GRADUATE CERTIFICATE PROGRAM/MPA OR MCJ PROGRAM CONCENTRATION
IN EMERGENCY MANAGEMENT
AND HOMELAND SECURITY

School of Public Affairs
University of Colorado Denver
Downtown Denver Campus

PROGRAM DESCRIPTION
AND ADMINISTRATIVE GUIDELINES

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1. INTRODUCTION

1.1. Need.

Emergency management has emerged as a profession of vital importance at every level of society in the twenty-first century; and indeed, was already established as such prior to American society’s newfound concerns with national security. Emergency managers are needed to cope with the threats to society posed by natural hazards, technological hazards, and terrorism. Since 1995, the number of emergency management educational programs has risen almost twenty-fold at institutions of higher education across the United States. There are now 118 such programs operating in 39 states (see section 1.3 below).

Viewed from one perspective, the phenomenon of human beings organizing themselves to avoid the effects of foreseeable threats to their well being and to respond to those threats when they manifest is as ancient as the history of human social organization itself. However, the systematic study of disaster preparedness and response – whether to natural disasters or to those either accidentally or deliberately induced by human behavior – has taken on renewed urgency with the spate of recent terrorist attacks on civil society throughout the world, including the United States.

Here in Colorado, institutions of higher education have reacted in a variety of ways to the combined need to train such emergency management professionals, and to establish Emergency Management and Homeland Security as a subject of multi-disciplinary teaching and research. These programs and activities include:

- The Natural Hazards Research and Applications Information Center at the University of Colorado at Boulder.
- The certificate and associate degree programs for first responders at Red Rocks Community College in Lakewood.
- The Certificate in Homeland Security at the Graduate School of International Studies, University of Denver.
- The Graduate Certificate Program in Homeland Defense, hosted through the Network Information and Space Security Center, University of Colorado at Colorado Springs.

However, what does not exist anywhere in Colorado (or all but one of the other western state higher education system participating in the Western Interstate Consortium on Higher Education [WICHE] as of this writing) is a degree or certificate program designed to educate graduate students using the all-hazards emergency management model.

In essence, the all-hazards model is meant to prepare emergency managers to cope with all major hazards facing modern societies (whether such hazards be naturally, accidentally, or intentionally created). A graduate level program centered on the all-hazards model is needed to prepare students for the wide array of challenges facing managers who deal with emergencies in the public, private, and non-profit sectors. It is also needed by graduate students who wish to pursue careers in research and teaching in this rapidly evolving area of multi-disciplinary study. This proposed program is designed to fulfill both these needs.
1.2. Purposes.

There are two purposes underlying creation of this graduate certificate program in Emergency Management and Homeland Security (hereinafter, EMHS). The first is to provide management-level, multi-disciplinary graduate educational certification in All-Hazards management for persons already in or preparing to enter positions in the emergency management structure of public, private, and non-profit agencies and organizations; and for persons responsible for policy making and program planning for disaster preparedness. The second is to provide graduate students already in approved degree programs at UCDHSC an opportunity to develop a substantive specialization in EMHS to the extent that their respective degree programs provide them with sufficient flexibility to do so – whether these students are intending to enter the emergency management profession or to pursue academic careers teaching and doing research in this area. Thus, the EMHS graduate certificate program is also available as a program concentration in the School of Public Affairs’ Master of Public Administration degree program.

1.3. Context.

As noted above, in founding the EMHS program at the School of Public Affairs, the school joins a growing list of public and private institutions throughout the United States that are responding in a variety of ways to the demonstrated need for trained emergency management personnel at every level of organizational response. However, the EMHS program is distinguishable from most other such programs, in that it is geared towards more senior-level managers, policy analysts, and planners as well as academicians, and in that takes a genuinely multi-disciplinary, all-phases, all-hazards approach both in its overall curriculum design and in the development of individual courses within the program.

