



New Hampshire Department of Safety
Division of Fire Standards and Training and Emergency Medical Services
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FIRE STANDARDS AND TRAINING COMMISSION

CURRICULUM DEVELOPMENT AND APPROVAL GUIDE

Hazardous Materials Awareness NFPA 470, 2022

Approved by the New Hampshire Fire Standards and Training Commission

Commission Approval

Date:

11/7/2024

INTRODUCTION:

The New Hampshire Fire Standards and Training Commission is responsible for the approval of certification curricula for firefighters throughout the state. To accomplish this portion of their mission, the Commission establishes a Visiting Committee who is charged with recommending new curricula, or updating existing certification programs, to present to the Commission for approval and adoption.

SCOPE:

This procedure shall apply to all Visiting Committees appointed by the Fire Standards and Training Commission.

PROCEDURE:

- I. The establishment of the Visiting Committee shall follow the approved policy from the Commission.
- II. Once appointed, the Visiting Committee shall be charged with providing valuable input of the current needs facing the New Hampshire emergency services responders. They shall work closely with the Division to provide this input and feedback on the proposed curriculum.
- III. With input from the Visiting Committee, the Division shall be responsible for formulating module lesson plans, presentation outlines, and job performance requirements and be consistent with Fire Part 402.03. It is not the responsibility of the Visiting Committee to choose instructors or design quizzes and exams.
- IV. Once a curriculum package is selected and all necessary documentation is completed, the Committee shall present to the Curriculum Committee for approval. If the Curriculum Committee approved the proposal, it shall then be brought forward to the full Commission for a preliminary approval. Once a preliminary approval has been granted, two public hearings (one in the day and one in the evening) shall be held in conjunction with a 60 day written comment period. All pertinent documentation shall be posted on the Division's website and notification of the comment period shall be distributed. Additionally, if ProBoard approval is required, it shall be done simultaneously with the public comment period.
- V. Upon completion of the public comment period and approval from ProBoard, if applicable, the final curriculum and public comments shall be brought forward to the full Commission for final approval.
- VI. Upon completion of two deliveries of the curriculum or after a period of one year, which ever happens first, the Division shall provide the Commission an evaluation of the curriculum and any suggested curriculum modifications needed.

MEETING GUIDELINES:

- I. All Visiting Committee meetings shall be posted in advance on the Division's website along with the other meetings of the Commission. Along with posting each meeting, notification shall be sent to any person that expressed interest in being a member of the committee who was not selected.
- II. A quorum on each Visiting Committee shall be established as a simple majority of the seated members. It is the intent to have an in-person quorum at each meeting, however in coordination with the Commission's representative the use of conferencing calling and/or video conferencing may be utilized.
- III. In the event a quorum is not possible, the Commission representative shall make the determination whether to hold the meeting or postpone it.
- IV. Upon the conclusion of each meeting, minutes shall be posted to the Division's website.
- V. All final recommendations shall be voted on by a quorum of the Visiting Committee.

Curriculum Information Sheet

Name of Certification:
(including NFPA Standard)

Hazardous Materials Awareness

NFPA Standard: 470 Edition Date: 2022 Next Edition: 2027

Type of Certification:

NH Certification * Pro-Board Accredited X
Certificate of Attendance _____

* Students who have completed the online course will receive a certificate of completion stating that they have met the requirements of 29 CFR 1910.120 and 40 CFR 311. Candidates may then sit for the Division-administered Pro Board accredited Hazardous Materials Awareness certification exam.

