



Northeastern Illinois Public Safety Training Academy

Course Syllabus

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| Title: Hazardous Materials Technician | Program Duration: 80 Hours |
| Type: Campus Training Program (CTP) | Coordinator: Chris Nechvatal |

Course Description

The Hazardous Materials Technician course is designed to train persons who respond to hazardous materials/weapons of mass destruction (WMD) incidents for the purpose of using a risk-based response process to analyze a problem involving hazardous materials/WMD, plan a response to the problem, implement the planned response, evaluate progress of the planned response and adjust as needed, and assist in terminating the incident as a Hazardous Materials Technician.

The curriculum is designed to fulfill the standards as set forth by NFPA 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents, current edition.

Successful completion of the NIPSTA Hazardous Materials Technician course, both cognitive and practical application, will fulfill course requirements for certification with the Illinois Office of the State Fire Marshal (OSFM) as a Hazardous Materials Technician.

Prerequisites

The purpose of prerequisite course work is to ensure students have sufficient backgrounds to understand the terminology, tactics, and practical applications presented in NIPSTA programs. At a minimum, NIPSTA requires the following course work (or equivalent) in order to attend the Hazardous Materials Technician course:

- Basic Operations Firefighter
- Hazardous Materials-First Responder Operations

***Those in a private industry or law enforcement discipline are not be required to complete the above-mentioned prerequisites based upon their discipline. However, without the Illinois Office of the State Fire Marshal (OSFM) requirements listed above, individuals will not be able to receive OSFM Certification as Hazardous Materials Technician.**

Attendance

In order to receive a certificate of completion for courses, NIPSTA requires students to be present for all lectures, demonstrations, practical skills, and exercises. In addition, a student will be required to successfully complete a written examination with a passing score of 70% or greater.

Safety

NIPSTA Instructors will ensure hazards have been identified, addressed and course safety guidelines are discussed prior to operations. Unsafe actions or behaviors will not be tolerated and will be grounds for dismissal.

Academic Integrity

NIPSTA aspires to the highest possible standards of honesty and integrity in all of its programs. Academic integrity and honesty are key tenants of the NIPSTA experience. NIPSTA Instructors set forth clear ethical expectations, promote consistency of standards, and encourage reporting of dishonest and unsafe behaviors. While education through participation is the central goal for every NIPSTA program, it is only possible when honesty and integrity are part of the overall mission.

Performance Testing & Evaluation

NIPSTA uses multiple methods of measuring competency of subject matter including cognitive or performance skill testing. Performance skill tests, measure an individual's ability to perform specific tasks or applications based on given or known JPRs. Unless otherwise specified, performance skill tests will be pass or fail. Performance skill tests will be based upon the Illinois Office of the State Fire Marshal (OSFM) Practical Skills Examination.

Continuing Medical Education (CME)

The NIPSTA Hazardous Materials First Responder-Operations course is approved, through Illinois EMS Region X Highland Park Hospital, for 8 hours of Illinois Department of Public Health (IDPH) Continuing Medical Education for IDPH medical license holders.

ADA Compliance

Students with a documented learning disability, as that term is used in the American with Disabilities Act (ADA), may qualify for reasonable assistance under... See ___ for more info

Course Content

Course content is grouped into Subject Area Modules (Mods). Mods are broken up by hours and will be covered over the course of the program. The following 11 Mods are covered in Hazardous Materials Technician:

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|--|---|
| Pre-course assignment | Mod 3: Managing the Incident: Problems, Pitfalls, and Solutions |
| Introduction & Orientation | Mod 4: The Eight Step Process: An Overview |
| Mod 1: The Hazardous Materials Management System and Regulatory Laws | Mod 5: Site Management |
| Mod 2: Health and Safety-Firefighter Safety and Effects of Chemical Hazards | Mod 6: Selecting Personal Protective Clothing and Equipment |
| | Mod 7: Hazard Assessment and Risk Evaluation: Chemical Analysis, |

Container Behavior, and Implementation of Tactical Objectives

Mod 8: Selecting Personal Protective Clothing and Equipment- Chemical Protective Clothing and Respiratory Protection Options

Mod 9: Information Management and Resource Coordination: Science Information Management and Joint Operations with other agencies

Mod 10: Implementing Response Objectives: Tactical Decisions to resolve Hazmat/WMD Incidents

Mod 11: Decontamination: Technical, Mass, and

Mod 12: Terminating the Incident: After Action Review, Notifications to responsible authorities

Testing & Evaluation

Hazardous Materials Technician Schedule

*Each day, one group will be assigned to complete a Level A Suit Testing during the lunch hour.

