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**Blackthorne Services Group, LLC – Training and Educational Consortium.**

Catalogue of programs

**General Hazardous Materials Courses**

**BASIC AIR MONITORING (1 Days – 8 hours)**

**Operation of Your Four Gas Detector**

**Session Title:** Four Gas Detection

**Session Description** To provide knowledge, skills, and understanding to personnel who may respond to HazMat release at incidents, and to enhance the safety of responders and the public.

**Session Abstract:** Four gas detection; The most common hand held detector used by first responders is the “four gas detector”. The four gas detector is most often used with sensors that monitor oxygen, carbon monoxide, hydrogen sulfide and combustible gas. This three hour class will review the type of sensors, their limits and cross sensitivities. The brains of the detector which is the user, he/she will review chemical and physical properties and how they may affect the detector results, discuss flammability vs. toxicity, were often toxicity is a concern long before flammability

**Plan of Delivery:** Through the use of lectures and exercise’s the student will understand the benefits of understanding the interpretation and use of four gas meters.

Morning – Lecture; sensors, cross sensitivity, false positives/negatives

Afternoon - Practicum based upon the morning lecture for information retention and added information

**Enabling Objectives:** Following a brief lecture, students shall perform and discuss:

* Understand sensor technology
	+ Carbon Monoxide (CO)
	+ Hydrogen Sulphide (H@S)
	+ Oxygen (O2)
	+ Lower Explosive Limits (LEL)
* Cross Sensitivity
	+ False Positives
	+ False Negatives
	+ When the Meter isn’t Telling You what You Want To Know
* Maintenance
	+ Calibration
	+ Calibration Gas
	+ Bump Testing
	+ Interferences

**Target Audience:**

* Operational Level with Mission Specific
* Fireground Safety Officer
* Incident Commander
* FireMedics
* EMS Medics

**Instructors:** As assigned

**Hazardous Materials Response (3 Days – 24 hours)**

**Hazardous Materials Operational Level Response (OLR)**

**NFPA 472 Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents& NFPA 1072: Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications**

**Session Title:** Basic: Hazmat OLR

**Session Description** To provide knowledge, skills, and application to personnel who may respond to

HazMat/WMD incidents, and to enhance the safety of responders in such incidents

**Session Abstract:** Hazardous Material Operations Level Responders; this twenty four hour class is for those First Responders who respond to hazardous materials/weapons of mass destruction (WMD) incidents for the purpose of implementing or supporting actions to protect nearby persons, the environment, or property from the effects of the release. Response options for operations level responders are generally limited to nonintervention or defensive actions

**Plan of Delivery:**

Through the use of demonstrations and short lectures the student will see the application of with wet chemistry and four gas meters as another method for hazardous substance detection and family identification.

Morning - Decision Matrix presented with gas meter discussion and practical

Afternoon - Practicum based upon the morning lecture for information retention and added information

**Enabling Objectives:** Following a brief lecture, responders using accompanying text and charts shall perform and discuss:

* Demonstrate the complexities of monitoring for HazMat/WMD
	+ Chemical Families as they relate to basic monitoring
	+ Hands-on application of this approach
* Demonstrate the priorities in monitoring at suspected HazMat/WMD incidents
	+ Matrix logic following the chemistry possibilities
	+ Use of chemical logic to achieve the chemical family or hazard class
* Demonstrate the standard approach for emergency responders towards detecting the presence of high-energy chemicals (explosives/peroxides).
* Demonstrate/Describe three types of instruments (technologies) used for monitoring of:
	+ Radiation
	+ Chemical weaponry
	+ Explosives
	+ Flammability
	+ Oxygen
	+ Toxicity
* Describe the types of technologies for measuring for chemical weapons.
* Describe the technologies available for measuring for biological weapons.
* Explain the advantages and limitations of each technology.

**Target Audience:** HazMat Officers, Incident Commanders and Reference Officers that have detection, reference, hazard/risk assessment, scene management and monitoring responsibilities at a HazMat/WMD event.