ProBoard/Certification requirements:

Number of exam questions: 50
Job Sheets updated and formatted: None
Assessment Methodology Matrix: Yes
Method of Delivery: Classroom / Hybrid / **Online**

Reference Materials:

Digital Emergency Response Guidebook (Current Edition) excerpted

Class Size:

Min: 1 Max: unlimited **Total Curriculum Hours:** 4 (online)

Module Breakdown:

Module 1: Hazmat Awareness	Hours:	4 hours
Lesson 1: Introduction to Hazmat and WMD	Hours:	40 min
Lesson 2: Recognition of Hazards	Hours:	50 min
Lesson 3: Identification of Hazards	Hours:	50 min
Lesson 4: Response to Hazards	Hours:	40 min
Lesson 5: Notification	Hours:	30 min
Lesson 6: Culminating Exercise	Hours:	30 min
Total:		4 hours

Prerequisites for Enrollment:

Open enrollment online. No prerequisites for enrollment.

Requirements to be Eligible for Certification Testing:

Completion of all online lessons.

Attach sample schedule of proposed training program:

Yes _____ No X*

* This online course is online and has no schedule.

Attach roster appointed Visiting Committee members

Yes X No _____

Curriculum Committee Approval

The presented curriculum was approved at the curriculum committee meeting on

Date: _____

Public Hearing Dates

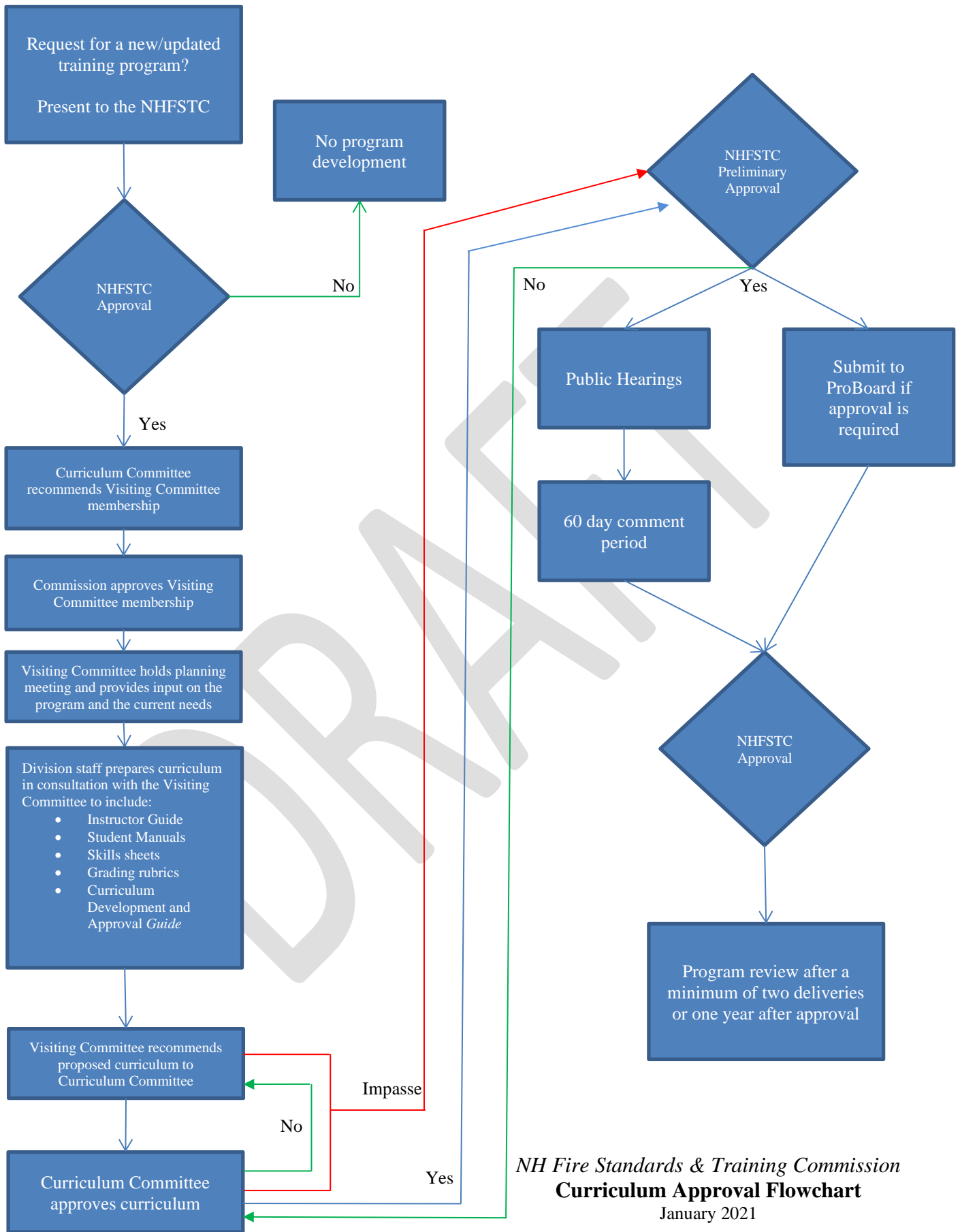
Daytime: 10/18 @ 1500

Evening: 10/18 @ 1700

60 day comment period window

9/5 – 11/4

Please attach all public comment material to this document



NH Fire Standards & Training Commission
Curriculum Approval Flowchart
 January 2021

Visiting Committee Members

Name	Position	Organization
Guy Newbery	Call/Volunteer/Combination Fire Chief	
Brian Wade	Career Firefighter	City of Portsmouth Fire Department, START Seacoast Hazardous Materials Team
James Richardson	Coordinator, Twin State Fire Mutual Aid	Littleton Fire Department
Scott Hunter	Career Fire Chief	Bedford Fire Department
James Sylvain	Career Firefighter	Manchester Airport Fire Department
Stephen Solomon	Call/Volunteer/Combination Fire Chief	Conway Fire, Carroll County Haz Mat Team
Gary Courtney	Public member	
