VECTOR BIOLOGY AND VECTOR-BORNE DISEASE RESPONSE IN HUMAN AND ANIMAL SYSTEMS - CERTIFICATE

The Department of Entomology offers a Vector Biology and Vector-Borne Disease Response in Human and Animal Systems certificate.

It is designed to provide a concentration of subject-matter focusing on arthropod vectors of disease pathogens of humans, livestock, wildlife and companion animals. Course concentration includes survey of vectors and vector biology, surveillance, epidemiology, emergency response, preparedness and management. This program will be administered by the Department of Entomology in the College of Agriculture and Life Sciences. The certificate will bridge with the School of Veterinary Medicine and Biomedical Sciences and the School of Public Health. This subject-matter concentration is designed to prepare students with competitive advantages for employment opportunities where planning, preparation and response to outbreaks of vector-borne diseases are advantageous.

The Centers for Disease Control and Prevention (CDC) have recognized there are long-term shortages of specialists and practitioners with knowledge and skills to respond to the complexities of vector-borne diseases critical to the needs for community, county, state, and national responses. Mosquito, tick, and other arthropod-borne diseases such as Zika, Dengue, Chikungunya, West Nile Virus, Chagas, and Lyme Disease, are among many examples of vector-borne maladies with impacts on humans, companion animals, livestock and wildlife. Global trade and travel continue to pose additional risks for introductions of exotic vectors and vector-borne pathogens. The concentration of course work offered through this academic certificate is intended to prepare graduate students to manage and respond to outbreaks of vector-borne diseases as future professionals in many disciplines.

The Department of Labor Statistics estimates there will be continued growth of 5-11% employment through 2024 for discipline categories related to vector-borne diseases. Employment opportunities in the public health sector include environmental health service agencies at municipal, county, and state levels, mosquito control districts, the CDC, the Department of Defense, the Department of Homeland Security, the World Health Organization, and the Pan American Health Organization. Students completing this certificate will be able to identify the various interest groups and interact with the range of participants in solving issues associated with a vector-borne disease outbreak.

Eligibility Requirements for Certificate Entrance: Successful completion of ENTO 618 (https://catalog.tamu.edu/search/?P=ENTO%20618).

Program Requirements

Code	Title	Semester Credit Hours
ENTO 618	Medical and Veterinary Entomology [1]	3
ENTO 635	Vector-Borne Disease Management and Response In Human and Animal Systems [1,2]	3
Select from the following: [2,3]		6
Category A		
ENTO 617	Acarology	
ENTO 619	Insect Toxicology	
ENTO 626/ VIBS 626	Methods in Vector-Borne Disease Ecology	
Category B		
PHEB 602	Biostatistics I	
PHEB 605	Epidemiologic Methods I	
PHEB 610	Epidemiologic Methods II	
PHEB 615	Disaster Epidemiology	
Category C		
PHPM 601	Foundations of Population and Public Health	
PHPM 605	Introduction to Health Policy and Management	
PHPM 637	Political Foundations of Public Health	
PHPM 639	Global Health	
HPCH 604	Social Ecology and Global Health	
Category D		
VIBS 607	Applied Epidemiology	
VIBS 608	Epidemiology Methods I	
VIBS 610/ VTMI 610	Epidemiologic Methods II and Data Analysis	
VIBS 626/ ENTO 626	Methods in Vector-Borne Disease Ecology	
Category E		
INTA 689	Special Topics in... (Infectious Disease in the Developing World)	
INTA 689	Special Topics in... (Science and Policy)	
INTA 702	Infectious Disease in the Developing World - Risks, Challenges and Solutions	
PSAA 638	Health Economics and Policy	
Total Semester Credit Hours		**12**

[1] Successfully complete ENTO 618 prior to registration in ENTO 635.
[2] Successfully complete 6 credit hours of prescribed electives prior to registration in ENTO 635.
[3] At least 3 credit hours must be from Category B, C, D, or E.

Meet the minimum qualifications for graduation as defined by Texas A&M University including a 3.0 cumulative GPA.

Apply for the certificate at the time of application for graduation through the Office of the Registrar.