The University of Georgia

University Council
Athens, Georgia 30602

February 9, 2011

UNIVERSITY CURRICULUM COMMITTEE – 2010-2011
Mr. David E. Shipley, Chair
Agricultural and Environmental Sciences - Dr. T. Dean Pringle
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Dr. Rodney Mauricio (Sciences)
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Family and Consumer Sciences - Dr. Jan M. Hathcote
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Journalism and Mass Communication - Dr. Alison F. Alexander
Law – No representative
Pharmacy - Dr. Keith N. Herist
Public and International Affairs - Dr. Jerome S. Legge
Public Health – Dr. Marsha C. Black
Social Work - Dr. Stacey R. Kolomer
Veterinary Medicine - Dr. K. Paige Carmichael
Graduate School - Dr. Malcolm R. Adams
Undergraduate Student Representative – Mr. Stephen Thompson
Graduate Student Representative – Ms. Lauren Moret

Dear Colleagues:

The attached proposal for a new Graduate Certificate in Disaster Management will be an agenda item for the February 16, 2011, Full University Curriculum Committee meeting.

Sincerely,

David E. Shipley, Chair
University Curriculum Committee

cc: Provost Jere W. Morehead
Dr. Laura D. Jolly

OUTLINE FOR AN INTERDISCIPLINARY CERTIFICATE PROGRAM

I. Basic Information

1. Institution:

University of Georgia / Institute for Health Management and Mass Destruction Defense

Date: September 15, 2010

2. School/College

College of Public Health

3. Department/Division

Health Policy and Management / Institute for Health Management and Mass Destruction Defense

4. Level (undergraduate or graduate)

Graduate

5. Proposed starting date for program

December 1, 2010.

6. Abstract of the program for the University Council's agenda:

The graduate Certificate in Disaster Management at the University of Georgia is based on a curriculum established here over the last 6 years in the field. The first course in disaster management was taught in 2004 while Dr. Dallas was in the College of Pharmacy, and now we have a series of disaster management courses in the College of Public Health, taught through the Institute of Health Management and Mass Destruction Defense in the College of Public Health. Together with supporting courses in global perspectives and disaster skills with other departments in the College of Public Health, College of Education, Department of Geography, and the School of Public and International Affairs, this will make a useful graduate certificate in disaster management. Students enrolled as UGA graduate students would enroll in the Certificate program by submitting the application for the certificate program to the program director. Individuals who hold at least a bachelor's degree and are not UGA graduate students would apply through the Graduate School for the certificate program as a non-degree option in Public Health in the near term and in the Disaster Management CERT program once that is implemented.

The objective of this disaster certificate is to train students to respond to disasters where a combination of medical expertise, management training, knowledge of incident command structures among public and private institutions, and the integration of various other skill sets will be needed. This will include events involving natural disasters, terrorist attacks, political upheaval, and weapons of mass destruction. Students will be expected to learn emergency management approaches, basic first aid skills, triage techniques, antidotes for common terrorist weapons, and first responder protocols, as well as how to take leadership roles in incident command and mass casualty response.

Upon completion of these disaster management courses, students will be able to describe the different types of natural and man-made disasters, understand basic disaster protocols, including incident command structure as outlined by the National Incident Management System (NIMS), implement a disaster response when medical teams will be needed, administer basic first aid and conduct basic triage operations, appraise disaster management strategies, interventions and programs, serve on a disaster management resource team, and communicate and advocate for disaster management. Among the various hands-on training involved will be passing the American Medical Association (AMA) Basic Disaster Life Support (BDLS) and Advanced Disaster Life Support (ADLS) Program, receiving certifications (ISO 100, 200, 700, 800) through the Federal Emergency Management Agency (FEMA), working in teams to conduct a tabletop exercise for actual Georgia hospital emergency exercises, actually writing basic drills and exercises for emergency scenarios, carrying out triage operations during a mass casualty exercise in Georgia hospitals, and performing as a team member in emergency drills. This graduate certificate in disaster management will be ideal for College of Public Health graduate students, who can easily incorporate the course schedule into the curricula of MPH and DrPH students in any of the four departments in the College. In addition, SPIA students can also accommodate the courses from the College of Public Health into their curricula to receive the certificate without undue difficulty. Of course, graduate students from the various other UGA institutions, such as Geographic Information Systems (GIS) and Education (especially the evaluation group), are also welcome and likely to join in with this educational opportunity.

