Starting fall 2017, students in the Veterinary Public Health emphasis area are required to take one elective course that addresses the competencies associated with this emphasis area.

Competencies Addressed: (Additional program competencies addressed on course-by-course basis)

- Define the key concepts in zoonotic disease diagnosis, control, and prevention
- Evaluate a surveillance system for important zoonosis
- Clearly identify veterinarians’ legal responsibilities in reporting zoonotic disease outbreaks and their interaction with the broader U.S. public health system
- Describe a veterinarian’s role in mitigation, disaster preparedness, response, and recovery as it relates to a bioterrorism event and be prepared to be a key participant in the development and implementation of an emergency response plan

Courses to choose from:

**GEO 7840 Geographic Information Systems I** – (in-person) Introductory study of theory, concepts and techniques related to basic analysis, creation and processing of geographic and spatial data using Geographic Information Systems (GIS). Independent learning and computer-based laboratory exercises supplement theoretical lectures and discussion

**FS 7370 Food Microbiology** – (in-person) Study of bacteria, yeast and molds. Includes dominant flora, public health significance, characterization of organisms, examination of foods representative of major food groups, spoilage, preservation, food fermentations and physiological groups. Prerequisites: F_S 2172 and one Biochemistry course or concurrent enrollment

**P HLTH 8001 Introduction to Food Safety in Public Health** – (online) The purpose of this course is to introduce the ways in which food and food sources may become contaminated; biological, chemical or physical. If food or food source is compromised, the steps in investigating and managing an outbreak.

**VPBIO 7120 Principles of Toxicology** – (online) This course will provide an introduction to the general principles of toxicology, including the history and scope of the field; risk assessment and management; mechanisms of toxicology; the disposition of toxicants; non-target organ-directed toxicity; toxic responses of specific target organs; and various toxicological application, such as environmental toxicology. Prerequisites: BS in Biology, Biochemistry, or equivalent, or permission of instructor

**Or, with prior approval from the student’s faculty advisor:**

**MICROB 7304 Immunology** - (in-person) Covers innate immunity, antibodies, antigens, MHC, antigen presentation, lymphocyte development, antigen specific receptors, lymphocyte activation and differentiation, immune effector mechanisms, hypersensitivities, tolerance, autoimmunity, immunodeiciencies.

**MICROB 7303 Fundamental Virology** - (in-person) Classification of viruses, life cycles, genome organization and expression, host-virus interactions, oncogenes and cellular transformation, viral pathogenesis, viral gene therapy approaches, strategies for anti-viral therapy.