LOUISIANA STATE UNIVERSITY

Academic Programs in

Disaster Science and Management

at Louisiana State University

Several academic programs in Disaster Science and Management are currently under development at LSU, an undergraduate concentration (i.e., major), an undergraduate minor, and an interdisciplinary graduate program. The concentration will be housed in the College of Arts and Sciences as part of the General Studies curriculum (the degree program will be a Bachelor of General Studies with Concentration in Disaster Science and Management). The minor will be available to students from across the campus.

The graduate program will be structured such that a student is admitted to the Graduate School through a participating "home" department. The graduate degree would come from the home department, but much of the coursework and research would be interdisciplinary in nature, focusing on various aspects of natural and technological hazards and disasters. Participating departments will probably include Civil Engineering, Geography, Oceanography and Coastal Studies, Environmental Studies, Landscape Architecture, Sociology, and Social Work.

The Disaster Science and Management is an interdisciplinary program, which will provide students interested in careers in the public, not for profit, and private sectors with:

- A broad understanding of the nature and impact of disasters on the natural, built and human environments;
- A basis for establishing strategies to effectively plan for disasters, mitigate the adverse effects of disasters, respond to disasters, and recover from disasters.

Development of the undergraduate programs is well under way. Subject to final approval, both the concentration and minor could be in place and available for enrollment as early as the Spring 2001 semester. The interdisciplinary graduate program is not quite as far along in the developmental process (probably unavailable until later in 2001).

CONCENTRATION: The Concentration in Disaster Science and Management will require 47 hours (from a total of 129 required for the Bachelor of General Studies). The distribution of the 47 hours will be as follows: 17 required, 12 hours of core electives, and 18 hours of technical electives.

A. Core Courses (29 hours)

- Hazards and the Environment (DSM 2000) (3 hours) Required
- Fundamentals of Emergency Management (DSM 2010) (3 hours) Required
- Hazards Seminar (DSM 3910) (1 hour) Required
- Physical Geography (GEOG 2050) The Atmosphere (3 hours)and

(GEOG 2051) Land and Water surfaces, Plant and Animal Realms (3 hours) (Addresses the Natural Sciences requirement of the LSU General Education Requirement) Required

- Introduction to Statistical Analysis (EXST 2201) (4 hours) (Prereq. Math 1020 / 1021 or equivalent) or Statistical Methods (EXST 4001 (4 hours) (Prereq. MATH 1020 / 1021 or equivalent) (4 hours) (Addresses the Analytical Reasoning LSU General Education Requirement) Required

Disaster Science and Engineering (select at least 3 hours)

- Hurricane Engineering (CE 4445) Prereq: CE 3415 and credit or registration in CE 3200 or consent of the instructor or Hurricanes and the Built Environment (for Non-engineers) (CE 4745) (3 hours)
- Weather Analysis and Satellite Meteorology (OCS 4021)

Planning and Mitigation (select at least 3 hours)

- Building Sustainable Communities (LA 4277) (3 hours)
- Environmental Hazards Analysis (ENVS 4262) (3 hours)
- Regulation and Environmental Hazards (ENVS 4264) (3 hours)
- Environmental Economics (ECON 4320) (3 hours) (Prereq. ECON 2010 and 2020 or 2030)

Social Dimensions (select at least 3 hours)

- Crisis Intervention (SW 4050) (3 hours)
- Sociology of Disasters (SOCL) (3 hours)

* After meeting the Core Course Requirement, student may take the remaining classes from the core area to meet part of the 18 hour Elective course requirement.

Elective Courses (18 hours from any of the following courses)

B-1 Natural Hazards

- Applied Ecology (IES 4010)(Prereq. minimum of 10 hours of biological and or physical science)
- Environmental Remote Sensing (GEOG 4045) (Prereq. consent of instructor)
- Physical Oceanography (OCS 4170 (Prereq. CE 220 and graduate standing or consent of instructor)
- Geographic Information Systems: GIS (GEOG 4047) (Prereq. CSC 1240 or equivalent)

B-2 Chemical and Biological Hazards

- Quantitative Risk Assessment (EMS 4020) (Prereq. six hours of chemistry, six hours of biological sciences, MATH 1431 or equivalent)
- Environmental Toxicology (ENVS 4477) (Prereq. 6 hrs. Chemistry, 6 hrs. of life sciences, and permission of instructor)
- Environmental Pollution Transport Processes (OCS 4040 (Prereq. CHEM 1201, MATH 1550 & PHYS 2001.

B-3 The Human Environment

- Methods of Sociological Research (SOCL 2211) (3 hours) (Prereq. SOCL 2001 and 2201)

- Human Ecology (SOCL 4711) (Prereq. SOCL 2001 or equivalent)
- Perspectives in Contemporary Social Welfare (SW 3000) (Prereq. SW 2000 or equivalent)
- Psychology of Adjustment (PSYC 2004) (Addresses the LSU Social Sciences General Education Requirement)
- Counseling (PSY 3083) (Prereq. PSYC 2000 or 2004)

B-4 The Community

- Public Policy Making (POL 2070)
- Seminar on Coastal Zone Management (OCS 4465)
- Risk and Insurance (FIN 3440) (3 hours) Prereq: FIN 3201)
- Property and Liability Insurance (FIN 3442) (Pre: FIN 3440)
- Technology and Emergency Management (DSM 3200)
- Management (MGT 3200)

B-5 Practicum / Research (Limit of 6 hours in this category)

- Directed Readings in Disaster Science and Management (DSM 4996) (1 - 6 hours)
- Research in Disaster Science and Management (DSM 4900) (3 Hours)
- Disaster Science and Management Internship (DSM 3900) (3 Hours)

Note: The Concentration in Disaster Sciences and Management meets the Education and Training Requirement for the CEM (Certified Emergency Management) and AEM (Associate Emergency Management). See http://www.iaem.com

Minor in Disaster Science and Management
General Studies Curriculum
College of Arts and Sciences
Louisiana State University

Requirements: 19 hours from the following:

- Hazards and the Environment (DSM 2000) (3 hours) Required
- Fundamentals of Emergency Management (DSM 2010) (3 hours)- Required
- Hazards Seminar (DSM 3910) (1 hour) Required
- Weather Analysis and Satellite Meteorology (OCS 4021) (3 hours)
- Hurricane Engineering (CE 4445) Prereq: CE 3415 and credit or registration in CE 3200 or consent of the instructor or Hurricanes and the Built Environment (for Non-engineers) (CE 4745) (3 hours)
- Planning Disaster Resistant Communities (LA 4277) (3 hours)
- Environmental Hazards Analysis (ENVS 4262) (3 hours)
- Sociology of Disasters (SOCL) (3 hours)
- Regulation and Environmental Hazards (ENVS 4264) (3 hours)
- Crisis Intervention (SW 4050) (3 hours)
- Environmental Economics (ECON 4320) (3 hours) (Prereq. ECON 2010 and 2020 or 2030)

* Appropriate for Engineering, Construction Management, or Architecture students as well as others with physics background.

Participating Units:

- Department of Civil and Environmental Engineering (CE), College of Engineering
- Landscape Architecture (LA), College of Design
- Department of Geography (GEOG), College of Arts and Sciences
- Department of Sociology (SOCL), College of Arts and Sciences
- Department of Mathematics (MATH), College of Arts and Sciences
- Institute for Environmental Studies (IES), Center for Coastal, Energy, and Environmental Resources
- Department of Oceanography And Coastal Studies (OCS), Center for Coastal, Energy, and Environmental Resources
- School of Social Work (SW)
- Louisiana State University Hurricane Center