Disaster management is a growing field, with programs appearing in many major Universities across the country, with many appearing in Colleges of Public Health. Employment opportunities are likewise growing in state, federal, and private institutions, which recognize the value of graduate certificates as a validation of expertise in disaster management. The proposed Graduate Certificate in Disaster Management will be a highly credible addition to the expanding field of disaster preparedness initiatives in higher education.

Signatures:

Director, Institute for Health Management and Mass Destruction Defense:

Cham Dallas, Director _____

Department Head, Department of Health Policy and Management:

Phaedra Corso, Department Head _____

Dean, College of Public Health:

Phil Williams, Dean _____

II. Response to the Criteria for All Programs

1. The purpose and educational objectives of the program must be clearly stated, and must be consistent with the role, scope, and long-range development plan of the institution.

A. **State the purpose and educational objectives of the program and explain how the program complements the role, scope, and long-range development plan of the institution**.

The Institute for Health Management and Mass Destruction Defense (IHMD) is a multidisciplinary department within the College of Public Health. The Institute was originally established at UGA in 2002 as a CDC Center, with a funding base of $2.6 Million for the first five years. In 2007, the Institute was created as a UGA entity; total funding from 2002- 2010 has been $9 Million and has included funding from the Assistant Secretary for Preparedness and Response of the U.S. Department of Health and Human Services (ASPR), the Health Resources and Services Administration (HRSA), United States Department of Agriculture, the Georgia Emergency Management Agency, and the Georgia Department of Community Health Division of Emergency Preparedness and Response. It is the mission of the IHMD to work with others to improve the lives of people impacted by disasters by improving preparedness, mitigation, response, and recovery activities at the level of the individual, the community, the state, and the nation, and to enhance these activities among private citizens, employers, government agencies, and the public health system. IHMD advances these efforts through education, research, and service.

Improvement in training for disaster management has the potential to improve health outcomes and reduce property loss for uncountable numbers of persons in the U.S. and

around the world. Thousands of people and untold millions of dollars of property are impacted by disasters worldwide each year. For calendar year 2009, the website Infoplease identifies 34 disasters "involving great loss of life and/or property, historical interest, or unusual circumstances" (from http://www.infoplease.com/, presented by "Pearson, the world's largest integrated education company"). For 2008, there were 47 disasters identified. Recent disasters with significant name recognition for U.S. readers include the Haiti earthquake of 2010, Pakistan floods of 2010, New Zealand earthquake of 2010, Gulf of Mexico oil spill of 2010, Georgia floods of 2009, Hurricane Katrina in the U.S. during 2005, the Indian Ocean tsunami of 2004, and the September 11 attack of 2001.

Preparation for, and recovery from, disasters of this scale require specific skill sets and a thorough understanding of the natural and human processes that either exacerbate or remediate the harm accruing to the impacted populations. The purpose of the Graduate Certificate in Disaster Management is to promote professional and academic development of graduate students pursuing a career in the field of disaster management. The educational objectives of this program include the development of the students' knowledge base and hands-on experience in the planning, preparing, response, and recovery phases of disaster management.

Development of this Certificate program complements the role, scope, and long-range development plan of the institution by providing a pool of trained professionals to guide and enhance the State and Nation's strategic needs in disaster preparedness and response. The proposed Certificate corresponds to the University's long-range plans as indicated in the 2000-2010 Strategic Plan declaration of "a commitment to excellence in public service, economic development, and technical assistance activities designed to address the strategic needs of the state of Georgia" (http://uga.edu/2000-2010strategicplan/sections/planning_environment/). The Certificate program will also support the Strategic Plan 2010-2020 expectation that "graduate programs must evolve to meet the increasingly complex societal needs while maintaining the core values of rigorous scholarship (University of Georgia Strategic Plan 2020, page 10, "Enhancing Graduate and Professional Programs"). As they develop the skills to lead not only institutions in Georgia but also at the national and international level, students earning the Certificate in Disaster Management will fully participate in the process by which "the University of Georgia endeavors to prepare the University community and the state for full participation in the global society of the twenty-first century. (University of Georgia Strategic Plan 2020, page 4, "The Mission of the University of Georgia"). Implementation of this Certificate will further the University mission "to prepare students for effective leadership on campus and beyond" (page 15, "Improving stewardship of natural resources and advancing campus sustainability"). Because of the incorporation of extensive curricular elements from the field of international disaster readiness and response, the Certificate program will serve to enhance the students' abilities to contribute to disaster management at the international level, an outworking of the University's recognition that "our graduates will find themselves living and working in other countries and with citizens of other nations who have vastly different worldviews. To prepare them for this environment, we must ensure that internationalization is deeply woven into every aspect of the university's mission" (University of Georgia Strategic Plan 2020, page 6, "Strategic vision for the University of Georgia in 2020).