Robert Field	FSTC Representative	NH Fire Standards and Training Commission
Nicholas Bibeau	FSTEMS Representative	NH Division of Fire Standards and Training & EMS

Curriculum History

In 2022, the NFPA consolidated NFPA 472, NFPA 473, and NFPA 1072 into a single hazardous materials/WMD safety standard. This update initiated the curriculum development process in accordance with NH Fire Standards and Training Commission policy. A visiting committee was established with the goals of improving student use of the Emergency Response Guidebook (ERG) and making the course more engaging and educationally rigorous. The visiting committee considered both the knowledge competencies listed in Chapter 4, and the Job Performance Requirements (JPRs) listed in Chapter 5 of NFPA 470. This allowed for the comprehensive coverage of recommended knowledge and skill.

Summary of Changes

This version of the curriculum has extensive changes from previous editions, more closely aligning the content with NFPA standards. This includes a top-to-bottom revision of the online presentation to be more engaging, interactive, and rigorous.

Learning Outcome

At the conclusion of this online course, those who may encounter hazmat/WMD in the execution of their normal duties will be able to recognize the presence of hazardous materials, identify potential dangers including those related to terrorism and weapons of mass destruction, and initiate protective actions given multiple scenarios such that references are utilized to effectively isolate the hazard area and notify higher trained personnel.

Learning Objectives

Learning objectives are clear goals that help instructors plan lessons and activities to focus on the most important parts of the lesson. By having these goals set in the curriculum, instructors can adapt their lessons to meet the needs of their students and the constraints of the learning environment. Learning objectives help instructors and program coordinators measure how well students understand the material through formative evaluations and activities, ensuring students and instructors stays on track.

