

EPT 130 Mitigation and Preparedness

Course Description

This course introduces the mitigation and preparation techniques and methods necessary to minimize the impact of natural, technological, and man-made disasters. Topics include hazard identification and mapping, design and construction applications, financial incentives, insurance, structural controls, preparation, planning, assessment, implementation, and exercises. Upon completion students should be able to develop a mitigation and preparedness plan.

Course Hours Per Week: Class, 3; Lab, 0, Credit: 3

Prerequisite: None

Corequisite: None

Course Objectives:

- a. Distinguish the differences between natural and man-made hazards.
- b. Define the concept of “all-hazards” approach to disasters.
- c. Describe the different levels of hazard mitigation planning.
- d. Create a basic preparedness plan for a community.
- e. Understand risk/vulnerability assessment.
- f. Explain the roles and responsibilities of government in preparedness activities.
- g. Explain the roles and responsibilities of the private sector in preparedness activities.
- h. Define sustainable development and its role(s) in hazard mitigation and preparedness.

Outline of Instruction:

- I. Hazards vs. Disasters
 - a. Hazards and Disasters: Not the same
 - b. The many cost of disasters
 - c. Mitigation and Preparedness for Resilient Communities
- II. Meteorological and Hydrological Hazards.
 - a. Weather related natural hazards
 - b. Hurricanes
 - c. Flooding
 - d. Tornadoes
 - e. Severe winter weather.
- III. Geological Hazards

- a. Earthquakes
 - b. Volcanoes
 - c. Landslides
 - d. Coastal Erosion
- IV. Man-Made Hazards
 - a. Terrorism
 - b. Civil Unrest
 - c. Technological Hazard
- V. Hazard Management Framework
 - a. Hazard mitigation through land use management
 - b. Governance
 - c. The role of government
 - d. Private land ownership
 - e. Land use controls
- VI. The Role of the Federal Government
 - a. Evolution of Emergency Management
 - b. Federal hazard mitigation programs
 - c. Federal incentives for development
 - d. Federal disaster Assistance
- VII. Mitigation at the State Level
 - a. State Emergency Management
 - b. Hazard mitigation planning at the State Level
 - c. State Building Codes
 - d. State regulation of hazard insurance
- VIII. Local Government Powers
 - a. Sustainable community is resilient community
 - b. Economic resilient: protecting businesses
 - c. Business risk assessment and impact analysis
- IX. Community Resilient and the Private Sector
 - a. Resilient Economic and Resilient Communities
 - b. Economic resilient: protection businesses
 - c. Business risk assessment and impact analysis
- X. Risk Assessment
 - a. The purpose of risk assessment
 - b. Identifying hazards
 - c. Profiling hazards
 - d. Inventorying

- e. Estimating potential loss
- XI. Preparedness Activities
 - a. Drawing the line between mitigation, response and preparedness
 - b. Preparedness programs
- XII. Hazard Mitigation Tools and Techniques
 - a. Types of tools and techniques
 - b. Engineering projects
 - c. Prevention
 - d. Property protection
 - e. Public Information
- XIII. Hazard Planning
 - a. Preparing to plan
 - b. Risk assessment
 - c. Capability assessment
 - d. Mitigation goals and objectives
 - e. Plan maintenance process
- XIV. Building a Culture of Prevention
 - a. Vulnerability as a function of human behavior
 - b. Economic vitality
 - c. Social Equity
 - d. Environmental Integrity

Required Textbook and Materials:

Textbooks to be selected by instructor

Statement of Students with Disabilities:

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. If you have a disability that may have some impact on your work in this class and for which you may require accommodations, please contact the Disability Services office by calling 919-536-7207, emailing disabilityservices@durhamtech.edu, or visiting room 10-209 in the Wynn Center (Building 10) for additional information regarding requirements for arranging accommodations.