



THE UNIVERSITY OF ARIZONA

Mel & Enid Zuckerman College of Public Health

Mel and Enid Zuckerman College of Public Health University of Arizona

EHS 584 Fundamentals of Industrial and Environmental Health

Catalog Description: Introduction to the principles of occupational and environmental health, with emphasis on industrial hygiene aspects of recognition, evaluation, and control of environmental and industrial health hazards. Graduate-level requirements include a comprehensive paper detailing hazards associated with a particular health hazard. (3 units)

Course Topics:

- Toxicology
- Chemical Hazards
- Exposure Modeling
- Physical Hazards
- Indirect Exposure Assessment
- Biological Hazards

Course Objectives: During this course, students will:

- Learn and apply the core industrial hygiene and environmental health activities including the anticipation, recognition, evaluation and control of exposures.

Learning Outcomes (Competencies Obtained): Upon completion of this course students will be able to:

1. Recognize and classify the major types of chemical, physical and biological exposure agents capable of inducing disease in the public
2. Utilize basic strategies for evaluating or measuring exposure to chemical, physical and biological agents
3. Describe factors which influence the behavior of aerosols and their ultimate fate including deposition in the respiratory system
4. Utilize appropriate technical approaches for conducting environmental and industrial assessments
5. Utilize various sources of information to identify chemicals commonly employed in industry and their toxicity
6. Describe the base mechanism of toxicity and potential health effects and diseases caused by various chemical agents
7. Identify the steps involved in environmental and occupational health research
8. Demonstrate fundamental knowledge of the principles of environmental health sciences and be able to apply them
9. Demonstrate knowledge of local, federal and state regulatory programs
10. Identify barriers that impact project completion and communicate them effectively to the appropriate people
11. Develop critical thinking and evaluation skills
12. Exhibit a comprehensive knowledge of the principles of environmental health sciences
13. Develop expertise in an environmental health science subspecialty
14. Select and utilize appropriate tools of Environmental Health Sciences (may include exposure science, risk assessment modeling, risk management, risk communication and others depending on the project)
15. Develop effective written and oral communication skills with the public