Day 1

Reading List

Jones and Bartlett Learning, *Managing the Incident*, 4th Edition. Chapters 1, 4, 8
Emergency Response Guide (ERG), 2016 Edition, Department of Transportation

Lecture (4.5 hours)

Avg. Time

| | |
|--|------------------|
| Pre-course Assignment | 15 min |
| Introduction & Orientation | 15 min |
| Mod 1: The Hazardous Materials Management System: Laws "The Big Picture" (Operations vs. Technician) | 60 min 60 min |
| Mod 4: 8 Step Process Overview | 60 min |
| Mod 8: PPE Selection Considerations (Level A, B, C, D) | 60 min |

Practical Exercises (3 hours)

Avg. Time

| | |
|--|---------|
| Level A Donning/Doffing Drills with Suit familiarization | 180 min |
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Day 2

Reading List

Jones and Bartlett Learning, *Managing the Incident*, 4th Edition. Chapters 2, 7,

Lecture (3 hours)

Avg. Time

| | |
|---|--------|
| Mod 2: Health and Safety of Hazmat Responders | 60 min |
| Mod 7: Chemical References and Chemical Behavior | 60 min |
| Mod 6: Identifying the Problem | 60 min |

| Practical Exercises (4 hours) | Avg. Time |
|--|------------------|
| Level B Dressout with Recognition and Identification | 120 min |
| IAP Development and Science Worksheets | 120 min |

Day 3

Reading List

Jones and Bartlett Learning, *Managing the Incident*, 4th Edition. Chapter 7

| Lecture (1 hours) | Avg. Time |
|---|------------------|
| Mod 7: Hazard Assessment and Risk Evaluation | 60 min |

| Practical Exercises (6 hours) | Avg. Time |
|--|------------------|
| Site Visits: Altom Trucking/fixd facility | 180 min |
| Level B Dressout with Product Control (Roadway) | 180 min |

Day 4

Reading List

Jones and Bartlett Learning, *Managing the Incident*, 4th Edition. Chapter 8

| Lecture (1 hours) | Avg. Time |
|--|------------------|
| Mod 8: Selecting Personal Protective Clothing and Equipment | 60 min |

| Practical Exercises (4 hours) | Avg. Time |
|--------------------------------------|------------------|
| Suit Testing | 60 min |
| Vetter Kits (Level B) | 180 min |

Day 5

Reading List

Jones and Bartlett Learning, *Managing the Incident*, 4th Edition. Chapter 9, 10

| Lecture (2 hours) | Avg. Time |
|--|------------------|
| Mod 9: Information Management and Resource Coordination | 60 min |
| Mod 10: Implementing Response Objectives | 60 min |

| Practical Exercises (3 hours) | Avg. Time |
|--|------------------|
| Level A Dressout with Product Control (Fixed Facilities) | 180 min |

Day 6

Reading List

Jones and Bartlett Learning, *Managing the Incident*, 4th Edition. Chapters 11, 12.

| Lecture (4.5 hours) | Avg. Time |
|---|------------------|
| Mod 11: Decontamination | 60 min |
| Mod 12: Terminating the Incident | 30 min |

| Practical Exercises (3 hours) | Avg. Time |
|--------------------------------------|------------------|
| Mod 10: IAP Development | 180 min |

Day 7

Reading List

Jones and Bartlett Learning, *Managing the Incident*, 4th Edition. No Chapters Assigned.

| Lecture (1 hours) | Avg. Time |
|--------------------------|------------------|
| Hazard: Radiation | 60 min |

| Practical Exercises (3 hours) | Avg. Time |
|--------------------------------------|------------------|
| Radiation Monitors | 60 min |
| Radiation Hazards (Level B Dressout) | 120 min |

Day 8

Reading List

Jones and Bartlett Learning, *Managing the Incident*, 4th Edition.

| Lecture (1 hour) | Avg. Time |
|------------------------------|------------------|
| Managing the Incident Review | 60 min |

| Practical Exercises (5 hours) | Avg. Time |
|--------------------------------------|------------------|
| A Kit, B Kit, Midland Kit | 180 min |

Day 9

Reading List

Jones and Bartlett Learning, *Managing the Incident*, 4th Edition.

| Lecture (2 hour) | Avg. Time |
|--|------------------|
| Evidence Preservation, Illicit Labs, and WMD Consideration | 60 min |
| Technology Support for Hazardous Materials Incidents | 60 min |

| Practical Exercises (4 hours) | Avg. Time |
|--|------------------|
| Evidence Preservation and Sampling Demo | 60 min |
| Evidence Preservation and Sampling Practical | 180 min |

Day 10

Reading List

Review for examination

| Lecture (1.5 hours) | Avg. Time |
|----------------------------|------------------|
| Examination Review | 30 min |
| Examination | 60 min |

| Practical Exercises (5.5 hours) | Avg. Time |
|--|------------------|
| Mod 10: Culminating Exercise | 240 min |

Equipment Clean Up
After Action Review
Evaluations

30 min
30 min
30 min

Reference List

NFPA 472, *Standard for Professional Competence of Responders to Hazardous Materials Incidents*, Current Edition.

Department of Transportation (DOT), *Emergency Response Guidebook*, 2016 Edition.

Jones and Bartlett Learning, *Managing the Incident*, 4th Edition.