While legislative and policy changes at the state, national, and international levels will impact the long-term readiness and response to disasters, and the impact of disasters on the affected populations, much education is needed to effect positive improvements in the ability of governments, private institutions, and the public that they serve, as they seek to prepare for and recover from disasters. The purpose of the Graduate Certificate in Disaster Management is to provide students at the University of Georgia with the knowledge, skills, and disposition needed to become professionals and leaders capable of implementing change in policy and practice across the State, the Nation, and around the world. A key element of this program will be to instill in students a disposition toward effective action as change agents in the planning for and response to disasters. This will involve development of an understanding of the environment of political uncertainty, funding constraints, and rapid shifts in public perception that arise in the wake of sudden and widely publicized disasters, both natural and man-made. To promote this disposition, field exercises, seminars, and interactions with external agencies and professionals will include a broad range of disaster preparedness and response activities and will provide both horizontal (multi-agency, multi-disaster) and vertical (hands-on, administrative, and executive) interactions and exposures. Professionals trained through this Certificate program will promote the adoption of effective practices in the preparation for and response to disasters at the local, regional, national, and international scale and will serve as a catalyst for improvement in the lives of individuals potentially or actually impacted by disasters, whether natural or man-made.

The Educational Objectives of the Graduate Certificate in Disaster Management Program are:

1) Students will develop knowledge, skills, and attitudes conducive to the effective, timely, and pro-active preparedness for and response to disasters at the local, state, regional, national, and international level.
2) Students will understand and be able to implement current best practices in disaster management, incorporating processes and practices developed by leading national and international disaster preparedness and response entities.
3) Students will understand the challenges associated with developing a culture of preparedness, including political, social, and fiscal constraints.
4) Students will understand the impact of geography and climate on disaster preparedness and outcomes, and on the response process itself.
5) Students will learn effective means by which to advocate for needed changes in emergency preparedness and response capabilities.
6) Students will have the opportunity to learn from policy makers and both professional and volunteer disaster preparedness personnel.
7) Students will apply knowledge through opportunities for service learning, including participation in actual emergency preparedness exercises in the field.
8) Students will broaden their professional opportunities and interactions with professionals in the field by, e.g., participation in the preparation and presentation of materials for inclusion in professional or academic meetings.
9) Students will apply disaster management principles to broader management opportunities in a variety of non-disaster fields, such as business and public administration.
10) Students will influence social and policy change in light of disaster management principles at the local, state, regional, national, and international levels.

The objectives and activities of the proposed Graduate Certificate in Disaster Management address the aspirations expressed in the University's Strategic Plan in the areas of workforce development, globalization, and serving the citizens of Georgia and beyond.

B. Describe the interdisciplinary nature of the proposed program. Which school(s) or college(s) and department(s) will be involved in the development of the program? Describe the expected stage of development for this program within five years.

The Institute for Health Management and Mass Destruction Defense (IHMD) is a unit of the College of Public Health. The IHMD maintains a core of faculty with training, academic endeavors, and field experience in disaster management. These faculty have recognized expertise in disaster management in a broad range of fields and fully support the vision and mission of IHMD. These faculty meet regularly to identify opportunities for academic, professional, and field engagement with disaster management practitioners in private industry, the public arena, and volunteer organizations. They assist in student recruitment and instruction and serve as mentors to undergraduate and graduate students in the College.