* Operational Level with Mission Specific
* Technician Level
* Hazardous Materials Officer
* Hazardous Materials Safety Officer
* Incident Commander
* FireMedics
* EMS Medics

**Instructors:** As Assigned

**Hazardous Materials Response Refresher (1 Day – 8 hours)**

**Hazardous Materials Operational Level Response Refresher (OLR)**

**NFPA 472 Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents& NFPA 1072: Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications**

**Session Title:** Basic: Hazmat Refresher OLR

**Session Description** To review the knowledge, skills, and application to personnel who may respond to

HazMat/WMD incidents, and to enhance the safety of responders in such incidents

**Session Abstract:** Hazardous Material Operations Level Responders; this 8 hour class is for those First Responders who respond to hazardous materials/weapons of mass destruction (WMD) incidents for the purpose of implementing or supporting actions to protect nearby persons, the environment, or property from the effects of the release. Response options for operations level responders are generally limited to nonintervention or defensive actions

**Plan of Delivery:**

Through the use of demonstrations and short lectures the student will see the application of with wet chemistry and four gas meters as another method for hazardous substance detection and family identification.

Morning - Decision Matrix presented with gas meter discussion and practical

Afternoon - Practicum based upon the morning lecture for information retention and added information

**Enabling Objectives:** Following a brief lecture, responders using accompanying text and charts shall perform and discuss:

* Demonstrate the complexities of monitoring for HazMat/WMD
	+ Chemical Families as they relate to basic monitoring
	+ Hands-on application of this approach
* Demonstrate the priorities in monitoring at suspected HazMat/WMD incidents
	+ Matrix logic following the chemistry possibilities
	+ Use of chemical logic to achieve the chemical family or hazard class
* Demonstrate the standard approach for emergency responders towards detecting the presence of high-energy chemicals (explosives/peroxides).
* Demonstrate/Describe three types of instruments (technologies) used for monitoring of:
	+ Radiation
	+ Chemical weaponry
	+ Explosives
	+ Flammability
	+ Oxygen
	+ Toxicity
* Describe the types of technologies for measuring for chemical weapons.
* Describe the technologies available for measuring for biological weapons.
* Explain the advantages and limitations of each technology.

**Target Audience:** HazMat Officers, Incident Commanders and Reference Officers that have detection, reference, hazard/risk assessment, scene management and monitoring responsibilities at a HazMat/WMD event.

* Operational Level with Mission Specific
* Technician Level
* Hazardous Materials Officer
* Hazardous Materials Safety Officer
* Incident Commander
* FireMedics
* EMS Medics

**Instructors:** As Assigned

**Hazardous Materials Technician (10 Days – 80 hours)**

**Hazardous Materials Technician**

**NFPA 472 Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents& NFPA 1072: Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications**

**Session Title:** Hazardous Materials Technician

**Session Description** Hazardous Materials Technician\*. This eighty hour class trains to the Hazardous Materials Technician Level Personnel who are those who respond to hazardous materials/weapons of mass destruction (WMD) incidents in an offensive manner and;

* Use a risked based response process to analyze a problem involving hazardous materials/weapons of mass destruction (WMD),
* Select and implement applicable decontamination procedures,
* Control a release,
* Use specialized protective clothing,
* Use specialized control equipment.

**Session Abstract:** Hazardous Materials Technician, The goal of this 80-hour course is to prepare responders to operate as a member of a hazardous materials response team within the National Incident Management Systems (NIMS) at a CBRN (Chemical, Biological, Radiological, or Nuclear) event requiring a response.  The course provides the essential knowledge, skills, and abilities to operate offensively or defensively at an incident involving the release of hazardous materials.  The objectives of the course are to teach participants: to classify, identify, and verify known and unknown material by using field survey instruments and equipment; to select and use the proper chemical protective equipment provided to the hazardous materials Technician; to understand hazard and risk assessment techniques for Hazmat and CBRNE environments; to be able to perform advanced control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available; and to develop action plans within the parameters of the State plan for statewide response to WMD events.

**Plan of Delivery:** Through the use of demonstrations and lectures the student will obtain the knowledge, skills and ability to perform as a hazardous materials technician.

Morning – Lecture and some practical

Afternoon - Practicum based upon the morning lecture for information retention and added information

**Enabling Objectives:** After completing this course, students will be able to:

• Explain the federal regulations governing the use, storage, and transport of hazardous materials in the United States

• Describe health and safety issues by classes of chemicals and toxic effects on specific body systems.

• Discuss the importance of medical surveillance and proactive health and safety planning

• Identify the different types of containers used to transport/store hazardous materials.

