ENVS 464 G 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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ENVS 464G. Geographic Information Science II. (2,2,3)
Emphasis on practical problem solving utilizing GIS applications, advanced GIS software skills, and basic scientific computing for addressing natural disaster and emergency response issues.
Prereq. ENVS455G. Fall/Spring

Course Description:
This course continues your development into the world of computer mapping technology, based on skills learned, taught in the ENVS 455G course. It is designed to further develop skills in practical problem solving where the technology of GIS can be implemented. Project application will be taught in cartography, map symbols, database manipulation and data mining.

Applications will develop around real-world projects, preferably thru instructor led projects. These projects will include the use of projections, map and data scales and sources of project data and imagery. This will develop utilizing ArcGIS Version 10 (or later) GIS software to develop projects to address real world problem solving.

Course Objectives:
Class will meet once a week in the training classroom (Abdalla 218). The class will discuss some of the concepts being examined in GIS and advanced mapping methods. Individual projects will be discussed and assigned. Some hands on exercises will be conducted in order to establish project goal and objectives. These exercises may 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 a hands-on lab time developing skills in photo interpretation, topographic mapping, remote sensing and GIS software. Each student will have access to a computer, with GIS software, during specified hours of operation outside of the scheduled class time. Participants will also complete an individual GIS development project. These projects may employ data located or provided by participants themselves, and will be oriented toward skill sets being studied in class.

Grading:

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

Midterm Exam:	20 per cent
Individual Projects:	65 per cent
Class Quiz Grades:	10 per cent
Attendance and Class Participation:	5 per cent
Total	**100 per cent**

Text and Reference Materials (available online or 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://earthobservatory.nasa.gov/IOTD/view.php?id=48615
http://earthobservatory.nasa.gov/
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://www.r-s-c-c.org/
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

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