THE UNIVERSITY OF AKRON
COLLEGE OF APPLIED SCIENCE AND TECHNOLOGY
Department of Disaster Science and Emergency Services
Emergency Management and Homeland Security

Course Title: Hazards Science and Management
Course Number: EMHS:370
Course Credits: 3 credit hours
Prerequisites: None

Course Description:
Provides an overview of hazards theory and the science of various hazards. Both natural and technological hazards are studied with the perspective of emergency management. Some of the topics include earthquakes, tsunami, volcanoes, floods, wildfires, terrorism, winter storms, and hurricanes.

Program Outcomes:
Students will gain a better understanding of:

1) the scientific process of various hazards
2) Emergency Management fundamentals in relationship to hazards
3) professionalism in Emergency Management
4) data sources and their reliability
5) utilization of technology and data in Emergency Management
6) utilization of case studies

Program Assessment:
The University of Akron and specifically the Emergency Management and Homeland Security program assesses student learning at several levels. The goal of these assessment activities is to improve student learning. As a student in this course, you will participate in various assessment activities. Grades and work samples may be selected to gather learning outcome data to be measured and tracked over several years. Student names or indicators are not used in data analysis. Students have an active role in course and program assessment projects. Generated data will direct any changes made in the curriculum which is designed to strengthen and constantly improve student learning and educational outcomes.

Knowledge of scientific processes of various hazards will be demonstrated through assignments.
Emergency Management fundamentals (response, preparedness, recovery, and mitigation) will be demonstrated through assignments.
Professionalism in Emergency Management will be demonstrated through an oral presentation in the final project.
Data sources and their reliability will be demonstrated with the assignment and final project.

The utilization of technology and data will be demonstrated with the assignment and final project.
Utilization of case studies will be demonstrated with the assignment and final project.

Course outline:

Topic I: Introduction to Hazards
Hazards Classification
Theory and Concepts
Topic II: Geological and Hydrological Hazards
Volcanoes
Earthquakes and Tsunami
Wildfires
Floods
Topic III: Biological Hazards
Diseases, Epidemics, and Pandemics
Topic IV: Atmospheric Hazards
Fundamentals of Weather and Climate
Thunderstorms and Tornadoes
Midlatitude Cyclones
Hurricanes
Topic V: Anthropogenic Hazards
Chemical Incidents, Hazardous Materials, and Environmental Hazards
Weapons of Mass Destruction

Grading Scale:

A	≥ 94%	488.80-520.00 points
A-	90-93%	468.00-488.79 points
B+	88-89%	457.60-467.99 points
B	83-87%	431.60-457.59 points
B-	80-82%	416.00-431.59 points
C+	78-79%	405.60-415.99 points
C	73-77%	379.60-405.59 points
C-	70-72%	364.00-379.59 points
D+	68-69%	353.60-363.99 points
D	63-67%	327.60-353.59 points
D-	60-62%	312.00-327.59 points
F	≤ 59.9%	≤ 311.99 points

COURSE RATIONALE:
This course will cover the basic theories of various hazards and emergency management. Emergency managers need to understand the basic scientific

principles in order to communicate with experts and the public. This will aid in decision making along with expanding the student's knowledge. Furthermore, the course is designed to promote critical thinking through applications which is a basis for learning rather than memorizing material.

Special Accommodations:

In pursuant to University policy #3359-38-01, The University of Akron recognizes its responsibility for creating an institutional atmosphere in which students with disabilities have the opportunity to be successful. Any student who feels he/she may need an accommodation based on the impact of a disability should contact the Office of Accessibility at 330-972-7928 (v), 330-972-5764 (tdd) or access@uakron.edu. The office is located in Simmons Hall Room 105.