The following colleges and departments have been and will continue to be involved in the development of the Certificate in Disaster Management:

College of Public Health, Institute for Health Management and Mass Destruction Defense

College of Public Health, Department of Health Policy and Management

College of Public Health, Department of Epidemiology and Biostatistics

School of Public and International Affairs, Department of International Affairs

Franklin College, Department of Geography

College of Education, Department of Lifelong Learning

Within five years (i.e., by December 2015), it is expected that the program will include additional course offerings and field opportunities, including study-abroad options, for Certificate participants.

2. There must be a demonstrated and well-documented need for the program.

A. Explain why this program is necessary.

The Graduate Certificate in Disaster Management will create a cadre of highly-trained professionals to meet the growing national and international need for disaster management. Every year, untold thousands of persons are impacted by disasters, often receiving aid only after considerable delay and suffering; many die needlessly as a result

of inadequate social preparation; many others as a result of inadequate, untrained, or ill-prepared leadership for disaster response activities. Much education is needed to effect meaningful improvement in the global response to disasters and the human suffering that disasters entail. One need only scan the headlines of any major newspaper to observe the self-evident need for improved planning for and response to disasters around the world. The Graduate Certificate in Disaster Management will continue to place the University of Georgia at the forefront of this much-needed global effort.

B. In addition, provide the following information:

1. **Semester/Year of Program Initiation:** Summer 2011.

2. **Semester/Year Full Implementation of Program:** The Certificate Program will be fully implemented Fall 2011.

3. **Semester/Year First Certificates will be awarded:** Summer 2011

4. **Annual Number of Graduates expected (once the program is established**): It is anticipated that between five and twenty graduates will complete the Certificate annually.

5. **Projected Future Trends for number of students enrolled in the program:** It is anticipated that enrollment will remain between ten and forty students, yielding between five and twenty Certifications per year for the foreseeable future.

3. There must be substantial evidence that student demand for the program will be sufficient to sustain reasonable enrollments in the program.

A. Provide documentation of the student interest in the program, and define what a reasonable level of enrollment is for a program of this type. Provide evidence that student demand will be sufficient to sustain reasonable enrollments.

IHMD is engaged in graduate instruction in the College of Public Health on a regular basis. Graduate students in the College of Public Health routinely inquire about the availability of additional training in disaster management, including frequent queries about the start date of the much-anticipated Certificate in Disaster Management. IHMD was approved to teach 3 courses under the DMAN prefix in 2009 and have recently submitted requests to teach two additional courses. Since disaster management topics and content began appearing as components of various graduate programs in 2004, more than 300 graduate students have participated in disaster management educational activities, including seminars, courses, disaster exercises/drills, independent studies, assistantships, and practica/internships. Schools and departments represented include Pharmacy, Public Health, School of Public and International Affairs, Journalism, and College of Education.

B. To what extent will minority student enrollments be greater than, less than, or equivalent to the proportion of minority students in the total student body?

It is believed that minority student enrollment in the Certificate program will be similar to that in the total body of graduate students.

4. The design and curriculum of the program must be consistent with appropriate disciplinary standards and accepted practice.

1. Present a detailed curriculum outline of the program listing specific course requirements (to include programs of study, course prefix, number, and title).

Each student will submit an application describing his or her academic background, professional experience, and specific area(s) of interest in disaster management. Applications will be reviewed by the Program Coordinator, and those meeting the minimum requirements will be forwarded to the IHMD Director for review in conjunction with Program faculty. Applications will be accepted on an ongoing basis; students may be accepted at anytime during the year and may begin taking applicable coursework during any semester (subject to completion of pre-requisites, if any).

The program will be open to current graduate students in any discipline, provided the student has a satisfactory academic and/or professional background. Post-baccalaureate individuals not currently enrolled in a graduate program may be admitted as non-degree graduate students. Students will be required to successfully complete 18 hours of coursework, including nine hours of required core coursework and nine hours from a list of electives.

All students will be required to successfully complete (grade B or above) three core courses of three hours each: Introduction to Health Policy and Management (HPAM 7010), Basic Disaster Management for Public Health Professionals (DMAN 7350), and Advanced Emergency/Disaster Management for Health Professionals (DMAN 7351). An additional nine hours will be completed from the list below. The required and elective course offerings are subject to revision in order to reflect best-practices and changes in the disaster management field.

