



## South Central Public Health Partnership

### TRAINING PROFESSIONALS TO PROTECT THE PUBLIC

<http://lms.southcentralpartnership.org/scphp>

### Preparing for a Chemical Terrorist Event

**Instructor:** LuAnn White, PhD

This course will go through various aspects of toxicology. It will show how scientific principles can be used in determining the effects of chemical agents. The principles that will be covered can be used in any state or local agency. The topics covered in this course include:

#### Learning Objectives

##### Module 1: Risk of Chemical Terrorism in Louisiana

- Explain why Louisiana is at risk for a chemical terrorism event.
- Describe why you need to know the basic concepts of toxicology when preparing for a chemical event.
- Describe two types of chemical events that may occur.
- List three steps in preparing for a chemical event.

##### Module 2: Fundamental Concepts of Toxicity

- Define Toxicology
- List the fundamental concepts for assessing toxicity
- List the conditions needed to assess toxicity
- Define and differentiate the terms: hazard, risk and safety
- Describe the types of toxic effect

##### Module 3: Concepts of Exposure

- Define exposure
- List the conditions needed to define exposure
- Describe the three major routes of exposure
- Explain the importance of duration and frequency of exposure on toxicity
- Describe the sequence of events from the detection of a chemical in the environment to the induction of a health effect.

##### Module 4: Concepts of Dose Response

- Define dose
- Explain the importance of dose-response relationships
- Define the concept of a threshold dose
- Define the concept of a non-threshold dose
- Explain the use of these concepts for establishing regulatory standards

##### Module 5: How the body acts on compounds

- List the five processes by which the body acts on chemical compounds.
- Describe the relationship among the five processes.
- Explain the importance of metabolism for type of toxic effects.
- Describe the utility of these concepts in responding to a chemical event.

#### Module 6: Spectrum of Toxic Effects

- Name the organ systems most likely to be injured by chemical agents.(Immediate and long term)
- List five categories of organ system damage.
- List five mechanisms of chemical damage.
- List two types of local damage.
- List three types of systemic effects

#### Module 7: Chemicals a Terrorist Might Use

- Name 6 classes of agents that might be used in chemical terrorism incidents.
- Name the type of damage to organs and tissues caused by blister agents.

#### Competencies

- Recognize unusual events that might indicate an emergency and describe appropriate action
- Apply creative problem solving and flexible thinking to unusual challenges within his/her functional responsibilities and evaluate effectiveness of all actions taken

\* *Bioterrorism and Emergency Readiness*

*To register for this course visit us at  
<http://lms.southcentralpartnership.org/scphp>*