The George Washington University
Institute for Crisis Disaster and Risk Management
Director:  J.R. Harrald, Ph.D.

- Graduate Education Programs
  - Masters Degree
  - Doctoral Degree
  - Graduate Certificate

- Research Projects

- Training Programs

- Outreach and Information Programs
Crisis and Emergency Management Courses

**EMGT 232  Crisis and Emergency Management**

**EMGT 234 Management of Risk and Vulnerability for Natural and Technological Hazards**

**EMGT 236 Information Technology in Crisis and Emergency Management**
Description: The role of information in crisis and response management; determining disaster and crisis information requirements; information technologies applied to crisis, disaster and emergency management; the cause and effects of information breakdowns during crises and disasters.
EMGT 238  Current Issues in Emergency and Crisis Management
Description: A seminar course organized around current issues (e.g. mitigation, critical infrastructure protection, terrorism) and the management successes and failures exhibited during recent disaster or crisis events. Includes presentations from federal, local, private sector and not for profit perspectives.

EMGT 332  Crisis Management, Disaster Recovery, and Organizational Continuity
Description: Introduction to disaster recovery planning and concepts of business continuity. Recovery of information and communication systems. The role of the private sector in mitigation and recovery. Public/private partnerships in community reconstruction and recovery.

EMGT 334  Environmental Hazard Management
Description: Analysis of the geological, meteorological, radiological, chemical and biological hazards facing U.S. and international communities. Description of organizational responsibilities for hazard identification and management. Communication and perceptions of vulnerability and risk. Challenges to local governments and communities.

EMGT 297  Problems in Crisis and Emergency Management
Description: Project course providing the opportunity to apply concepts and tools previously studied to the solution of an actual problem in crisis and emergency management. Student work in small groups, on a problem proposed by student and approved by the instructor.
**EMGT/IAFxxx**  *International Impacts of Disasters (To be developed)*
Description: Analysis of the threat from natural and technological disasters and terrorism. The description of the economic, political, and social impacts of disasters particularly on the sustainable development of lesser developed countries. The description of the international framework for disaster response and recovery and the roles and functions of international government and non-government organizations.

**EMGT/OEMxxx**  *Integrated Response to Community Disasters (To be developed)*
Description: Description of the potential impact of mass casualty disasters on community medical systems. The objectives, structure, and functions of an integrated emergency response organization. The management of the critical phase of the medical response. Demonstration of planning, preparation, and exercising techniques and requirements.

**EMGT/PHxxx**  *Public Health Impacts of Disasters (to be developed)*
Description: Natural disasters are potential public health crises, particularly in developing countries. Disaster histories are used to define the public health threat. Planning and managing for effective public health preparation, mitigation, response, and recovery are described.
Institute Research Projects


• Vessel Risk for Washington State Ferry system (Washington State Transportation Com. 1998-99)

• Earthquake Impacts: Displaced persons/shelter needs (National Science Foundation 1996-99) (see www.abag.ca.gov)
The Maritime Accident Event Chain

Organizational Factors:
- Vessel type
- Vessel age
- Pilot/officers on bridge
- Individual/team training
- Flag/classification society
- Management type/changes
- Vessel incident/accident history
- Safety management system

Situational Factors:
- Type of waterway
- Traffic situation
- Traffic density
- Visibility
- Wind
- Current
- Time of day

Stage 1: Basic/Root Causes
- E.g. Inadequate Skills, Knowledge, Equipment, Maintenance, Management, Org. culture

Stage 2: Immediate Causes
- E.g. Human Error, fatigue, alcohol drugs, inadequate procedures, Equipment Failure

Stage 3: Incident
- E.g. Human error, Propulsion Failure, Steering Failure, Hull Failure, Nav. Aid. Failure, Elec. Failure, terrorist threat

Stage 4: Accident
- E.g. Collisions, Fire/explosion, Groundings, Foundering, Allisions, Terrorist attack

Stage 5: Immediate Consequence
- E.g. Injury, Loss of life, Vessel damage, Ferry on fire or sinking, Persons in Peril

Stage 6: Delayed Consequence
- E.g. Injury, Damage, Loss of Life, Loss of vessel
Effective Risk Management

Multiple Interventions:
The most Effective Strategy

Number of Events

Basic/Root Causes
E.g. ISM

Immediate Cause Events
E.g. Bridgeteam Training

Triggering Events
E.g. Transit Restrictions

Accidents
E.g. VTS

Immediate Consequences
E.g. Drills

Delayed Consequences
E.g. Exercises
Simulation Analysis Tool

FIGURE 8
Weather

- Land and sea visibility.
- Wind speed and direction.
INSTITUTE TRAINING AND OUTREACH

TRAINING

• Host/collaborate with Disaster Recovery Institute for Business Continuity Certification courses
• Sponsor aviation safety and crisis management training program

OUTREACH

• Participate in Joint Center for Disaster Management and Mitigation with Virginia Tech
• Co Host (With Corporate Response Group) Crisis Management Roundtable for Fortune 500 companies
• Co Host (With FNMA) Washington Financial Institution Crisis Management Cross Talk Group
• Sponsor/host Disaster Related Conferences (TIEMS’98, Remote Sensing/GIS conferences)
• Sponsor/host monthly disaster mitigation policy seminar series