	Course #	Course Title
Core	HPAM 7010	Introduction to Health Policy and Management
Required Courses	DMAN 7350	Basic Disaster Management for Public Health Professionals
	DMAN 7351	Advanced Emergency/Disaster Management for Health Professionals

Electives* (Choose 3 of these 7 courses)	**Disaster Skills**	EPID 7010	Introduction to Epidemiology I
		INTL 8290	Strategic Intelligence
		GEOG 4370/6370-4370L/6370L	Geographic Information Science
		ERSH 7250	Education Program and Project Evaluation
		DMAN 8900	Special Topics in Disaster Management
		DMAN 8910	Problems in Disaster Management
	Global Perspective	DMAN 7353	Disaster Management in the Middle East
		HPAM 8500	Comparative Global Health Care Systems
		INTL 8280	Nationalism and Ethnic Conflict

ALL COURSES LISTED ARE 3 CREDIT HOURS EACH. SIX COURSES ARE TAKEN FOR A TOTAL OF 18 HOURS

*** Currently scheduled. Courses may be changed or added.**

2. **Identify which aspects of the proposed curriculum already exist and which constitute new courses**. All courses currently exist except for DMAN 8900 and DMAN 8910, with brief descriptions as follows:

   - DMAN 8900: Individual advanced study, reading, or projects under the direction of graduate faculty.

   - DMAN 8910: Research or intensive study in a specialized area of disaster management under the direction of a faculty member.

3. **Identify model programs, accepted disciplinary standards, and accepted curricular practices against which the proposed program could be judged. Evaluate the extent to which the proposed curriculum is consistent with these external points of reference and provide a rationale for significant inconsistencies and differences that may exist.**

The United States Federal Emergency Management Agency (FEMA) provides the gold standard for emergency preparedness training in the United States. Courses included in the Certificate curriculum incorporate content from the FEMA series of courses, with an emphasis on course content that will be applicable at the mid-level decision maker for public agencies and private sector settings. Some content is also geared toward field-level emergency managers, while other material is designed for executive-level decision makers.

Building on the FEMA curriculum base, certificate candidates are given multiple opportunities to participate in emergency exercises, both in the short-term classroom setting and in more extensive settings involving government agencies, public health entities, and the private sector. These exercises are built on industry-standard models for the health care industry, primarily incorporating elements of the hospital accrediting process.

Curricular practices for emergency management training in the U.S. are heavily influenced by FEMA concepts and content, which forms the basis for much of the Certificate experience. At the same time, international disaster management models provide a significant complement to the U.S. model, particularly models derived from areas subject to those types of disasters not common to the U.S. For example, students have shown tremendous interest in the Israeli disaster response professionals who have served as guest lecturers for courses taught over the past two years.

Accreditation offered by, or under the auspices of, the Federal Emergency Management Agency is oriented toward professional emergency management agencies rather than toward institutes of higher education. The Southern Association of Colleges and Schools (SACS) guiding document, the 2010 Edition of the *Principles of Accreditation: Foundation for Quality Enhancement* (adopted December 2009 and effective January 1, 2010), includes no occurrences of the terms "disaster" or "emergency." While there does not appear to be an accreditation process specifically oriented toward disaster or emergency management programs in higher education, the University of Maryland A. James Clark School of Engineering's Center for Excellence in Project Management indicates that "there are approximately 25 colleges and universities that offer academic degree programs with the title of disaster management, emergency management, or both." (http://pm.umd.edu/page.php?id=500). A sampling of those programs and related disaster management preparedness initiatives in higher education includes:

Carnegie Mellon University "Disaster Management Initiative"
http://www.cmu.edu/silicon-valley/dmi/

George Washington University Institute for Crisis, Disaster and Risk Management "Healthcare Emergency Management Professional Certification Program"
http://www.gwu.edu/~icdrm/

Georgia State University "Graduate Certificate in Disaster Management"
http://aysps.gsu.edu/paus/1483.html

Tulane University: "Master's of Public Health in Disaster Management"
http://www.sph.tulane.edu/CAEPH/dl/Programs/DM/index.htm

United Nations Development Programme and Damascus University "Master of Science in Risk & Disaster Management" http://content.undp.org/go/newsroom/2010/july/undp-damascus-university-launch-new-masters-degree-in-risk-and-disaster-management.en

University of Hawaii at Manoa "Graduate Certificate in Disaster Management and Humanitarian Assistance"
Http://www.hawaii.edu/graduatestudies/fields/html/departments/cd/dmha/dmha.htm#program

University of North Carolina "Community Preparedness & Disaster Management Certificate Program" http://www.disastercertificate.org/

This is by no means an exhaustive list, but it does provide a sense of the breadth and nature of disaster management preparation as an evolving field of study within higher education. The proposed Graduate Certificate in Disaster Management will be a credible addition to the field.

