

**EMHS 389 – Awareness and Response to WMDs  
Fall Semester 2016**

The ability of a community to rapidly and effectively recover from the effects of a disaster requires coordinated planning and participation at many levels. Disaster preparedness and hazard mitigation can minimize the effects of a release of biological, chemical or nuclear materials, and ultimately enhance recovery. Trained individuals can assist government agencies by responding during disaster situations where the scope of the incident has overwhelmed conventional emergency services. This course was developed to help meet the need for well-trained civilians and emergency responders to address such emergency situations through the development of response teams who will act during major disasters.

**Lecture Topic**

- I. Introduction
  - Terrorism and WMDs defined
  - Terrorist organizations and motivations
  - Potential targets and methods of attack
  
- II. The Incident Command System
  - ICS management characteristics
  - Response; crime scene considerations; safety issues
  
- III. Biological Threats
  - History of BW use
  - Biological agents
  - Bacterial disease agents and effects
  - Viral disease agents and effects
  - Toxins
  - Biological agents in terrorism
  - Agroterrorism

Examination #1 on September 22

- IV. Chemical Threats
  - Classification of chemical agents
  - Toxic industrial chemicals
  - History of chemical weapons
  - Nerve agents, blister agents, blood agents, pulmonary agents
  - Chemical detection, PPE, decontamination

Examination #2 on October 27

- V. Explosive Threats
  - Targets, information acquisition
  - Explosive types – low vs. high explosives
  - Explosives properties and effects
  - Incident response to IEDs
  - Safety and evacuation issues

Crime Scene Management

### Examination #3 on December 1

VI. The Public Information Officer

VII. Radiological Threats

Basic nuclear science: The atom; isotopes; half-lives; ionization  
Properties of radiation

VIII. Case Studies

The Mumbai Attacks, 2008  
The London Bombings, 2005

**Comprehensive Final Examination: Tuesday 13 December, 2:15-4:15 pm. NO EXCEPTIONS.**

**Required Text:** Pichtel, J. 2011. *Terrorism and WMDs: Awareness and Response*. CRC Press, Boca Raton, FL.

**Required Lecture Supplements:** *Emergency Response to WMDs – Lecture Notes*. Available at TIS Bookstore.

### **Course Expectations**

Attendance at all lectures is required, and will count as part of your final grade. Sign-in sheets will be used for each class session.

**Three exams** and occasional **quizzes** will be given during the semester, followed by a comprehensive final examination. The exams and quizzes will cover all materials covered in class including lectures, guest speakers, films and readings. Exams will only be taken on the scheduled date. If an emergency arises, call in advance (285-2182 or 285-5780) or you may not be given a make-up exam. **Note:** There are no make-ups for missed quizzes.

You are to prepare one high-quality mini lecture addressing the immediate and/or long-term response to a recent biological, chemical or nuclear release incident. Details are provided below.

### **Notes**

1. A copy of selected student work will be retained for university assessment purposes. If you object to having your work saved for this purpose, notify your instructor by the end of the first week of classes.
3. If you need course adaptations or accommodations because of a disability, please contact me as soon as possible. Ball State's Disabled Student Development office coordinates services for students with disabilities; documentation of a disability needs to be on file in that office before any accommodations can be provided. Disabled Student Development can be contacted at 765-285-5293 or [dsd@bsu.edu](mailto:dsd@bsu.edu). My office hours are Monday, Wednesday and Friday 1:00-2:30 pm.
3. © Copyright 2016 John Pichtel as to this syllabus and all lectures. Students are prohibited from selling notes taken during this course to or by any commercial firm without the express written permission of the instructor teaching this course.

## Grading Policy

Your course grade will be based upon the following:

Examinations (3) and quizzes	500
Final examination	200
Mini-lecture	200
Graduate project	--
In-class scenarios	100
Attendance (see above)	
Total points possible	<u>1,000</u>

