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

Overview

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 College of Veterinary Medicine and BioMedical Sciences and with the School of Public Health in the Texas A&M Health Sciences Center. 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

Program Requirements

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Semester Credit Hours</th>
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<tbody>
<tr>
<td>ENTO 618</td>
<td>Medical and Veterinary Entomology</td>
<td>3</td>
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Prescribed Electives

Select from the following: 2,3

Category A
- ENTO 617 Acarology
- ENTO 619 Insect Toxicology
- ENTO 626/ VIBS 626 Methods in Vector-Borne Disease
- VIBS 626 Ecology

Category B
- PHEB 602 Biostatistics I
- PHEB 605 Epidemiologic Methods I
- PHEB 610 Epidemiologic Methods II
- PHEB 613 Field Epidemiology Methods
- PHEB 615 Disaster Epidemiology

Category C
- PHPM 639 Global Health
- PHPM 640 Health Policy and Politics
- PHPM 641 Advanced Health Policy
- PHPM 642 Public Health Emergency Preparedness Policy Issues

Category D
- VIBS 607 Applied Epidemiology
- VIBS 608 Epidemiology Methods I
- VIBS 610 Epidemiologic Methods II and Data Analysis
- VIBS 626/ ENTO 626 Methods in Vector-Borne Disease
- VIBS 626 Ecology

Capstone
- ENTO 635 Vector-Borne Disease Management and Response in Human and Animal Systems 1,2 | 3  |

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 or D.

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.

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