2. PROGRAM DESIGN

2.1. Design Principles and Learning Objectives.


Four organizing principles have informed the design of this certificate program, and will continue to influence its future development. The first is the all-hazards emergency management model. Whether a cloud of toxic gas is released from a manufacturing site by reason of an earthquake, equipment failure, operator error, or industrial sabotage, the public safety threat and environmental health impact is the same. Whether a wildfire at the wildland-urban interface was started by lightning or an arsonist, the potentially devastating effects are the same, although before-the-fact prevention and mitigation measures may in some measure differ.
However, in many of the degree and certificate programs discussed and documented in § 1.3 above, and in some professional circles, there is considerable fragmentation between preparedness for and response to natural disasters, industrial accidents and infrastructural failures, and public safety/national security threats such as terrorism. Moreover, this fragmentation in the organization of response authority can sometimes lead to a lack of coordination and inefficient communication between various government agencies at the very time when good communication and coordination are most needed.

Recognizing this problem, the National Governors Association has recommended (and many professional training programs have since adopted) the all-hazards emergency management model, which stresses the need for a conceptually unified approach toward mitigating, preparing for, responding to, and recovering from disaster situations, whether those disasters were naturally caused or human-induced. It is that approach – one which stresses the similarities in program responsibilities in the areas of natural hazards, technological accidents, environmental health emergencies, counter-terrorism, and law enforcement – which the EPML program will feature.

Thus, the second design feature of this program is that it is and must be genuinely multi-disciplinary in nature. The two core seminars described at § 2.2 below are both taught with this in mind; and the courses chosen for the elective tracks comprising the other component have also been selected with this principle in mind – that is, how they collectively comprise something greater than the sum of their parts, and how they relate to the themes emphasized in the core seminars.

The third design feature of this program is that it be responsive to the expressed needs of both (1) the agencies and organizations looking to the EMHS program for the training of its leadership; and (2) academic institutions engaged in the production of applied research in this rapidly emerging and continually evolving field. This is why the program is organized for delivery at the graduate level, and why external linkages to both the practice community and research community are emphasized (see § 3.3.2. below).

And fourth, the program is designed to accommodate growth and change within the field and within the UCDHSC setting. For example, with the recent merger of UCD and HSC into one integrated urban institution within the University of Colorado system, there exists the possibility of the development of additional tracks in this program, such as one in epidemiology and public health.
2.1.2. Learning Objectives.

Upon successful completion of the program, students will:

- Be familiar with basic theoretical underpinnings of emergency management.
- Understand mitigation, preparedness, response, and recovery strategies for a broad range of natural hazards, technological hazards, and terrorism.
- Understand the policy environment within which emergency management occurs.
- Be able to evaluate current risk reduction and management strategies.
- Be prepared to apply loss reduction strategies to real-world problems.

Students graduating from the EMHS certificate program will have the knowledge and skills necessary to assess and manage a broad range of hazards and disasters, as well as an understanding of the policy environment in which emergency management occurs. Furthermore, EMHS alumni will have the ability to learn and adapt in response to emerging challenges in emergency management.

2.2. Program Requirements.

All students must take any two of the three program seminars described at § 2.2 below, and three additional electives from within the elective tracks, for a total of fifteen semester units of coursework. An additional 3-credit hour internship will be required for students not already working in an EMHS environment. Students may either elect one of the tracks described below if they wish to so specialize, or they may take a mix of electives across the tracks.

At the discretion of program advisors, up to six units of graduate-level EMHS coursework taken at other accredited institutions of higher learning – units that were not applied toward a degree or certificate that was awarded – may be applied toward completion of the EMHS certificate.

