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

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University of Arizona

EPID 679 One Health Applications and Practice

Catalog Description: One Health focuses on the interconnectedness of health among human, animal and environmental systems. This course will explore current One Health applications and practice which are used by various disciplines. Students in this course will participate in a variety of in class and field experiences, as well as work individually and with multidisciplinary teams to address existing and emerging local and global public health challenges. (3 units)

Course Topics:

- Climate Change and Health
- One Health and Infectious Diseases
- Food Safety and Security
- Role of Economics in One Health Challenges
- Human-Animal Interaction
- Occupational One Health
- Antibiotic Resistance and Stewardship
- One Health as a Path for Global Health
- Global Health Security
- Genomics in One Health Research

Course Objectives: During this course, students will:

- Work within a multi-disciplinary team and apply both the theory and problem-solving skill sets inherent to One Health.
- Independently complete various activities available through multiple sources (e.g. seminars and webinars available through multiple venues)
- Participate in required individual and group activities (e.g. journal presentations, field experiences, and group research projects).
- Attend all field experience activities to which they have committed and act as professional representatives of the College.

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

1. Describe practical application of One Health in a variety of different settings and to address several different problems or diseases
2. Demonstrate knowledge of best practices for working within a multi-disciplinary team
3. Critically assess peer reviewed journal articles
4. Assess scientific presentations and determine how existing research may cross over into One Health
5. Describe challenges involved in coordinating a One Health response
6. Practice a variety of field-based skill sets utilized within a One Health research project
7. Articulate appropriate methods and data sources to investigate the interdependency and interconnectedness of humans, animals, and the environment in health and disease development
8. Develop strategies to address One Health challenges by engaging researchers across multiple disciplines and stakeholders with diverse perspectives, motivations, and economic incentives
9. Identify and implement appropriate methods to integrate and analyze data on animals, humans, and

the environment to identify and quantify One Health problems and/ or evaluate solutions
10. Describe sentinel events in humans, animals, and the environment for detection of hazardous exposures and prevention of long-term negative effects
11. Identify ecosystem changes and impacts that affect human, animal and planetary health
12. Apply systems thinking tools to a public health issue