### **Countries you must be able to locate on a World Map**

Afghanistan	Jordan	Sudan
Algeria	Kazakhstan	Taiwan
Angola	Kenya	Tajikistan
Argentina	Korea, Dem. People's Republic of	Tanzania
Australia	Korea, Republic of	Thailand
Belize	Kuwait	Tibet
Bolivia	Laos	Uganda
Botswana	Lebanon	United Arab Emirates
Brazil	Malawi	Uzbekistan
Burundi	Malaysia	Venezuela
Cambodia	Mali	Viet Nam
Cameroon	Mexico	Yemen
Chad	Mongolia	Zaire
Chile	Morocco	Zambia
China	Mozambique	Zimbabwe
Colombia	Myanmar (Burma)	
Congo, Dem. Republic of the	Namibia	
Costa Rica	Nepal	
Dominican Republic	Nicaragua	
Ecuador	Niger	
Egypt	Nigeria	
El Salvador	Pakistan	
Ethiopia	Palestinian Territory, Occupied	
Gambia	Panama	
Ghana	Paraguay	
Guatemala	Peru	
Haiti	Philippines	
Honduras	Rwanda	
Iceland	Saudi Arabia	
India	Senegal	
Indonesia	Sierra Leone	
Iran, Islamic Republic of	Singapore	
Iraq	Somalia	
Israel	South Africa	
Japan	Sri Lanka	

## **Course Activities and Assignments**

### **Mini-Lecture**

You are to prepare one PowerPoint 'mini-lecture' addressing some aspect of WMDs. Obtain your instructor's permission prior to working on your topic.

#### **Some suggested topics:**

Chemical terrorism

Chemical agents: sarin, soman, tabun, VX, toxic industrial chemicals

Biological terrorism

Biological toxins: ricin, salmonella, etc.

Agroterrorism

Directed energy weapons (laser, microwave, sonic, other) – latest developments

The use of drones (UAVs) to transport weapons

The Oklahoma City bombings

Explosives and terrorism – Eric Rudolph

The Bali, Indonesia bombings, 2002

The 2005 London bombings

The 2004 Madrid train bombings

The World Trade Center (1993) bombing

Suicide bombings

The nuclear program in North Korea

The nuclear program in Iraq

Chlorine as a weapon of terror in Iraq and Syria

The history / modus operandi of a particular group associated with terrorism, for example: ISIS, Abu Sayyef; Hezbollah, etc.

The Baghwan Shree Rajneesh cult and biological terrorism

Aum Shinrikyo and biological (or chemical) terrorism

Other (with permission of instructor)

#### **Due dates and other requirements:**

You must include at least 25 screens of high-quality text. Beyond the minimum 25 screens, include tables of data, graphs, photos etc., to enhance overall quality. We will discuss details by the second week of the semester.

Provide your instructor with your proposed topic by September 22.

Your completed project is due on December 1.

## General Course Learning Outcome

**Concepts:** Demonstrates a working understanding of core concepts (including principles, relationships, theories, relevant laws of nature).

### Grading Rubric

<b>A Excellent</b>	A	Excellent skills and great originality. Superior work in both content and presentation.
Indicates highest level of achievement	A-	Excellent. The student has an insightful grasp of the subject matter. Academic work demonstrates clear and persuasive argument. It is a well structured project that features solid introductory and concluding arguments. There are few presentation errors.
<b>B Good</b>	B+	Very Good performance. Thorough knowledge of concepts and/or techniques. Student has the ability to learn independently and to use relevant evidence to develop logically valid arguments. Some minor but noticeable errors in presentation may detract from the otherwise high quality of work.
Indicates a good level of achievement	B	A good grasp of the subject matter. The student's project is clear and well structured. Minor components of an answer may be missing.
	B-	Good level of knowledge. Has the ability to go beyond the simple reiteration of the material presented in class. Projects are articulate and fulfill course requirements.
<b>C Satisfactory</b> Academic work of an acceptable quality	C+	Competent. The student's work is competent and demonstrates an adequate understanding of the subject matter. Academic work of an acceptable quality. Ideas are presented in a style that is at least coherent and orderly. Presentation errors that affect the quality of the work are present.
<b>D Passing</b>	C	Fairly competent. Acceptable level of knowledge. Project needs structuring. Student has some difficulty in clarifying his/her thoughts.
	C-	Satisfactory. Command of only the basic concepts of knowledge. Student has obvious difficulty structuring and developing ideas.
	D+	Marginal performance. Superficial grasp of the subject matter. A sense of organization and development is often not demonstrated. Major components of a question may have been neglected. Difficulty in expressing ideas.
Lowest acceptable passing grade	D	Minimal grasp of the material. Ideas are not clear to the reader.
	D-	Deficient in many of the objectives of the course. Important skills not attained.
<b>F Failure</b> Lack of even minimal understanding	F	Failure: Basic concepts and principles not learned. Essential skills cannot be demonstrated.