2.2.1. Core Seminars.

There are three core seminars in the EMHS program, all of which are already being taught on an ongoing basis by full-time tenure track faculty at the Downtown campus of the University of Colorado Denver. Taken together, these three complementary seminars – one focusing principally on the policy and management aspects of EMHS, one on spatial analysis and planning, and the third on the law of all-hazards management – provide students with a comprehensive overview of the emergency management profession and the integrated array of knowledge and skills areas that comprise it. Students in the EMHS program are strongly advised to take all three of these core seminars, but are required to take any two of the three. Students choosing the spatial analysis and planning track (see § 2.3.2. below) are required to take GEOG 5230. The core seminars are:
GEOG 4230/5230. *Hazard Mitigation and Vulnerability Assessment*. (3 credit hours). The primary objective of this course is to explore ways to reduce the impacts of hazards, focusing on human systems, rather than the physical environment. The emphasis will be on hazard mitigation and vulnerability reduction/building resilience. Topics will include examining different techniques for conducting hazard and vulnerability assessments, incorporating hazard planning into comprehensive and land use plans, and assessing how vulnerability assessments fit into this process. The class will actually conduct work to support hazard and vulnerability assessment in Colorado, utilizing GIS as a tool.

PAUD 5450. *Law of All-Hazards Management* (3 credit hours). Examines the relationship between local, state, and federal statutes and regulations governing all-hazards management, and the role of the courts in overseeing the implementation of these laws. Students learn and apply legal research and writing skills to the conduct of analytic research on a current issue in the law of all-hazards management; and also how to manage disasters in a way most likely to survive legal scrutiny.

PAUD 5650 *Disasters and Emergency Management Policies* (3 credit hours). Examines public policies for the management of hazards, emergencies, and disasters. Focuses on a series of case studies concerning major disasters, and on management principles drawn from those cases (including the all-hazards emergency management model). Examines the role of institutional processes, government organizations, and nongovernmental organizations in emergency management.

2.2.2. Elective Tracks.

The purpose of the elective track approach is to complement the integrative, multi-disciplinary perspective of the core seminars with substantive depth in one of three areas. As noted above, more may be added or the existing ones reworked as more faculty and academic units at UCD learn of the EMHS program’s existence and decide to contribute to the fulfillment of its mission. Thus the lists presented below should be considered illustrative rather than exhaustive.

The pre-approved courses listed in the tracks below have been selected on the basis of goodness of fit with the four design principles for the EMHS Certificate Program discussed in § 2 above. To the extent possible, courses were also chosen that have few or no perquisites, to facilitate cross-disciplinary study by EMHS students. Be sure to check with the professor offering the course regarding any possible conditions of admission.

2.2.2.1. Policy and Management.

Several courses already offered in the curricula of the Graduate School of Public Affairs, various departments in the College of Liberal Arts and Sciences, and elsewhere at UCDHSC either directly or tangentially address policy and management aspects of EMHS. The EMHS Program Committee will decide which of the possible courses listed below will ultimately comprise this track’s options. Solely by way of example, some of these courses include:
PUAD 5271. Managing Conflict and Change.
PUAD 5410. Administrative Law.
PUAD 5420. Law and Public Policy.
PUAD 5440. Negotiation and Conflict Resolution.
PUAD 5631. Environmental Politics and Policy.
PUAD 5632. Environmental Program Management.
PUAD 5633. Natural Resource and Environmental Health Law.
PUAD 6600. The Law of All-Hazards Management.
PSCI 4365. Global Ecological Crises.

2.2.2.2. Spatial Analysis, Planning, and Quantitative Assessment

The Geography Department, other departments in CLAS, the College of Architecture and Planning, the College of Engineering, and other academic unit all offer relevant coursework. A few examples include:

GEOG 4080/5080. Geographic Information Systems.
GEOG4090/5090. Environmental Modeling with GIS

URPL 6653. Natural Resource Planning and Management
URPL 6651. Environmental Impact Assessment
URPL 6612. Geographic Information Systems for Planners

2.2.2.3. Public Safety, Homeland Security, and Justice

The listing below includes course offerings from the Graduate School of Public Affairs’ Master of Criminal Justice (MCRJU) Program; and from the Graduate Certificate Program in Homeland Defense, a multidisciplinary program based at the Colorado Springs campus of the University of Colorado.