• Describe the pre-incident planning process, including the performance of hazard analysis and risk assessment

• Discuss the chemical principles and terms of practical application to fire fighters responding to hazardous materials and weapons of mass destruction incidents

• Explain the factors related to the use of personal protective equipment (PPE), including chemical compatibility, the physiological and psychological stresses of wearing encapsulated clothing, and maintenance

• Explain the types, levels, and process of decontamination, including step by-step procedures

• Describe special decontamination situations such as decon for radiation and etiologic agents

• Describe the defensive and offensive control measures used by hazardous materials response team members in students’ jurisdiction including, but not limited to:

o Diking

o Damming

o Plugging

o Patching

o Overpacking

o Transfer operations

• Describe the structure of a typical incident management system at a hazardous materials incident with a focus on the Hazardous Materials Sector/Group

• Describe the technician level responder’s role at a hazardous materials incident resulting form terrorist activities • Describe how to assess, treat, and transport patients who have been exposed to hazardous materials or injured at such incidents

• Demonstrate the use of the following equipment used in the students’ department o Detection devices

o PPE

o Decontamination equipment

• Demonstrate offensive tactics such as plugging and patching leaks

\*Instructors will select which objectives are covered based on department and student needs.

\*\*Prerequisite shall have documentation of training to hazardous materials operational (NFPA 2013 edition)

**Target Audience:** HazMat Officers, personnel who have a role in incident assessment, scene management and monitoring responsibilities at a HazMat/WMD event.

* Operational Level with Mission Specific
* Technician Level
* Hazardous Materials Officer
* Hazardous Materials Safety Officer
* Incident Commander
* FireMedics
* EMS Medics

**Instructors:** As Assigned

**Hazardous Materials Technician Refresher (4 Days – 32 hours)**

**Hazardous Materials Technician Refresher**

**NFPA 472 Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents& NFPA 1072: Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications**

**Session Title:** Hazardous Materials Technician Refresher

**Session Description** Hazardous Materials Technician Refresher\*. To review the knowledge, skills, and application to personnel who respond to HazMat/WMD incidents as a Hazmat Technician, and to enhance the safety of responders in such incidents. This 24 hour class trains the Hazardous Materials Technician Level Personnel who are those who respond to hazardous materials/weapons of mass destruction (WMD) incidents in an offensive manner and;

* Use a risked based response process to analyze a problem involving hazardous materials/weapons of mass destruction (WMD),
* Select and implement applicable decontamination procedures,
* Control a release,
* Use specialized protective clothing,
* Use specialized control equipment.

**Session Abstract:** Hazardous Materials Technician, The goal of this 80-hour course is to prepare responders to operate as a member of a hazardous materials response team within the National Incident Management Systems (NIMS) at a CBRN (Chemical, Biological, Radiological, or Nuclear) event requiring a response.  The course provides the essential knowledge, skills, and abilities to operate offensively or defensively at an incident involving the release of hazardous materials.  The objectives of the course are to teach participants: to classify, identify, and verify known and unknown material by using field survey instruments and equipment; to select and use the proper chemical protective equipment provided to the hazardous materials Technician; to understand hazard and risk assessment techniques for Hazmat and CBRNE environments; to be able to perform advanced control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available; and to develop action plans within the parameters of the State plan for statewide response to WMD events.

**Plan of Delivery:**

Through the use of demonstrations and lectures the student will obtain the knowledge, skills and ability to perform as a hazardous materials technician.

Morning – Lecture and some practical

Afternoon - Practicum based upon the morning lecture for information retention and added information

**Enabling Objectives:** After completing this course, students will be able to:

• Explain the federal regulations governing the use, storage, and transport of hazardous materials in the United States

• Describe health and safety issues by classes of chemicals and toxic effects on specific body systems.

• Discuss the importance of medical surveillance and proactive health and safety planning

• Identify the different types of containers used to transport/store hazardous materials.

• Describe the pre-incident planning process, including the performance of hazard analysis and risk assessment

• Discuss the chemical principles and terms of practical application to fire fighters responding to hazardous materials and weapons of mass destruction incidents

• Explain the factors related to the use of personal protective equipment (PPE), including chemical compatibility, the physiological and psychological stresses of wearing encapsulated clothing, and maintenance

• Explain the types, levels, and process of decontamination, including step by-step procedures

• Describe special decontamination situations such as decon for radiation and etiologic agents

• Describe the defensive and offensive control measures used by hazardous materials response team members in students’ jurisdiction including, but not limited to:

o Diking

o Damming

o Plugging

o Patching

o Overpacking

o Transfer operations

• Describe the structure of a typical incident management system at a hazardous materials incident with a focus on the Hazardous Materials Sector/Group

• Describe the technician level responder’s role at a hazardous materials incident resulting form terrorist activities • Describe how to assess, treat, and transport patients who have been exposed to hazardous materials or injured at such incidents

• Demonstrate the use of the following equipment used in the students’ department o Detection devices

o PPE

o Decontamination equipment

• Demonstrate offensive tactics such as plugging and patching leaks

\*Instructors will select which objectives are covered based on department and student needs.

