THE UNIVERSITY OF ARIZONA
Mel & Enid Zuckerman College of Public Health

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University of Arizona

EHS 520 Environmentally Acquired Illnesses

Catalog Description: Illnesses related to environmental exposures are on the rise but frequently misdiagnosed due to a lack of understanding of the complexities of multiple hazard exposures and variable health outcomes. This course provides an overview of common and emerging Environmentally Acquired Illnesses (EAIs) and explores the multitude of hazards, conditions, and predisposing factors related to human disease. Students will learn how to identify gaps in the current model of patient evaluation and treatment. In addition, they will critique current research design and gain hands on experience in developing a systems approach to understanding, evaluating, and communicating the impact and control of EAIs relative to human health. (3 units)

Course Topics:

- Physiological Pathways and Predispositions
- Diagnostics/Testing
- EAI Treatment
- Microbiome
- Exposome/Epigenetics
- Environmental Exposure Routes
- Monitoring/Test Labs
- Remediation/Avoidance
- Social Support/Advocacy/Compassionate Care

Course Objectives: During this course, students will:

- Specify emerging environmentally acquired illnesses (EAIs) and related outcomes.
- Describe barriers to diagnostics and treatment of EAIs.
- Evaluate the current state of research and future study design.
- Develop outreach tools for EAI awareness and assessment.

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. Identify control methods for reducing worker or public exposures to acceptable levels
4. Utilize various sources of information to identify chemicals commonly employed in industry and their toxicity
5. Describe the base mechanism of toxicity and potential health effects and diseases caused by various chemical agents
6. Identify the steps involved in environmental and occupational health research
7. Demonstrate fundamental knowledge of the principles of environmental health sciences and be able to apply them
8. Implement assigned research or work tasks including, data collection and management, evaluation, and data analysis
9. Identify and communicate to the appropriate people the need for resources to minimize health and safety risks

10. Develop effective written and oral communication skills
11. Develop new, innovative, applied or theoretical knowledge through research of health related issues
12. Develop expertise in an environmental health science subspecialty