ID	Objective	Alignment
HMA-LO1	Describe the role of a hazardous materials (hazmat)/weapons of mass destruction (WMD) awareness level responder at an incident involving hazmat/WMD, given a scenario, such that actions are consistent with awareness-level expectations.	5.2.1
HMA-LO2	Identify state, federal, and international organizations involved with hazmat/WMD response, given a scenario and a list of organizations with responsibilities, such that the appropriate agencies are notified.	5.2.1

HMA-LO3	Differentiate between a hazmat/WMD incident and other emergencies, given definitive characteristics and a scenario, such that the presence of hazmat/WMD is identified.	5.2.1
HMA-LO4	Recognize hazard classes and divisions, given common examples of materials in each hazard class and division and a copy of the current Emergency Response Guidebook (ERG), such that possible harms to people, routes of exposure, harms to environment, animals, and property are matched with their primary hazards.	5.2.1
HMA-LO5	Recognize clues that indicate the presence of hazmat/WMD, given sensory information in a scenario, such that the presence of a hazmat incident is identified and the limitations of reliance on sensory information is recognized.	5.2.1
HMA-LO6	Identify the indicators of hazmat/WMD, given a copy of the current ERG and a scenario that includes container shapes, NFPA 704 placards, GHS markings, facility occupancy and location, safety data sheets (SDS), pipeline markings, other transportation markings, shipping papers, dispatch or emergency planning information, or military markings, such that the presence of hazmat is recognized, primary hazards are identified, and appropriate action is taken.	5.2.1
HMA-LO7	Identify the materials involved in a hazmat/WMD incident, given a scenario, such that materials are classified despite incomplete information.	5.2.1
HMA-LO8	Demonstrate using the ERG, given information collected from multiple sources, such that appropriate actions are taken.	5.3.1
HMA-LO9	Determine appropriate protective actions, given large and small spills, environmental conditions, and a current copy of the ERG orange- and green-bordered pages, such that isolation distance and direction are identified.	5.3.1
HMA-LO10	Demonstrate denying entry to or exit from a hazmat/WMD incident, given a scenario, a current copy of the ERG, and a response plan, such that the purpose of, and methods used to isolate the area and deny entry are identified.	5.3.1
HMA-LO11	Communicate relevant information regarding a hazmat/WMD incident, given a scenario, a current copy of the ERG, a response plan or standard operating procedure (SOP), and a method of communication, such that pertinent details are transmitted in a complete, clear, and concise manner, and appropriate resources are requested.	5.4.1

Skill Competencies

Skill competencies are specific abilities that students will develop during the program. Competencies help instructors plan lessons and activities. By understanding these competencies, instructors can adapt their lessons to meet the needs of their students and the constraints of the learning environment, including the use of different equipment, tools, or techniques. Skill competencies also help instructors measure how well students are developing their abilities through formative evaluations and practical activities, ensuring everyone stays on track. Students who can perform the skill competencies will demonstrate that they have achieved competence. Explanatory material within NFPA 470 allows for the cognitive testing of requisite skills.

ID	Outcome	Alignment
---	Requisite skills are performed online and assessed through cognitive testing.	5.2.1(B)
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HMA-S-01	Students will communicate information regarding a hazmat/WMD incident, given a scenario and a means of communication, such that all necessary information is communicated effectively.	5.4.1(B)

Content Outline

A content outline is a detailed plan that lists all the modules, blocks (if applicable), lessons and/or evolutions that will be covered in a course. It helps instructors by organizing the course material in a logical order, defining the overall range of topics (scope) and the order in which they will be taught (sequence). It helps ensure that each topic builds on the previous one. This helps instructors make sure that they cover all necessary material and teach it in a way that makes sense, allowing students to build their knowledge step by step.