**Target Audience:** Hamat Technicians who have a role in incident assessment, scene management and monitoring responsibilities at a HazMat/WMD event.

* Technician Level
* Hazardous Materials Officer
* Hazardous Materials Safety Officer

**Instructors:** As Assigned

**HAZMAT ESSENTIALS 101 (1 Day – 8 hours minimum three days )**

**Session Title: Essentials 101 Session Description**: Upon completion of this course work the participant shall be able to predict potential hazard class outcomes based upon the chemical and physical characterization of the event. HazMat Essentials 101 was specifically designed for the technician that needs to understand the scope of risk based response. Developed and written by Chief Bevelacqua, Chief Murphy (Boca Raton FR) as an logical approach toward quick Hazard Risk assessment at the scene of a HazMat/WMD event. It has been presented at international conferences and emergency response agencies at the federal and state levels. It is the application of a hazard risk assessment within emergency response utilizing strategies which gives the participant experience in the designed process. The course utilizes interactive activities to visualize the concepts presented.

**Session abstract** – The course is designed to show the responder how choices can be discovered through two sets of logic approaches identifying the logic concerning the hazards and risk involved based upon either the name of the material, scene size-up information or air monitoring and field analysis findings.

 Emphasis is placed upon the overall strategy through these tactical objectives. A responder addresses these clues that are identified through scene observations, inclusive of Occupancy/Locations, Container shape and sizes, Colors placards and labels, and facilities documents. However when looking at scene clues the question of how does one look at the hazard risk assessment is an area that is lost within the initial size up.

Additionally how do you look at each component of the Risk Assessment and correlate it towards the hazards in order to establish a working action plan? The answer is within the ideas of chemical and physical properties, chemical classification and nomenclature and referencing skills. All three look at the issue slightly different to look at the totality of the problem.

 I. Chemical and Physical properties

 a. The properties are centered within the chemical characteristics of hazardous substances. These have an impact on ones ability to monitor and detect chemicals in the vapor/gas and liquid space.

b. The chemical and physical properties give the clues towards hazard and substance characterization as it applies towards chemical families.

II. Chemical Nomenclature

 a. Each chemical family have specific hazards and characteristics, when matched with the chemical and physical properties, a true hazard analysis can be identified and specific risks established.

 b. Each family also is named specifically. When these families are recognized through a name hazard analysis can be preformed and referenced.

III. Quick Referencing

1. Once the chemical properties are matched with the chemical family a quick reference of these characteristics are compared with referenced data. b. Hazard analysis is then placed within context of the incident and the chemical hazard for scene mitigation strategies can be worked towards. **Plan of Delivery**: The process is one that can look at any incident from a hazard stand point (what are the detection equipment telling you), or an chemical name (understanding that each family have specific hazards) and these can be correlated towards referenced data points gives the responder a systematic way toward a hazard risk assessment utilizing a verity of tools. This class is an interactive discussion on the three basic areas of concern. Presented in an exercise fashion with activities, lecture and scenarios the student is given a variety of problems that they have to work through. By using a discovery method of learning the participant is enabled to work through complex problems by directly applying the skills just learned.

**Enabling Objectives**: This class was designed with first responders in mind. It is a practical approach towards risk assessment addressing the theory and practical application. Offering a straightforward approach to the response science, combining basic concepts with real world application. Presents the field work as it relates to:

• Nomenclature

 o Inorganic chemical families

 o Organic chemical families

• Detection and monitoring strategies

 o Strategies that identify 472 principles

 • Recognition and Identification o Computer based scenarios for application of chemistry

 o Activities designed to reinforce principles discussed

 • Basic Toxicology

 o Geared towards the risk assessment of a incident

 o Toxicology identified with 472

• Introduction into Referencing

 o Basic approach towards referencing utilizing databases

 **Target Audience:** Any operational responder that have detection, reference, hazard/risk assessment, scene management and monitoring responsibilities at an HazMat/WMD event. Operational Level with Mission Specific Technician Level Hazardous Materials Officer Hazardous Materials Safety Officer Incident Commander **Course Duration:** 8 hour day three day minimum

 **Target audience**: EMS – EMT, Paramedic FIRE - Hazmat Technician, HazMat Safety Officer, HazMat Officer, Incident Commander **Instructors:** Armando. S. Bevelacqua Senior Consultant HazMatClasses.com

**BASIC AIR MONITORING (3 Days – 24 hours)**

**Detection Identification and Metering Strategies**

**Session Title: Basic Air Monitoring Session**

 **Description**: To provide knowledge, skills, and application to personnel who may respond to HazMat/WMD incidents, and to enhance the safety of responders in such incidents.

