



National Fire Academy

R0615 – Hazardous Materials Code Enforcement

Version: 1st Edition, 3rd Printing, May 2018

Quarter:

ACE Credit: In the lower division baccalaureate/associate degree category, three semester hours in fire science or fire administration.

IACET Continuing Education Units: 3.7

Length of Course: 6 Days (36 hr., 35 min. contact hours, Sunday – Friday)

Prerequisite: Yes

Curriculum: Fire Protection: Technical, Hazardous Materials

Training Specialist: Wayne Yoder

Instructor:

Instructor email/phone:

Classroom: J-

Meeting Time: 8 AM – 5 PM

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Course Description (Catalog)

R0615 – “Hazardous Materials Code Enforcement.” This six-day course is designed to guide students in gaining and sharing the knowledge, skills and abilities to effectively recognize and analyze hazardous materials risk, classify the materials, and apply the codes, standards, and regulations to prevent incidents and mitigate threats to life and property.

Upon completion of the course, students learn how to analyze the level of fire and life safety inside and outside of occupied and unoccupied structures or facilities that handle, use, store,

transport and dispose of hazardous materials. Learning is accomplished through interactive lecture, group activities and testing.

The students will study:

- Identification and classification of hazardous materials.
- Application of codes and control methods.
- Planning by analyzing risk and vulnerability.
- Demonstration of risk-reduction techniques.

Student Qualifications (Primary and Secondary Audience)

Hazardous materials inspectors, fire safety personnel, plans reviewers, building officials, planners, and safety personnel responsible for ensuring fire and life safety.

Course Scope (Goal)

Course Objectives (Course Learning Outcomes – TLOs)

After successfully completing this course, you will be able to accomplish the following:

- Identify the need for hazardous materials regulations.
- Classify chemicals and identify hazards when used or stored within an occupancy.
- Demonstrate how to determine maximum allowable quantities (MAQs) of hazardous materials per control area.
- Apply the code, regulation and/or standards to control the hazards, given a hazardous materials classification, location and quantity.
- Describe the protocol for sharing information about the presence of and risk and mitigation strategies pertinent to the hazardous materials that are stored and/or utilized in their local community.

Course Delivery Method

The National Fire Academy (NFA) offers specialized training courses and advanced management programs of national impact in an academic classroom environment [on campus at the National Emergency Training Center \(NETC\) in Emmitsburg, Maryland](#). This classroom course is designed for the national level fire service officer from State and local fire service organizations. During this six-day delivery, students will reside in dormitories provided on campus with classes conducted in classrooms designed for critical student/instructor interaction. All course materials are designed for interactive classroom environments, in either paper notebook or electronic formats.

Course Schedule

The purpose of the course schedule is to give you, at a glance, the required preparation, activities, and evaluation components of your course.

TIME	DAY 1	DAY 2
AM	Unit 1: Introduction Unit 2: Hazardous Materials Regulations	Unit 3: Identify and Classify (cont'd)
	<i>Lunch Break</i>	<i>Lunch Break</i>
PM	Unit 2: Hazardous Materials Regulations (cont'd) Unit 3: Identify and Classify	Unit 4: Maximum Allowable Quantities and Control Areas
	Day 1 Evening A. Read Units 1-4	Day 2 Evening A. Read Unit 5

Note: This schedule is subject to modification by the instructors and approved by the training specialist.

TIME	DAY 3	DAY 4
AM	Unit 4: Maximum Allowable Quantities and Control Areas (cont'd)	Unit 5: Application of the Code and Control Methods (cont'd)
	<i>Lunch Break</i>	<i>Lunch Break</i>
PM	Unit 5: Application of the Code and Control Methods	Unit 5: Application of the Code and Control Methods (cont'd)

Day 1 Evening
A. Read Unit 5

Day 2 Evening
A. Read Unit 5

TIME	DAY 5	DAY 6
AM	Unit 5: Application of the Code and Control Methods (cont'd)	Exam Final Group Project
	<i>Lunch Break</i>	<i>Lunch Break</i>
PM	Unit 6: Information Sharing Final Group Project	Presentations Graduation

Day 1 Evening
A. Study for Exam

Course Resources (Instructional Materials)

In order to be fully prepared, obtain a copy of the required textbooks and other instructional materials prior to the first day of class.

