

## **Southeast Missouri State University**

Department of: Biology/Environmental Science

BI/EV 425/625

GIS Planning for Emergency Management

New Fall 2013

### **I. Catalog Description and Hours**

This course introduces the current and potential future roles of GIS in support of crisis (emergency) management activities at all geographic scales (local to international). These roles are considered at each of the four stages of crisis management and selected focus topics are considered in detail. Three lectures. (3)

### **II. Prerequisites for the Course**

Junior standing or Graduate student standing, BI/EV 454/654, IU 314, and GO 445 and GO 446, or permission of instructor.

### **III. Purpose or Objectives of the Course**

Students who successfully complete this course should exhibit the following skills and knowledge:

1. Understand the stages of emergency management and the roles of GIS in each stage.
2. Determine which specific GIS capabilities and kinds of data are required to support emergency management work at each stage.
3. Explain how GIS techniques have been applied effectively within each stage of emergency management.
4. Identify challenges in application of GIS to specific emergency management problems (e.g., evacuation planning and execution, real-time data integration).
5. Assess the potential of new, evolving GIS technologies to meet emergency management needs.

### **IV. Student Learning Objectives**

**Students will be able to:**

1. Develop a project proposal that identifies or responds to needs for GIS solutions in emergency management.
2. Demonstrate the ability to utilize GIS technologies for evacuation planning.
3. Demonstrate GIS tool implementation and/or training to support emergency management activities in local, regional, state, national, or international contexts.

### III. Expectations of Students

1. Attend class regularly.
2. Participate in class discussions.
3. Complete out-of-class assignments by established deadlines.
4. Complete all exams.
5. Complete response communication plan by established deadline.
6. Turn off cell phones and tablets.

### VI. Course Content or Outline

<u>TOPIC</u>	<u>CLASS PERIODS</u>
Introduction to Course	1
Introduction to GIS and Emergency Management	2
Hazards and Disasters	4
Vulnerability Assessment and Mitigation	6
Response Actions and GIS	6
Recovery Issues and GIS	5
Scenario Planning and GIS	6
Hazard Analysis Tools	5
Setting Priorities and GIS	4
Examinations	3
Presentations	<u>3</u>
	45

### IV. Textbook

Green, R.W. 2002. *Confronting Catastrophe: A GIS Handbook*. ESRI Press.

FEMA Self Study Course (No charge)

IS-922 Emergency Planning (FEMA)

### VIII. Basis for Student Evaluation

#### Undergraduates:

Assignments	20%
Examinations	60%
Paper	<u>20%</u>
	100%

#### Graduates:

Assignments	20%
Examinations	60%
Paper	10%
Presentation	<u>10%</u>
	100%

#### Grading Scale:

#### Undergraduates:

90-100%	= A
80-89%	= B
70-79%	= C
60-69%	= D
<60 %	= F

#### Graduates:

90-100%	= A
80-89%	= B
70-79%	= C
<70%	= F

The weight of the evaluation criteria may vary according to each instructor and will be communicated at the beginning of the course.

### IX. Academic Policy Statement

Students will be expected to abide by the **University Policy for Academic Honesty** regarding plagiarism and academic honesty. Refer to: <http://www6.semo.edu/judaffairs/code.html>.

Questions, comments or requests regarding this course should be taken to your instructor. Unanswered questions or unresolved issues involving this class may be taken to the Chair of Biology.

### X. Students with Disabilities Statement

If a student has a special need addressed by the Americans with Disabilities Act (ADA) and requires materials in an alternate format, please notify the instructor at the beginning of the course. Reasonable efforts will be made to accommodate special needs. Refer to: <http://www.semo.edu/ds>