 **Session Abstract:** The hazardous materials response community has been overwhelmed with detection technologies in the past few years. Most of these devices give the responder a variety of information, the key is to understand what we are using and why. The approach is simple, look at the known and based upon what information is given, the decision points are then achieved. This course will guide the responder through a matrix of decision points which are rooted in the chemistry of hazardous materials.

A hands-on educational approach is used in order for the first responder to work through the decision process. Practicum will highlight the use of multiple technologies for the risk assessment of an unidentified substance.

**Plan of Delivery:** Through the use of demonstrations and short lectures the student will see the application of with wet chemistry and four gas meters as another method for hazardous substance detection and family identification.

Morning - Decision Matrix presented with gas meter discussion and practical

Afternoon - Practicum based upon the morning lecture for information retention and added information

**Enabling Objectives:** Following a brief lecture, responders using accompanying text and charts shall perform and discuss:

 • Demonstrate the complexities of monitoring for HazMat/WMD

o Chemical Families as they relate to basic monitoring

o Hands-on application of this approach

 • Demonstrate the priorities in monitoring at suspected HazMat/WMD incidents

o Matrix logic following the chemistry possibilities

o Use of chemical logic to achieve the chemical family or hazard class

• Demonstrate the standard approach for emergency responders towards detecting the presence of high-energy chemicals (explosives/peroxides).

• Demonstrate/Describe three types of instruments (technologies) used for monitoring of:

o Radiation o Chemical weaponry

o Explosives o Flammability

o Oxygen

o Toxicity

• Describe the types of technologies for measuring for chemical weapons.

• Describe the technologies available for measuring for biological weapons.

• Explain the advantages and limitations of each technology.

**Target Audience**: HazMat Officers, Incident Commanders and Reference Officers that have detection, reference, hazard/risk assessment, scene management and monitoring responsibilities at an HazMat/WMD event. Operational Level with Mission Specific Technician Level Hazardous Materials Officer Hazardous Materials Safety Officer Incident Commander FireMedics EMS Medics

**Instructors**: Armando. S. Bevelacqua Senior Consultant HazMatClasses.com

**Riddle me this; Hazard Characterization (1 Day – 8 hours – Three day minimum)**

**Session Title: Riddle me this;** Hazard Characterization Session

**Description:** To provide knowledge, skills, and application to personnel who may respond to HazMat/WMD incidents, and to enhance the safety of responders in such incidents. Through the use of monitoring instruments and wet chemistry techniques the student will learn how to characterize the incident.

**Session Abstract**: The hazardous materials response community has been overwhelmed with detection technologies in the past few years. Most of these devices give the responder a variety of information, the key is to understand what we are using and why. The approach is a simple look at the sample, and based upon what observations are made; certain chemical families will arise. This course will guide the responder through a matrix of decision points which are rooted in the chemistry of hazardous materials. A hands-on educational approach is used in order for the first responder to work through the decision process. Practicum will highlight the use of technologies and techniques for the risk assessment of an unidentified substance.

**Plan of Delivery**: Through the use of demonstrations and short lectures the student will see the application of colorimetric tubes along with wet chemistry as another method for hazardous substance detection and family identification.

Morning - Decision Matrix presented with gas meter discussion and practical

Afternoon - Practicum based upon the morning lecture for information retention and added information

**Enabling Objectives**: Following a brief lecture, responders using accompanying text and charts shall perform and discuss:

 • Given samples simulating releases or potential releases involving a hazardous material/WMD, identify the chemical family from which it has characteristics of.

 o Hands-on application of this approach

• Demonstrate and conduct a hazard analysis using techniques and technologies to prove or suspected substances

 o Matrix logic following the chemistry possibilities

 o Use of chemical logic to achieve the chemical family or hazard class

 • Demonstrate the standard approach for emergency responders towards detecting the presence of high-energy chemicals (explosives/peroxides).

 • Demonstrate the interpretation of wet chemistry, PID and Colorimetric readings leading towards family classification.

**Target audience**: EMS – EMT, Paramedic FIRE - Hazmat Technician, HazMat Safety Officer, HazMat Officer, Incident Commander

**Instructors**: Armando. S. Bevelacqua Senior Consultant HazMatClasses.com

**Hazmat/WMD**

**DEVELOP A PLAYBOOK FOR RESPONSE TO HAZMAT/WMD EMERGENCIES COURSE DESCRIPTION:** The course provides information for the development of Standard Operating Guidance & Procedures using a risk-based approach. It emphasizes use of decision-point approach over tactical-based approach in which responders take specific actions at specific points. Each incident is dynamic and a function the on-scene indicators, requiring responders to adapt to ongoing and often unpredictable event.