Required Readings

The student must complete required readings during the course to be able to thoughtfully participate in discussions and activities.

None.

Suggested Reading/Resources

Suggested readings and resources are not evaluated, but may enhance the student's understanding, serve as additional sources for citation and promote discussion of course material.

None.

Required Resources (Course Textbook)

Student Manual.

Supplemental Resources (Supplemental Course Textbook)

None.

Grading Methodology (Evaluation Procedures)

A minimum final grade of at least 70 percent is required to pass this course.

Numerical Score	Letter Grade
100-90	A
89-80	B
79-70	C
69 or below	F

Required Reading Assignments

Student completion of reading assignments will be done via evaluation of their class participation and will not be a separately graded activity.

Suggested Readings

Suggested readings are not evaluated, but may enhance the student's understanding and promote discussion of course material.

Course Outline

Unit 1: Introduction

Objectives

None.

Unit 2: Hazardous Materials Regulations

Objectives

Terminal Objective

The students will be able to:

- 2.1 Identify the need for hazardous materials regulations.

Enabling Objectives

The students will be able to:

- 2.1 Explain the history of regulations and need for change.
- 2.2 Describe current regulations.
- 2.3 Access existing information needed for compliance with regulations.
- 2.4 Determine what is needed in a Hazardous Materials Management Plan (HMMP).

Unit 3: Identify and Classify

Objectives

Terminal Objective

The students will be able to:

- 3.1 Classify chemicals and identify hazards when used or stored within an occupancy.

Enabling Objectives

The students will be able to:

- 3.1 Identify hazardous materials.
- 3.2 Given a case study and photos, identify the presence of hazardous materials.
- 3.3 Recognize the difference between a physical hazard and a health hazard.
- 3.2 Using the appropriate resources, place materials into the appropriate hazard classes.
- 3.5 Classify materials found in a given scenario.

Unit 4: Maximum Allowable Quantities and Control Areas

Objectives

Terminal Objective

The students will be able to:

- 4.1 Demonstrate how to determine maximum allowable quantities (MAQs) of hazardous materials per control area.

Enabling Objectives

The students will be able to:

- 4.1 Describe the relationship between the building code, fire codes and hazardous materials standards.
- 4.2 Illustrate examples of situations where consultation from technical specialists and/or third-party entities may be advisable.
- 4.3 Summarize the concepts involved in the safe use and storage of hazardous materials.
- 4.4 Given a scenario, determine the application and use of MAQs and control areas.
- 4.5 Describe the characteristics of a high-hazard (H) occupancy and its relationship between the fire and building codes.

Unit 5: Application of the Code and Control Methods

Objectives

Terminal Objective

The students will be able to:

- 5.1 Apply the code, regulation and/or standards to control the hazards, given a hazardous materials classification, location and quantity.

Enabling Objectives

The students will be able to:

- 5.1 Identify methods to control hazards.
- 5.2 Identify codes, regulations and standards that provide the authority to implement controls.
- 5.3 Given an occupancy, quantity and hazardous material classification, determine the maximum allowable quantities (MAQs).

Unit 6: Information Sharing

Objectives

Terminal Objective

The students will be able to:

- 6.1 Describe the protocol for sharing information about the presence of and risk and mitigation strategies pertinent to the hazardous materials that are stored and/or utilized in their local community.

Enabling Objectives

The students will be able to:

- 6.1 Explain the rationale for sharing information on hazardous materials among organizations and the community at large.
- 6.2 Define the types of information about hazardous materials that should be shared.
- 6.3 Suggest mediums for information sharing.
- 6.4 Discuss emerging requirements pertinent to global harmonization that will impact how information is recorded and shared.

