



# Geographic Information Science

Regional Application Center



## Certificate Program

**ENVS 494G Course Syllabus:**

**Fall Semester 2016**

Taught at the  
**REGIONAL APPLICATION CENTER (GIS 101)**  
R. Brent Yantis, Director; Course Instructor (Room 218 Abdalla Hall)  
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Office Hours Mon./Wed. 2-5pm otherwise by appt.

### **ENVS 494G**

#### **GIS Capstone Seminar (Independent Study)**

Practical Application of GIS technology to address a spatial problem more effectively within the student's chosen field of study or concerning projects developed through the Coastal Community Resiliency Studio. Prereq. ENVS 487G

#### Course Description:

This course continues your development into the world of computer mapping technology. It is designed to further skills in practical problem solving where the technology of GIS can be implemented. Individual Project development by participants will include both components of GIS mapping covered in ENVS 455G and ENVS 464G, along with skills in image manipulation obtained in ENVS 473G and preferably continue to build on the geospatial project developed in ENVS487G.

Projects are to include instructors and/or agency representatives outside the GIS program that have a common interest with the subject matter addressed in the project. Emphasis will be geared toward projects which highlight environmental impacts and planning, sustainability, emergency and natural disaster response, habitat management and emerging technologies.

Students will present a GIS project to the GIS Certificate Working Committee. All students will be responsible for demonstrating how GIS technology has enabled them to address a spatial problem more effectively within their chosen field of study. This independent study, utilizing skills obtained in GIS and RS, is to be coordinated within each student's graduating department or participating agency and a proposal submitted to the GIS Certificate Working Committee.

#### Course Objectives:

Class will meet once a week in the classroom (Abdalla 218) or at the discretion of the instructor. The class will discuss some of the concepts being examined in GIS and basic mapping skills. Individual topics will be discussed and examples provided with some hands on exercises. These exercises will not be graded, but they must be completed satisfactorily in order to obtain a grade for the class.

Class will meet once again each week in the Regional Training Center (Abdalla 164) for further project enhancements and/or new skill set or project data development. Otherwise contact for continued review of project will be conducted in an online manner featuring both email and moodle communication technologies.

## Grading:

Letter grades are assigned on a 10 point scale. The class grades will be based on the following percentages:

Midterm Project Review:	40 percent
Final Project Presentation:	60 percent
<b>Total</b>	<b>100 percent</b>

## Text and Reference Materials (provided by instructor):

The class will make use of portions of the text and exercises contained in the following materials:

Introduction to ArcGIS 1 by ESRI Educational Services

An Interdisciplinary Exploration of Louisiana Using the Louisiana GIS CD: A Digital Map of the State

What is ArcGIS? By ESRI publishing

USGS Maps, Technical Publication by the United States Geological Survey

National and Local GeoSpatial Data Availability: Data Mining Workshop CD, Regional Application Center

Dictionary of GIS Terminology, The ESRI Press

Digital Disaster GeoSpatial Information and Remotely Sensed Imagery Products by the 2008 National GIS/RS Telecon Team for Emergency Response. The Regional Application Center is a team member.

Map Projections – Published by the USGS

Louisiana Index to topographic and other map coverage – Published by the USGS

Topographic Mapping – Online Edition by the United States Geological Survey

Getting Started with ArcGIS by Bob Booth and Andy Mitchell

Mastering ArcGIS, fourth edition, by Maribeth Price

Introduction to Geographic Information Systems, fifth Edition, by Kang-tsung Chang

## Reference websites used in this course:

<http://www.rac.louisiana.edu/>

<http://www.isprs.org/sitemap.aspx>

<http://rscc.umn.edu/rscc/v1m1.html>

<http://science.nasa.gov/>

[http://www.geog.ucsb.edu/%7Ejeff/115a/jack\\_slides/](http://www.geog.ucsb.edu/%7Ejeff/115a/jack_slides/)

<http://earthobservatory.nasa.gov/IOTD/view.php?id=48615>

<http://earthobservatory.nasa.gov/>

[http://ess.nrcan.gc.ca/index\\_e.php](http://ess.nrcan.gc.ca/index_e.php)

<http://landsat.gsfc.nasa.gov/>

<http://globe.gov/schools/map/north-america>

<http://rst.gsfc.nasa.gov/Front/overview.html>

[http://ccrs.nrcan.gc.ca/resource/tutor/fundam/index\\_e.php](http://ccrs.nrcan.gc.ca/resource/tutor/fundam/index_e.php)

<http://www.r-s-c-c.org/>

[http://www.colorado.edu/geography/gcraft/notes/remote/remote\\_f.html](http://www.colorado.edu/geography/gcraft/notes/remote/remote_f.html)

<http://www.orbit.nesdis.noaa.gov/smcd/opdb/tutorial/intro.html>

<http://geoworkforce.olemiss.edu/>

<http://rst.gsfc.nasa.gov/>

## **REGIONAL APPLICATION CENTER (GIS 101) LAB**

Bryan Haviland, GIS Specialist; Lab Instructor (Room 165 Abdalla Hall)

Phone: 318-641-5430 Email: bryan.haviland@la.ngb.army.mil

Office Hours Mon. - before or after Lab, see instructor