4. If program accreditation is available, provide an analysis of the ability of the program to satisfy the curricular standards of such specialized accreditation.

Not applicable

5. Faculty resources must be adequate to support an effective program.

A. Define the size, experience, and specializations of the full-time faculty needed to support an effective program. Identify the extent to which such faculty resources currently exist at the institution, and what additions to the faculty will be needed to fully implement the program. Specify how many full-time faculty will provide direct instructional support to this program.

Each of the courses will be taught by IHMD Faculty or Faculty from the appropriate participating academic department. These are faculty who have recognized expertise in disaster-management, emergency preparedness, or related policy and planning functions, and who are also committed to the values and mission of the Disaster Management Program. Members meet regularly to evaluate, develop, and refine Program elements and outreach activities. They assist in student recruitment and development and participate as speakers, guest lecturers, and disaster preparedness exercise directors, controllers, and evaluators. These faculty members have participated in the planning of the Graduate Certificate in Disaster Management over the past two years. The program can be fully implemented by existing faculty; no additional faculty will be required.

B. In addition, for each faculty member directly involved in this program, list:

1. **Name, rank, degrees, academic specialty, educational background** See Faculty details below
2. **Special qualifications related to this program** See Faculty details below
3. **Relevant professional and scholarly activity for past five years** See Faculty details below
4. **Projected responsibility in this program and required adjustments in current assignments:** No required adjustments in current assignments.

Key faculty:

Cham Dallas, Ph.D., Director of the Institute for Health Management and Mass Destruction Defense. Ph.D. in Toxicology. Dr. Dallas has a national/international reputation in toxicology and issues regarding weapons of mass destruction (WMD), which has been established after a decade of research, teaching, and humanitarian efforts in Chernobyl-contaminated areas. Altogether, Dr. Dallas has had 20 years of experience world-wide on the toxicity of the components of WMD, including at over 40 institutions overseas. For seven years, Dr. Dallas was the Director of one of the largest University toxicology programs in the country, with 50 professors at the University of Georgia, and then for 5 years he was the Director of the Center for Mass Destruction Defense, a CDC Center for Public Health Preparedness. He currently is the Director of the Institute for Health Management and Mass Destruction Defense (IHMD), and has received approximately $5 million in funding as Principal Investigator since 2001. Under Dr. Dallas's leadership, the Institute has established a nationally successful collaboration with the American Medical Association (AMA), the Medical College of Georgia, and the University of Texas for the development of the National Disaster Life Support (NDLS) family of courses: Basic Disaster Life Support (BDLS), Advanced Disaster Life Support (ADLS), and Core Disaster Life Support (CDLS). The NDLS has been accepted as a national standard for WMD training by the AMA, and has been taught in 45 states to over 60,000 health care personnel. Dr. Dallas and IHMD are currently conducting mass casualty evaluation exercises for Georgia hospitals, as well as devising evacuation planning for special needs populations. He was also asked three times to give presentations at the United Nations on what we have learned from the Chernobyl nuclear accident that will better prepare the world for the use of terrorist nuclear weapons. He has been the recipient of several teaching awards, including a University-wide award (out of 2000 professors). He has written scores of research papers for the scientific community and educational articles for the public on the toxic components of WMD.

Ronald Cervero, Ph.D. As the Associate Dean for the College of Education Outreach and Engagement program, Dr.Cervero provides leadership for outreach and engagement activities, including extended education. He will also be the co-director of the new Evidence-Based Program in Health Professions Education, a collaborative initiative between the College of Education and the College of Public Health, serving the health professions community at UGA and in Georgia.

Catherine White, Ph.D., Associate Professor of Pharmaceutical and Biomedical Sciences. Dr. White has been the Director of Pharmacy Education for IHMD since 2002 and developed the first Pharmacy course and 5-week PharmD rotation for bioterrorism and mass casualty disasters in the United States. This program has trained over 200 pharmacy students and served as a template for other Colleges of Pharmacy who want to expand their curriculum into this area.