Policies

Class Attendance and Cancellation Policy

Attendance

- You are required to attend all sessions of the course. If you do not, you may not receive a certificate, and your stipend may be denied.
- If you need to depart campus early and miss any portion of the course and/or graduation, you must make the request in writing to the NFA training specialist. The training specialist, in collaboration with the superintendent, may waive the attendance requirement in order to accommodate you with extraordinary circumstances as long as you complete all course requirements. If you receive approval for departing early, you must forward the approval to the Admissions Office so your stipend reimbursement is not limited.

Student Substitutions

Substitutions for NFA courses are made from waiting lists; your fire department can't send someone in your place.

Cancellations or No-Shows

NFA's mission for delivery of courses is impaired significantly by cancellations and no-shows. It is very difficult and costly to recruit students at the last minute. Currently there is a two-year ban on student attendance for students who are no-shows or cancel within 30 days of the course start date without a valid reason. If you receive such a restriction, your supervisor needs to send a letter to our Admissions Office explaining the cancellation/no-show.

Course Failure

If you fail an on-campus course, you will not be issued a stipend for that course. You can reapply for the failed course or any other NFA course and go through the random selection process. You don't have to successfully complete the failed course before attending another NFA course.

Student Code of Conduct Policy

Students, instructors and staff are expected to treat each other with respect at all times. Inappropriate behavior will not be tolerated and may result in removal from campus and denial of stipends.

Writing Expectations

Student writing will conform to the generally accepted academic standards for college papers. Papers will reflect the original work of the student and give appropriate credit through citations for ideas belonging to other authors, publications or organizations. Student written work should be free of grammatical and syntax errors, free of profanity or obscene language or ideas, and reflect critical thinking related to the course subject matter.

Citation and Reference Style

Attention Please: Students will follow the APA, Sixth Edition as the sole citation and reference style used in written work submitted as part of coursework to NFA. Assignments completed in a narrative essay, composition format, abstract, and discussion posts must follow the citation style cited in the APA, Sixth Edition.

Late Assignments

Students are expected to submit classroom assignments by the posted due date (11:59 p.m. EDT/EST) and to complete the course according to the published class schedule. As adults, students, and working professionals, you must manage competing demands on your time. Discussion board postings submitted within 3 days after the submission deadline will receive up to a 20% deduction. Those that do not submit their discussion board postings within this timeline will receive a “0” grade for the week. Final assignment papers will not be accepted after the deadline. Any paper submitted after the deadline will receive a “0” grade for that assignment.

Netiquette

Online learning promotes the advancement of knowledge through positive and constructive debate – both inside and outside the classroom. Forums on the Internet, however, can occasionally degenerate into needless insults and “flaming.” Such activity and the loss of good manners are not acceptable in a professional learning setting – basic academic rules of good behavior and proper “Netiquette” must persist. Remember that you are in a place for the rewards and excitement of learning which does not include descent to personal attacks or student attempts to stifle the forum of others.

- **Technology Limitations.** While you should feel free to explore the full-range of creative composition in your formal papers, keep e-mail layouts simple. The NFA Online classroom may not fully support MIME or HTML encoded messages, which means that bold face, italics, underlining, and a variety of color-coding or other visual effects will not translate in your e-mail messages.
- **Humor Note.** Despite the best of intentions, jokes and especially satire can easily get lost or taken seriously. If you feel the need for humor, you may wish to add “emoticons” to help alert your readers: ;-), :) , ☺ .

Disclaimer Statement

Course content may vary from the outline to meet the needs of this particular group.

Grading

Please review the following rubrics that explain how grades will be awarded.

Students who do not complete the entire course will be awarded an Incomplete (I) grade. In accordance with National Fire Academy academic policies, an Incomplete (I) grade must be removed by the end of the next semester following the course, or it automatically becomes a Failing (F) grade.