CRJU 5000. Law and Social Control.
CRJU 5100. Administration of Criminal Justice.
CRJU-5576-050. Social Science in the Criminal Justice System: Managing Information & Technology Systems.

INFS 682. Protection of Critical Infrastructures (UCCS campus only).
PSCI 598: Understanding the Threat (UCCS campus only).
PUAD 5950. Introduction to Homeland Defense (UCCS campus only).
2.2.2.4. Public and Environmental Health

The courses listed in this track are drawn principally from the curricula of the Master of Science in Environmental Science Program and the Health and Behavioral Science program within the College of Liberal Arts and Sciences at UCDHSC-Downtown Denver Campus; and the Master of Science in Public Health program within the School of Medicine, at the UCDHSC-Health Sciences Center Campus. Be sure to check with the course professor and academic advisor regarding conditions for course admission.

ENVS 5620. Health Risk Communication
ENVS 6200. Risk Assessment.
ENVS 6210. Human Health and Environmental Pollution
ENVS 6220. Toxicology
ENVS 6230. Environmental Epidemiology

HBSC 5001. Introduction to Epidemiology
HBSC 5014 Global Health Studies I: Biocultural Basis of Health
HBSC 5024 Global Health Studies II: Comparative Health Systems
HBSC 5021 Community Health Assessment

PUAD 5633. Natural Resource and Environmental Health Law

PRMD 6600. Introduction to Public Health
PRMD 6614. Occupational and Environmental Health
PRMD 6630. Epidemiology
PRMD 6635 Epidemiology of Communicable Disease
PRMD 6637 Injury Epidemiology and Control

3. PROGRAM ADMINISTRATION

3.1.1. Admissions and Advising.

Applicants to the EMHS certificate program must have an undergraduate degree from an accredited institution of higher learning, and must have graduated with a cumulative grade point average of 3.0 or better. Applicants who are earning the certificate as an element of an existing graduate degree program being offered somewhere in the University of Colorado system or other institution with which CU has a cooperative degree-sharing agreement must be enrolled students in good standing in that degree program.

Advisors will be assigned to those admitted to the program during their first semester of matriculation in the program, dependent on which elective track the student chooses. All advisors in the EMHS program will be full-time faculty members at UCD and will be among the faculty who offer approved coursework in the program.
3.2. **Academic Performance.**

Students must maintain a 3.0 grade point average or better in all coursework taken in completion of certificate program requirements. Students not maintaining this average will be placed on academic probation, which must be rectified by the end of the following academic term in which the student is enrolled. Two successive terms of academic probation shall result in removal from the program.

3.3. **Academic Administration.**

3.3.1. **Program Committee.**

The Program Committee will consist of at least one but no more than two faculty members from each academic unit that is offering coursework in the program. The committee will choose one of its number to serve as chair. The committee will have responsibility for administering all aspects of the program as described above except for those functions delegated to the chair, and will also be responsible for decision making regarding the ongoing development of the program. Founding members of the Program Committee are:

- Professor Lloyd Burton, School of Public Affairs
- Professor Brian Gerber, School of Public Affairs
- Professor Deborah Thomas, Department of Geography and Environmental Sciences, College of Liberal Arts and Sciences; School of Public Affairs

3.3.2. **Advisory Committee.**

In order to ensure that EMHS program content and delivery remain relevant to the felt needs of both the emergency management professional and the academic establishment conducting theoretical and applied research in this area, the EMHS Program will maintain a Community Advisory Committee, to be made up of:

- one or more representatives from the regional office of the U.S. Department of Homeland Security, Federal Emergency Management Agency; and other federal agencies with emergency management responsibilities;
- one or more representatives of Colorado state agencies (e.g., Division of Emergency Management, Department of Public Health and Environment) having emergency management responsibilities;
• one or more representatives from local government agencies having EMHS authority; and
• a representative from the University of Colorado Natural Hazards Research and Applications Information Center.

3.3.3. Administrative Context.

Certification of completion of all program requirements will be made by the Director of the EMHS Program and the Dean of the School of Public Affairs.