



THE UNIVERSITY OF ARIZONA

Mel & Enid Zuckerman College of Public Health

Mel and Enid Zuckerman College of Public Health University of Arizona

EHS/EPID 545 One Health Foundations

Catalog Description: This course introduces a transdisciplinary One Health framework which focuses on the interconnection between people, animals and the environment to examine health drivers and outcomes at local, regional, national, and global levels. (3 units)

Course Topics:

- Zoonotic Outbreak Investigations
- Ecological Approaches to Zoonoses
- Surveillance
- Modeling & Cost Effectiveness
- Novel Influenza and Coronaviruses
- Antifungal & Antimicrobial Resistance
- Health Benefits and Risks of Companion Animals
- Climate Change
- Agriculture
- Built Environment

Course Objectives: During this course, students will:

- Define One Health as it applies to public health theory and practice.
- Identify multiple methods for approaching One Health problems scientifically.
- Characterize zoonotic pathogens by transmissibility, virulence, and impact on humans, animals, and plants.
- Identify environmental microbes that cause disease in humans, animals, and plants.
- Differentiate the risks and benefits of human-animal companionship in community and healthcare settings.
- Demonstrate visually the interconnectedness of humans, animals, and the environment and how those connections affect health outcomes.
- Investigate the impact of ecosystem disruption and climate change on health outcomes.
- Interpret current climate and migration policy within the context of a One Health framework.
- Propose methods to evaluate a complex One Health problems.
- Reflect on how a One Health approach could serve plans for local, regional, national and global COVID-19 responses moving forward.
- Critique pandemic and climate preparedness plans from local, regional, national and global perspectives.
- Develop an appreciation for cross-disciplinary and cross-agency collaboration.

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

1. Communicate public health information, in both oral and written forms, through a variety of media and to diverse audiences
2. Locate, use, evaluate and synthesize public health information
3. Understand the socioeconomic, behavioral, biological, environmental and other factors that impact

human health

4. Compare the organization, structure, and function of healthcare, public health, and regulatory systems across national and international settings
5. Assess population needs, assets and capacities that affect communities' health
6. Articulate appropriate methods and data sources to investigate the interdependency and interconnectedness of humans, animals, and the environment in health and disease development
7. Describe sentinel events in humans, animals, and the environment for detection of hazardous exposures and prevention of long-term negative effects