

Certificate in Biohazardous Threat Agents & Emerging Infectious Diseases (Online) (CBTA)

CBTA 6515 Microbio of Biologcl Thrt Agts 3 Credits

This ONLINE VERSION of MICB515 will cover NIH bioterrorism agents (categories A-C), which can be utilized as biological weapons. The microbiology of these agents will focus on structure, pathology, and virulence factors. The immune response to these agents will be presented. Viral agents will include Variola and hemorrhagic fevers (Ebola and Lassa). Bacterial agents will include *B. anthracis*, *Yersinia pestis* (plague), and *Francisella tularensis* (tularemia). Emerging infectious disease threats such as Nipah, Hantavirus, Dengue Fever, Zika and SARS will also be covered.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

CBTA 6517 Bioterrorism 3 Credits

Bioterrorism examines the use of biological and other weapons by terrorists groups to promote their aims, and the response to these acts. The first section of the online course explains terrorism in its modern form, and why the use of these weapons is more likely today. The second part presents the major biological and other weapons thought most likely to be used. The third section discusses techniques to use these weapons, and the last part will discuss the techniques to prevent and reaction to these weapons. The specific objectives for this course are: 1. Explains terrorism in its modern form, and why the use of biological weapons is more likely today. 2. Presents the major biological weapons thought most likely to be used. 3. Discuss techniques to use these weapons 4. Discuss the techniques to prevent and control the effects of these weapons.

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

CBTA 6525 Homeland Security 2015 3 Credits

This course will examine threats to the US homeland, how they might evolve over the next ten years, and the consequent implications for science, technology and homeland security. The course will examine the motivations of non--? state actors to threaten the US homeland, and how those actors might use technology and exploit vulnerabilities to attack the US. The course will also examine the role of science and technology in countering these threats and securing the homeland, and the competing policy interests that affect decision--?making for investments in science and technology. The course will give students insight into the nexus of science, technology, and policy, and the underlying competing interests that must be balanced to optimize the potential of science and technology to benefit and enrich the United States while protecting it.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

CBTA 6566 Preparedness Response Capaci 3 Credits

This course focuses on examining the medical effects and responses to nuclear/radiological, chemical, and biological threats, with a particular emphasis on bioterrorism attacks. It will also include a current analysis of the capacity of the U.S. public health preparedness system to withstand the impacts of a major CBRNE attack and will review historical case studies of high-consequence pathogens related to biothreat preparedness. The course will transition from addressing threats to individuals across the entire spectrum of CBRNE hazards to analyzing their impact on communities at the local, state, national, and international levels, assessing the potential medical and systemic outcomes for both. Specifically, we will cover both individual treatment strategies for disease and broader response strategies at community, state, and national levels.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

CBTA 6590 One Health and Health Security 2 Credits

This course will provide a comprehensive view of animal health as it relates to the concept of “One Health” for the betterment of an increasingly global society. Through lecture, students will be presented with material related to specific zoonotic diseases, such as Avian Influenza, Rabies, MERS-coV, Nipah, and West Nile, and the lessons learned through the emergence and re-emergence of these diseases in animals. Course participants will also be encouraged to follow mass media current events on relevant subject matter as a means to stimulate discussion. Other topics explored will include: the cultural and socioeconomic factors influencing human-animal interaction, the increasing interface with wild and domestic animals, animals as sentinels of human disease, and the impact of urban agriculture. The breadth of knowledge pertaining to animal health gained in this course should allow the students to apply a sharp analytical insight to very complex “Global One Health” issues.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

CBTA 6724 Health Preparedness Management 2 Credits

The integration of Public Health Preparedness and Emergency Management will discuss the fundamentals of public health preparedness, emergency management, and the integration of the two into a cohesive preparedness and response management system.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.

CBTA 6595 Community Resilience 3 Credits

The impacts of disasters on a community are not necessarily determined by the scale of a disaster but are significantly influenced by the preparedness of the community. Community resilience is the capacity of groups to withstand, recover from, and respond positively to crisis or adversity. Community resilience is often described as having three properties: resistance, recovery and creativity. Resistance – the degree of disruption that can be accommodated without the community undergoing long-term change. A highly resilient community can withstand considerable disruption before undergoing long-term change. Recovery – the community’s ability to pull through or bounce back to its pre-disaster state. A highly resilient community returns to its pre-disaster state, or moves beyond that, quicker than a less resilient community. Creativity – the community’s ability to build on lessons of a crisis or disaster, to gain an improved level of functioning and increased levels of resilience. A highly resilient community will adapt to its new circumstances and learn from the disaster experience.

This online course is designed to assist graduate students working in the area of social work, community development, and public health to understand and apply concepts of resilience to building the capacity of communities to successfully weather disasters whether naturally occurring or manmade. How do planners measure, foster, organize, evaluate and implement the tools, processes and programs that seek to foster resiliency in urban communities? Particular attention will be paid to the role of community-level initiatives aimed at educating graduate students to think critically at how a community can prepare for, cope with, and recover from the adverse social, health and community impacts of disasters through the interrelated domains of prevention, preparedness, response and recovery with the end goal of achieving resilience. Emphasis will also be on identifying federal, state, local, private sector and non-governmental agency plans to enhance community resilience for health security threats and describe options for building community resilience.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to Graduate level students.