**SESSION ABSTRACT**: In recent years emergency responders have had to adapt quickly to the ever-increasing threat of terrorists using WMDs that has significantly impacted the conventional beliefs of emergency response. As well, the development of various tactical and operational procedures to meet the anticipated demands created by a terrorist event has blurred the established division between offensive and defensive response operations.

The continually expanding mission for emergency response agencies, in addition to the new threats responders face because of terrorist events, drives a need for a review of operating guidelines to respond safely and effectively. This facilitated session will explain the difference between: - Standard Operating Procedures - Standard Operating Guidelines - Strategic Plans such as a Jurisdictions Emergency Response Plans.

 Next, it will provide information on how to develop each of the above listed using a risk-based approach for response to a hazardous material/ Weapons of Mass Destruction (WMD) event. It will emphasize the use of decision-point approach over the use of the traditional tactical-based approach in which responders take specific actions at specific points of the incident based on an assumption that incidents are similar enough to warrant a list of responses. Rather, each incident is dynamic and a function of all the on-scene indicators (product, container, environment), requiring the respondent to be able to adapt during the ongoing and often unpredictable event.

**OBJECTIVES:**

• The participant will be able to describe the benefits and limitations of each of the following planning documents:

 o Standard Operating Procedures o Standard Operating Guidelines

 o Strategic Plans such as a Jurisdictions Emergency Response Plan.

• The participant will be able to explain the benefits of using a risk-based approach over the Tactical Based approach in the development of Standard Operating Guidelines.

• The participant will be able to describe the necessary equipment and supplies for a safe competent response to a radiological emergency.

 • The participant will be able to identify the appropriate action at predetermined decision points.

 **MOTIVATION**: The continually expanding mission for emergency response agencies, in addition to the new threats responders face because of terrorist events, drives a need for a risk-based approach. The risk-based approach is a systematic process by which emergency responders begin by analyzing an event, using onscene indicators to identify any potential types of harm (e.g., thermal, radiological, or explosive), then evaluating the potential consequences, an “if this, than that” decision-making strategy, helping the responder to pick the best option to respond safely and effectively.

**USING A RISK-BASED APPROACH TO HAZMAT/WMD INCIDENTS**

**SESSION DESCRIPTION**: While every WMD incident is unique, they all share certain common elements; responder’s training, available equipment and mission, and the incidents properties, containers, and the environment. All incidents require decision points. This workshop will engage students to approach various incidents using all of these factors, decision points, and job aids.

**SESSION ABSTRACT**: This risk-based approach emphasizes the importance of empowering the responder with knowledge, skills, and abilities that allow for the responder to adjust as the situation changes and as facts are gathered. A risk-based approach is a systematic process by which emergency responders begin by analyzing an event, using on-scene indicators to identify any potential types of harm (e.g., thermal, radiological, or explosive), then evaluating the potential consequences, an “if this, than that” decision-making strategy, helping the responder to pick the best option. At each decision point, the responder determines the appropriate course of action based on the facts, science, and the specific circumstances. Examples include life safety operations. On arrival, the responder is required to establish the Incident command system and give an initial scene report. There are always several on-scene indicators to use to determine the type of incident (I.e. containers, signs & symptoms). If possible, the responder determines if the cause of the incident is accidental or intentional (WMD). If the event has the potential to be intentional, the responder must make immediate notifications to law enforcement of a potential WMD event. The emergency responder needs to determine the success of the actions taken and the status of response objectives until termination of the emergency or until transfer of command. The value of decision points is that they are a systemic approach to all phases of an emergency that keeps the responder on track to make efficient

**Emergency Response to Hazardous Material / Weapons of Mass Destruction**

**A RISK-BASED APPROACH TO HAZMAT/WMD INCIDENTS**

Introduction to a risk-based approach which emphasizes the importance of empowering the responder with knowledge, skills, and abilities that allow the responder to adjust as the situation changes and as facts are gathered. A risk-based approach is a systematic process by which emergency responders begin by analyzing an event, using on-scene indicators to identify any potential types of harm (e.g., thermal, radiological, or explosive), then evaluating the potential consequences, an ***“if this, than that”*** decision-making strategy, helping the responder to pick the best option.