Monica Gaughan, Ph.D., Assistant Professor of Health Policy and Management. Dr. Gaughan's research interests include the scientific labor force, adolescent and young adult life course, policies and organizational contextual effects, individual and institutional gender dynamics, and women in science research.

William Bell, Ph.D., Senior Research Scientist. Dr. Bell has an international reputation in spatial information management, especially large integrated data warehouses applied to large area geographic information system data and field collected data. He has over 20 years of world wide experience in the Middle East, Far East, South, Central, and North America, and Africa in data collection and management with several UN and UN related agencies and national aid organizations. During this time he had links to over 25 universities in 10 countries through support for graduate student and faculty research. For seven years Dr. Bell was Senior Information Scientist and later Chief Information Officer at the International Center for Tropical Agriculture where he supervised the largest collections of geospatial data in Latin America. Dr. Bell then moved to take up the position of Director of Information Technology Outreach Services at the University of Georgia where he continued to build large spatial databases for the State and the Federal Government. He also conceived, built, housed, and maintained the UN interagency spatial database for the UN's world spatial data under contract to UN's OCHA. Dr. Bell brought in over 30 million dollars in contracts and grants to fund these initiatives. Since 2002 Dr. Bell has spent time with UN missions in Sierra Leone, Liberia, Ivory Coast and Sudan, as well as time with the Center for Mass Destruction Defense. His work now focuses on the management and care of large numbers of internally displaced people and on planning and exercising for large weapons of mass destruction events and natural disasters and their impacts on the health care system. William started working on Atomic Energy Commission of Canada radiation dispersion modeling projects in the 1970s. Since then, he has worked equally on modeling and simulation, large data warehouses, and field data collection systems in areas affected by civil and guerilla wars especially in Latin America and Africa. In 2001 he delivered an agro-terrorism modeling and decision support system for the Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) which was deployed to several other states. In 2001-2 he prepared an interagency UN data warehouse for the UN's Office for the Coordination of Human Affairs (OCHA) and a large GIS database for the Georgia Emergency Management Agency. In 2004 he helped prepare the Strategic Plan for Transition to a National Catastrophic Incident for G-8 Conference on Sea Island, Georgia. He recently modeled 23 high risk cities in the United States for nuclear events. He has extensively modified U.S. Defense Threat Reduction Agency (DRTA) models for thermal, blast and casualty estimations and extended their use for block level analysis. He has worked for UN OCHA as a Senior Information Manager focusing on Internally Displaced Person issues and priority setting in civil war/guerrilla environments in Sudan, Liberia, Ivory Coast and Sierra Leone. From 1992-1999 he worked on diverse projects in Colombia, Ecuador, Brazil, Honduras and Nicaragua. From 1983-1988 he deployed to Egypt, Yemen and Jordan. Recent work has included the detailed design of simulations for pandemic influenza and weapons of mass destruction incidents for hospital exercises, including a state-wide, 129 hospital exercise for Georgia.

Curtis Harris, Ph.D., Assistant Research Scientist. Dr. Harris has spent the last five years conducting research in the field of radiation toxicology and disaster preparedness. His work with the Institute for Health Management and Mass Destruction Defense has focused on hospital disaster preparedness. Dr. Harris travels around the State of Georgia as part of the exercise planning team at IHMD and conducts regional planning meetings

and exercises to help hospitals test their emergency operations plans and identify opportunities for improvement. He is recognized as an instructor for Advanced Disaster Life Support and Basic Disaster Life Support through the American Medical Association and holds numerous FEMA certifications in disaster preparedness.

C. **Where it is deemed necessary to add faculty in order to fully develop the program give the desired qualifications of the persons to be added.** No additions deemed necessary.

6. Library, computer, and other instructional resources must be sufficient to adequately support the program.

A. Describe the available library resources for this program and the degree to which they are adequate to support an effective program. Identify the ways and the extent to which library resources need to be improved to adequately support this program.

The UGA libraries subscribe to refereed journals related to disaster management, emergency preparedness, and related health and policy fields. Library resources are deemed highly adequate for support of this Program.

