. 718-750
	<i>Chapter 25 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 751 Online
	<i>Complete Chapter 25 Pre-Test</i>	Online
	<i>Complete Chapter 25 Test</i>	Online
16	Learning Module 26: Chapter 26 Fire Cause Detection	pp. 752-772
	<i>Chapter 26 Online Discussion: Post answers to You Are the Brigade Member Scenario</i>	pp. 754 Online
	<i>Complete Chapter 26 Pre-Test</i>	Online
	<i>Complete Chapter 26 Test</i>	Online