

Executive Masters in Crisis and Emergency Management
Risk Assessment, Mitigation and Communication
ECEM 731

Professor: David M. Hassenzahl, PhD
Chair and Associate Professor
Department of Environmental Studies

Contact Information:

Office: (702) 895-4457
Fax: (702) 895-4436
Email: david.hassenzahl@unlv.edu
Mail: Department of Environmental Studies, MS-4030
Greenspun College of Urban Affairs
University of Nevada, Las Vegas
Las Vegas, NV 89154-4030

Course Description:

This course explores the use of “risk” in making individual and group decisions. We will explore qualitative and quantitative methods for evaluating risk and develop practices to use such information to improve decision making processes in the context of emergency management.

Course Objectives:

At the end of this course, each student should be able to

- describe the nature, origins and limitations of risk analytical information
- perform basic risk calculations;
- predict how individuals and groups will react to risk information;
- apply risk analytical information to crisis and emergency planning and preparedness; and
- develop plans for effective risk communication
- explore qualitative and quantitative methods for evaluating risk and
- develop practices to use such information to improve decision making processes in the context of emergency management

Objectives Measurement:

There will be four assignments required of each member of this class. These *must* be completed by the due dates listed. 100 points are available in this course; every student has the opportunity to complete all 100 points. Each student will be graded on the following scale:

A = 100 - 92%, A- = 91 - 90%, B+ = 88 - 89%, B = 87 - 82%, B- = 81 - 80%, C+ = 78 - 79%, C = 77 - 70%, C- = 69%, D+ = 68%, D = 67 - 60%, F = less than 60%

Preface

Most students who are at a point in their careers that they are ready to earn a MS in Emergency and Crisis Management have some practical experience in risk assessment, and may have considerable knowledge about the data available to inform some risk decisions. Few, however, have had the chance to think formally about risk assessment as a decision tool for short, medium and long term planning. Risk assessment is of at best limited use in a crisis or emergency setting. It is, however, one of the best tools for preparing for emergencies and crises. This course, then, focuses on risk analysis methods, and their applications to emergency and crisis preparedness.

Assignments

A) Decision making tools from Mindtools—20 point. Due (TBA)

Mindtools is a company that provides some well developed decision making tools. Each student should go through ALL of the tools available in the “Decision Making” section. This can be done on-line, or pdf versions of the pages can be downloaded.

Each student will have the option of completing any two of a set of assignments using these tools.

http://www.mindtools.com/pages/main/newMN_TED.htm

B) Reading Summaries—40 points Due (TBA)

A list of required readings appears below. Students should read ALL assigned readings.

Each student should submit a 150 – 250 word summary for any 10 papers or chapters from the Daniels et al book. Students are welcome (indeed, encouraged) to discuss the readings, but each student should do his or her own writing.

C) Problem set—40 points. Due (TBA)

A problem set will be distributed, presenting several risk scenarios. Students will qualitatively describe each scenario, complete appropriate risk calculations using tools from the texts and lectures, and compose a policy memorandum for each case explaining how these calculations can be used (including their limitations, and expected public or other reactions to the information)

Required Reading Assignments:

Read prior to first class meeting

Hassenzahl, D.M. and Finkel A.F. (forthcoming). "Risk Assessment for Environmental and Occupational Health." Encyclopedia of Public Health, Elsevier Press
DHS Risk Assessment Framework

Books

Ronald J. Daniels, Donald F. Kettl, and Howard Kunreuther, Editors. (2006). On Risk and Disaster Lessons from Hurricane Katrina.

Finkel, Adam (1995). *Understanding Uncertainty*. Must summarize this book

Class reader: Read and submit summaries as described above

Slovic, P., M. Funucane, E. Peters and MacGregor, D. (2004). Risk as Analysis and Risk as Feeling. *Risk Analysis* 24(2) 311 – 323.

Apostolakis G. (2004). How useful is Quantitative Risk Analysis? *Risk Analysis* 24(3). 515 – 521.

- Palencharand, Michael J. and Heath, Robert L. (2007). "Strategic risk communication: Adding value to society." *Public Relations Review* 33 (2): 120 – 129.
- Sagan, S. D. (2004). The Problem of Redundancy Problem: Why More Nuclear Security Forces May Produce Less Nuclear Security. *Risk Analysis* 24(4) 935 – 947.
- US DOJ (2004). *A Method to Assess the Vulnerability of U.S. Chemical Facilities*.
- Cullen, A. C. and Small, M. J. (2004). "Uncertain risks: the role and limits of quantitative assessment." In McDaniels, T. and Small, M. eds. *Risk Analysis and Society: An Interdisciplinary Characterization of the Field*. Cambridge University Press, Cambridge MA.
- Bier et al (2004). "Risk of Extreme and Rare Events: Lessons from a Selection of Approaches." In McDaniels, T. and Small, M. eds. *Risk Analysis and Society: An Interdisciplinary Characterization of the Field*. Cambridge University Press, Cambridge MA.

Miscellaneous:

- Grades: Grades will not be posted publicly nor given telephonically. Course grades can be obtained directly from the professor, or if the student desires the grade prior to official reports being mailed, leave a self-addressed, stamped envelope with the professor and the grade will be mailed.

University Policies:

- Disabilities: If you have a documented disability that requires assistance, you will need to contact the Disability Resource Center (DRC) for coordination in your academic accommodations. The DRC is located in the Reynolds Student Services Center, room 137, phone (702) 895-0866.
- Absences: As a general rule, a student missing a class or laboratory assignment because of observance of a religious holiday shall have the opportunity to make up missed work. Students must notify the professor of anticipated absences at the first meeting in week one to be assured of this opportunity.

This syllabus is a guide, not a contract. It may be revised if it seems in the best interest of the class to do so. Students will be notified promptly of any revisions.