

# HOMELAND SECURITY SCIENCES, MASTER OF SCIENCE (0413)

## Program Coordinator

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This multidisciplinary program prepares science professionals for careers in the Homeland Security area. The program features hands-on research components to enable students to apply their training to real-world problems. The physical threats area involves the study of applications of physics, biology and chemistry to detect, quantify, prevent and decontaminate radiological, nuclear, biological, explosive and chemical threats. The cyber defense area involves the study of prevention, detection, and remediation of attacks on information systems.

## Program Admission

In addition to the Graduate School requirements, admission to the program requires a Bachelor's degree in biology, chemistry, or physics.

Please refer to the admission section (<http://catalog.wku.edu/graduate/admission>) of this catalog for Graduate School admission requirements.

## Program Requirements (31 hours)

Code	Title	Hours
<b>Required Courses</b>		
PHYS 506	Overview of Homeland Security	1
PHYS 560	Introduction to Physics Applications in Homeland Security	3
Select 6 hours from two of the following areas:		6
PHYS 570 & PHYS 571	Nuclear / Radiological Detection and Remediation and Nuclear / Radiological Detection and Remediation Laboratory	
CHEM 560	Chemical Agents and Explosives	
CHEM 572 & CHEM 573	Detection/Analysis of Chemical Agents and Explosives Lecture and Detection/Analysis of Chemical Agents and Explosives Laboratory	
PH 584	Principles of Environmental Health	
EOHS 595	Public Health Management of Disasters	
PHYS 598	Graduate Seminar	2
PHYS 599	Thesis Research / Writing	6
<b>Electives</b>		
Select 13 hours from the following: <sup>1,2</sup>		13
PHYS 590 & PHYS 591	Physical Principles of CBE Detection and Remediation and Physics CBE Detection and Remediation Laboratory	
BIOL 550	Introduction to Biological Applications in Homeland Security	
BIOL 552 & BIOL 553	Biological Applications in Homeland Security I and Laboratory: Biological Applications in Homeland Security I	
BIOL 555	Laboratory: Biological Applications in Homeland Security II	

EOHS 571	Air Quality Management
EOHS 572	Environmental and Occupational Epidemiology
EOHS 577	Environmental Toxicology
EOHS 580	Solid and Hazardous Wastes
GEOS 575	GIS Analysis and Modeling
Students may select elective courses offered at Eastern Kentucky University including:	
HLS 800	Homeland Security Policy Analyst
HLS 810	Critical Infrastructure Protection
HLS 820	Intelligence for Homeland Security
HLS 830	Hazards and Threats to Homeland Security

Total Hours 31

<sup>1</sup> The student majoring in homeland security science must complete, in addition to this core and a thesis, a minimum of 13 semester hours of selected graduate division courses. The selection is determined by the student's specialized area of study, subject to approval by the student's departmental advisor.

Students are strongly encouraged to utilize elective courses from other Kentucky colleges and universities such as graduate courses from Eastern Kentucky University's Safety, Security & Emergency Management program. Any course, other than these EKU courses, must receive approval from the graduate director of the program before being considered as an elective.