**PREREQUISITE(S):** participants need to be trained to the Operations Level (OSHA 1910.120q)

**Emergency Response to Hazardous Material / Weapons of Mass Destruction**

**Operations Level Responder with Mission Specific Competencies**

The course provides the knowledge and skills to meet knowledge and skill of the following competencies of chapter 6 of *NFPA 472 Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents* 2018 Edition.

* **Operations Level Responders Assigned to Use Personal Protective Equipment (PPE).** Persons, competent at the operations level, who are assigned to use personal protective equipment (PPE) at hazardous materials/weapons of mass destruction (WMD) incidents.
* **Operations Level Responders Assigned to Perform Victim Rescue/Recovery.** Persons, competent at the operations level, who are assigned to rescue and/or recover exposed and contaminated victims at hazardous materials/weapons of mass destruction (WMD) incidents.
* **Operations Level Responders Assigned to Perform Product Control.** Persons, competent at the operations level, who are assigned to implement product control measures at hazardous materials/weapons of mass destruction (WMD) incidents.
* **Operations Level Responders Assigned to Perform Technical Decontamination.** Persons, competent at the operations level, who are assigned to implement technical decontamination operations at hazardous materials/weapons of mass destruction (WMD) incidents.

**PREREQUISITE(S):** participants need to be trained to the Operations Level (OSHA 1910.120q), use of personal protective clothing as provided and medically cleared by the Authority having jurisdiction.

**Radiological Response**

**THE FIRST 100 MINUTES OF A RDD**

**Course Description:** This session, will provide decision-making considerations for response to an RDD incident and accidental radioactive emergencies, which are based on the DHS guidance document "Planning Guidance for the First 100 Minutes of an RDD". The session will include information on how to identify hazards, training issues, develop a plan and what equipment to acquire. Participants will be provided information on how to match their tactical operations against the expected tasks, allowing for safe and effective response.

**Objectives:**

• Upon completion of this session the participant will be able to describe on-scene indicators of a radiological dispersal device (RDD) incident.

• Upon completion of this session, the participant will be able to explain the tasks and equipment necessary to confirm a radiological dispersal device (RDD) incident.

• Upon completion of this session, the participant will be able to explain the tasks and equipment necessary to perform Life Safety Operations at a radiological dispersal device (RDD) incident.

**MOTIVATION:** In recent years emergency responders have had to adapt quickly to the ever-increasing threat of terrorists using a RDD as a WMDs that has significantly impacted the conventional beliefs of emergency response. As well, the development of various tactical and operational procedures to meet the anticipated demands created by a terrorist event has blurred the established division between offensive and defensive response operations. The continually expanding mission for emergency response agencies, in addition to the new threats responders face because of terrorist events, drives a need for a review of operating guideline

**Radiological Forensic Management Team [FEMT]. Concepts and Operations Course**

Any radiological incident requiring an emergency response, be it terrorism [RDD], accident, criminal or natural disaster is going to result in the need for an investigation to establish the circumstances surrounding the incident, those responsible and to prevent any further incidents.

As with all investigations this will rely heavily on the forensic evidence recovered not only during the early phases of the incident but also in many cases, this will include evidence-recovered pre and post recovery from the incident.

Operations within a hostile environment does not alter or preclude the need to follow the rules of evidence and as with all investigations continuity and integrity of all evidence physical or otherwise is of paramount importance if the investigation is too succeed.

This training course provides identifies the need for a multi-agency platform and consistency in the procedures for the recovery strategy, interrogation and management of forensic evidence whilst operating within a radiological [hostile] environment.

The FEMT concept has been designed to take on the roles and responsibilities for managing the evidence not only during the response phase but also pre and post event.

The program will address dealing with evidential conflicts of interest between agencies, providing an evidential recovery strategy and establishing a process for identifying and interrogating evidence within the scene.

This course will also provide responders with an awareness and understanding of what is meant by “forensic evidence.”

Many disciplines share the same name of “forensics” but in truth they are in conflict with each other. If one were allowed to override the other there could be a total loss of one half of the evidence available to the investigators.

For example, when an item is swabbed to identify its origin, swabbing the whole of the item for ease will destroy any other evidence present, such as fingerprints and DNA.

**“It is the duty of every responder involved in emergency response to be forensically aware and to make every effort to preserve that forensic evidence”** This FEMT training course provides the tools and procedures needed to successfully achieve these necessary goals.

**Radiological Forensic Management Team Concepts and Operations**

At any terrorism incident there will be a need to trace back the origin of the act.