B. **Likewise, document the extent to which there is sufficient computer equipment, instructional equipment, laboratory equipment, research support resources, etc. available to adequately support this program. Specify improvements needed in these support areas.** Existing computer, instructional, laboratory, and research support resources are adequate for support of the proposed Certificate program.

7. Physical facilities necessary to fully implement the program must be available.

Describe the building, classroom, laboratory, and office space that will be available for this program and evaluate their adequacy to fully support an effective program. Plans for allocating, remodeling, or acquiring additional space to support the program's full implementation of the program should also be identified.

The Program will make use of existing space under the management of IHMD, including 5,000 square feet of office and laboratory space in Barrow Hall. This space is equipped with more than a dozen student computer work stations, an additional dozen laptop computers, and several hundred square feet of student work space (also used for multi-purpose space for symposia, emergency exercises, and other learning activities). Additional space for classroom instruction is reserved on an as-needed basis through the normal University process for the scheduling of instructional space.

8. The expense to the institution (including personnel, operating, equipment, facilities, library, etc.) required to fully implement the program must be identified.

A. Detailed funding to initiate the program and subsequent annual additions required to fully implement the program are needed below. Estimates should be based upon funding needed to develop an effective and successful program and not upon the minimal investment required to mount and sustain a potentially marginal program.

The proposed Certificate program will be supported by existing expenditures, such that no additional funding is required for the Certificate program

	First Year	Second Year	Third Year
(1) Personnel	NA	NA	NA
(2) Operating Costs	NA	NA	NA
(3) Capital Outlays	NA	NA	NA
(4) Library Acquisitions	NA	NA	NA
(5) Total	NA	NA	NA

B. Indicate the extent of student support (fellowships, assistantships, scholarships, etc.) available for this program, and evaluate the adequacy of this support. Assistantships funded from institutional (as opposed to sponsored) funds should be included in this funding analysis as well.

Students will be eligible for fellowships, scholarships, and assistantships awarded through IHMD and/or their major department, their College, and the University.

9. Commitments of financial support needed to initiate and fully develop the program must be secured.

A. Identify the sources of additional funds needed to support the program and the probability of their availability.

Capacity will be held to current resources.

B. It is particularly important to include in this response the long-range plans for additional or expanded facilities necessary to support an effective program. Evaluate the timing and likelihood of such capital funding.

No need for expansion in facilities is anticipated for support of this program.

10. Provisions must be made for appropriate administration of the program within the institution and for the admission to and retention of students in the program in keeping with accepted practice.

Describe and evaluate the structure for the administration of the program. Explain the degree to which that structure is in keeping with good practice and accepted standards. Similarly, explain how and by what criteria students will be admitted to and retained in the program, and how these procedures are consistent with accepted standards for effective and successful programs.

Administration of the Program will be the responsibility of Dr. Cham Dallas, who will serve as Program Coordinator. Dr Dallas will:

1) Coordinate course offerings
2) Maintain course records
3) Promote the program, both on campus and nationally
4) Regularly consult with Program faculty for discussion of policy, resources, planning, evaluation, mission, and direction
5) Conduct and coordinate program evaluation
6) Coordinate the creation and maintenance of the Program website

Graduate students will be admitted based on expression of interest and will be required to successfully complete 18 hours of disaster management coursework, including nine required core hours and nine hours of electives. There are no prerequisites for the graduate certificate coursework.

The program will be evaluated annually for each of the first five years of the program. Evaluation will include: Number of students enrolled; Number of students completing the program; Rate of completion; Number of disciplines represented; Number of students with disabilities enrolled; Number of minority students enrolled; and Student evaluation of courses and curriculum. Other areas of evaluation and assessment may be identified based on feedback from program students, program faculty, or disaster management practitioners or other relevant sources.

It is anticipated that students will be placed with entities responding to public health disasters, including:

- Departments of Public Health at the state and local levels, both within Georgia and prospectively within other states
- The Centers for Disease Control and Prevention in Atlanta
- International health entities such as the World Health Organization and the Red Cross.

Summary: Disaster management is a growing field. Employment opportunities are expanding in state, federal, and private institutions that recognize the value of graduate certificates as a validation of expertise in disaster management. The proposed Graduate Certificate in Disaster Management will be a highly credible addition to the expanding field of disaster preparedness initiatives in higher education.