Lesson	Learning Objectives	Std/LO	Resources
Module 1: Hazmat Awareness			
Lesson 1 40 min	Introduction to Hazmat and WMD Define hazmat/WMD. <ol style="list-style-type: none"> Review basic principles of chemistry. Identify routes of exposure. Match PPE to exposure. Identify standards and regulations applicable to hazmat response, organizations, and resources. Identify the roles and responsibilities of the HMA responder. 	4.1.1 4.1.2 LO1 LO2 LO3	
Lesson 2 20 min	Recognition <i>Scenario 1.1: Dispatched to the Incident</i> <ol style="list-style-type: none"> Introduction to the ERG Hazard classes and divisions Primary hazards <i>Scenario 1.2: Recognize the Hazard</i> <ol style="list-style-type: none"> Collecting information: Locations and Facilities Collecting information: Containers Collecting information: Placards Collecting information: Markings Collecting information: Papers Collecting information: Senses <i>Scenario 1.3: Collect the Information</i>	4.2.1 5.2.1 LO4 LO5 LO6 LO8	Emergency Response Guidebook, pp 7-8
Lesson 3 40 min	Identification <i>Scenario 2.1: Dispatched to the Incident</i> <ol style="list-style-type: none"> Working with incomplete information <i>Scenario 2.2: Collect the Information</i> <ol style="list-style-type: none"> Using the ERG <i>Scenario 2.3: Identify the Threat</i>	4.2.2 4.2.3 LO7 LO8	Emergency Response Guidebook (excerpts)
Lesson 4 40 min	Response <i>Scenario 3.1: Identify the Threat</i> <ol style="list-style-type: none"> Isolate the Hazard Area <i>Scenario 3.2: Implement the Response</i> <ol style="list-style-type: none"> Deny Entry <i>Scenario 3.3: Isolate and Deny Entry</i>	4.2.2 4.4.1 5.3.1 LO8 LO9 LO10	Emergency Response Guidebook (excerpts)
Lesson 5 30 min	Notification <i>Scenario 4.1: Identify the Threat</i> <ol style="list-style-type: none"> Initiating notification <i>Scenario 4.2: Implement the Response</i> <ol style="list-style-type: none"> Getting the right resources <i>Scenario 4.3: Communicate the Information</i>	5.4.1 5.4.2 LO8 LO11	Emergency Response Guidebook (excerpts)
Lesson 6 30 min	Culminating Exercise <i>Scenario 5: Recognize, Identify, Respond, Notify</i>	5.2.1 5.3.1 5.4.1 LO1-11	Emergency Response Guidebook (excerpts)

Hazardous Materials Awareness Standards Map

		Lesson					
		1	2	3	4	5	6
NFPA® 470 4.1.1	Scope of awareness level personnel	•					•
NFPA® 470 4.1.2	Goal of awareness level training	•					•
NFPA® 470 5.2.1	Recognize and identify the hazardous materials/WMD and hazards involved in a hazardous materials/WMD incident.		•				•
NFPA® 470 4.2.1	Recognizing the Presence of Hazardous Materials/WMD		•				•
NFPA® 470 4.2.2	Identifying Hazardous Materials/WMD			•	•		•
NFPA® 470 4.2.3	Collecting Hazard Information			•			•
NFPA® 470 5.3.1	Isolate the hazard area and deny entry at a hazardous materials/WMD incident.				•		•
NFPA® 470 4.4.1	Isolate the Hazard Area				•		•
NFPA® 470 5.4.1	Initiate required notifications at a hazardous materials/WMD incident.					•	•
NFPA® 470 4.4.2	Initiating the Notification Process					•	•

Table of Test Specifications

A table of test specifications, also called a test blueprint, is a detailed chart that helps the accredited agency plan and organize a certification exam. It includes many key pieces of information to ensure the test is fair and comprehensive. The table lists the categories that will be tested, aligning each with the relevant standards to make sure the test matches what students have learned. It shows the total number of questions on the test and the percentage of questions for each category, helping to balance the focus on different topics. Based on these percentages, the table also indicates the exact number of questions in each category. Additionally, it breaks down the questions by knowledge level, showing the percentage and number of questions that test basic recall of facts and those that require students to apply their knowledge.

Hazardous Materials Awareness Certification Exam Specifications

		Items	Recall	Apply
		50	80%	20%
Std.	Category / Topic	Wt%	Items	Items
5.2	Recognition and Identification	45%	18	4
5.3	Initiate Protective Actions	45%	18	4
5.4	Notification	10%	4	1