However, from a radiological incident, there will be a need to to conduct operations in a radiological environment as well. This will require a multi-disciplined team consisting of forensic experts, law enforcement and radiation expertise.

This course will address the complexity of a forensic team conducting operations in a radiological environment and the planning considerations that should be in place prior to an incident involving the intentional dispersal of radiological substances.

**An Approach for the Radiological Component of a Pre-Planned Event**

Planning for events in today’s environment needs to be multi-disciplined and will include hazmat, LE, FD and other local and state assets.

There are many radiological assets both locally and from federal partners that can be utilized to assess the event venue prior to the event occurring.

This course will cover the pre-event planning, requesting assets, deploying assets and the resources available to produce a common radiological operational picture for the event.

**Biological**

**Inter-Facility Transport of the Ebola Virus Disease (EVD) Patient**

**(1 Days – 8 hours)**

**Session Title:** Inter-Facility Transfer of the Ebola Patient

**Session Description** To provide knowledge, skills, and application to personnel who may respond to

The potential infected Ebola Patient incident, and enhance the safety of responders in such incidents.

**Session Abstract:** Inter-facility Transfer of the Ebola Patient, The Eight Hour program will enable pre hospital personnel to safely transport the infected Ebola patient while offering basic and advanced life support care, safely don/doff personal protective equipment, acquire skills for decontamination in a hospital setting and contribute to efforts in a coordinated and unified approach with other emergency responders in offering care to the infected patient.

**Plan of Delivery:**

Through the use of demonstrations and short lectures the student will recognize the signs & symptoms of the possible infected ebola patient and take appropriate personal protective equipment (PPE)

Morning – Lecture; Ebola transmission, basic and advanced life support treatment and intro to PPE

Afternoon – Donning/Doffing and Disposal of PPE, Practical exercise on patient transport and decontamination

**Enabling Objectives:** Following a brief lecture, personal shall perform and discuss:

* Demonstrate understanding of Ebola signs and symptoms
	+ Scene safety
	+ Prior treatment at sending facility
	+ Recent patient travel
	+ Other people present (with the patient)
* Introduction into PPE
	+ Respiratory and skin protection
	+ Fit testing
	+ Hydration
	+ Donning
	+ Doffing
	+ PPE Removal
	+ Decontamination
* Demonstrate the standard approach for emergency medical personal interacting with sending and receiving facility
	+ Alternate patient holding/receiving area
	+ Patient history
	+ Receiving facility readiness and notification
	+ Ambulance compartment isolation
* Decontamination and disposal
	+ Personal
	+ Equipment
	+ Ambulance

**Target Audience:** Hospital Staff, Incident Commanders and Pre-Hospital Personnel.

* ER Physicians
* Registered Nurses
* EMS Medics

**Instructors:** As Assigned

**Law Enforcement**

**Course Title:** Mitigating Law Enforcement Fatigue

**Length:** One-day

**Course Description:**

Fatigue has long been embedded and accepted in the culture of police departments. Law Enforcement Unions or Associations resist supporting policies that may reduce earnings and chiefs shy away from restrictions to meet operational demands, even if these policies may improve health and safety.

This full day course is designed to raise awareness of the problems associated with fatigued or tired law enforcement officers.  The presenter will define fatigue and educate the attendees about the causes of law enforcement fatigue, the consequences, and suggested ways in which fatigue can be managed.  This course will expand the conversations about the physiological impacts to include how fatigue influences use of force, performance, driving, officer safety, and report writing.  The attendees will be asked to self-reflect on the problem and ask themselves:  “Am I contributing to the problem or to the solution?”  Attendees will be encouraged to take ownership of their own fatigue and consider ways to improve their personal situations.  At the end of the session, the attendees will have a better understanding of why fatigue is a problem for law enforcement, why they should be concerned about fatigue, and the importance of sound effective fatigue management policy.

**Methodology:**

Lecture, PowerPoints, discussions, and practical exercises.

**Course Objectives:**

At the end of this block of instruction, the student will be able to achieve the following objectives:

* Identify the causes of fatigue in law enforcement and why fatigue is a problem.
* Understand the effects of fatigue on cognitive and performance skills and how it is effecting their current workforce.
* Examine what other industries have done to reduce fatigue.
* Examine relevant studies on law enforcement fatigue.
* Examine the hurdles in addressing law enforcement fatigue.
* Examine the challenges in shifting a culture and introducing change.
* Create a successful mitigating fatigue policy and program

**Target Audience:**

Law Enforcement, Police, Fire, and EMS, Town Managers, Risk Managers, Legal Counsel