If you fail an on-campus course, you will not be issued a stipend for that course. You can reapply for the failed course or any other NFA course and go through the random selection process. You don't have to successfully complete the failed course before attending another NFA course.

http://www.usfa.fema.gov/training/nfa/admissions/student_policies.html

Academic Honesty

Students are expected to exhibit exemplary ethical behavior and conduct as part of the NFA community and society as a whole. Acts of academic dishonesty including cheating, plagiarism, deliberate falsification, and other unethical behaviors will not be tolerated.

Students are expected to report academic misconduct when they witness a violation. All cases of academic misconduct shall be reported by the instructor to the Training Specialist.

If a student is found to have engaged in misconduct and the allegations are upheld, the penalties may include, but are not limited to one or a combination of the following:

- expulsion,
- withholding of stipend or forfeiture of stipend paid,
- exclusion from future classes for a specified period; depending on the severity it could range from 1-10 years, and/or
- forfeiture of certificate for course(s) enrolled in at NETC.

Refer to NFA-specific Standard Operating Procedure 700.1 – *Academic Code of Conduct and Ethics* for more information.

Grading Rubrics

Group Activity Scoring Guide

Date: _____

Name: _____

Group Members:

Instructor Comments:

Training Specialist Comments:

Final Group Project Grading Rubric

	Poor (4 points)	Fair (6 points)	Good (8 points)	Excellent (10 points)	Comments
Presentation Was it organized? Could you answer all questions?	Presentation was not clear. Information was not well-organized. Group members were unable to answer questions.	Presentation was audible, but needs improvement on tone of voice when speaking. Information was somewhat organized. Group members were able to answer some questions when asked by teacher or other students.	Presentation was audible. Good tone of voice when speaking. Information was very well-organized. Group members were able to answer most questions posed by teacher and other students.	Presentation was of professional caliber. Information was extremely organized and easy to follow. Group members were able to answer all questions posed by the other students as well as the teacher.	
Visual Aids/Documentation Visual aspects of project were well-organized and easy to understand. Documentation was adequate to justify decision processes.	Visual aids/Documents were very disorganized and hard to read. Contained lots of grammatical/technical mistakes.	Visual aids and documents could be better organized and easier to read. Some grammatical/technical errors.	Visual aids/Documents were organized and easy to read. Very few grammatical/technical errors.	Visual aids/Documents were easy to read and understand, organized and creative. No grammatical/technical errors, demonstrated risk-based decision-making and creativity.	
Group Work Time Did the group utilize time opportunities to work collaboratively and in a coordinated manner?	Did not use time wisely when working together as a group. Group did not stay on task and did not work on project.	Needs improvement on how to use time wisely when working together in a group. Group basically stayed on task, but was not fully focused on project. Teacher had to speak to the group to keep them on task.	Used time wisely when working together in group. Group was focused on task. Asked questions when stuck or required guidance.	Group stayed on task the entire class time allotted for the project. Group was organized and able to complete project with little to no assistance from the teacher.	
Technical Content Did the group analyze the information, extrapolate the incident course and decide on a plan of action?	The group failed to justify the identified objectives relevant to safe, risk-based operations.	The group needs to improve the justification of the selection of objectives and estimation of potential course and harm.	The group analyzed the scenario, justified the objectives and exercised good judgment.	The group analyzed the scenario; estimated the potential course and harm; and made sound, risk-based decisions related to the selection of objectives and development of the plan of action.	
Participation Did everyone present equally?	One or two members of the group did all the work. Some refused to participate or were not allowed to help.	One or two members of the group didn't help complete tasks. Group was constantly covering for group members or not encouraging them to participate. Most members presented.	All group members worked on their own assignments. No one did more work than anyone else. Some communication, but mostly worked separately. All members presented.	All group members worked on their assignments, but also collaborated frequently. Clear connection and communication between the group members. All members presented.	

