Regional Application Center

Geographic Information Science

UNIVERSITY OF LOUISIANA Lafayette

Certificate Program

Program Outline:

REGIONAL APPLICATION CENTER (GIS 101)
GIS CERTIFICATE PROGRAM
R. Brent Yantis, Director: (Abdalla Hall)

GIS Certificate Program Objective

The Geographical Information Science (GIS) Certificate Program is a structured interdisciplinary Certificate Program offered through the Regional Application Center.

It is built on GIS and Remote Sensing coursework currently taught and new courses proposed at the University of Louisiana at Lafayette. Students who earn the Certificate will exit the program with standardized skill sets based on "Learning Outcomes" associated with each required course.

This program will provide its students with the training and experience necessary to compete and work in the GIS arena in both public and private sectors.

ENVS 455G. Geographic Information Science I. (2,2,3)
GIS theory and methodology as applied to Environmental problem solving, practical GIS software skills, and basic scientific computing skills, map development, intro to database development and basic photo interpretation. Prereq. Basic Computer literacy in micro-computers or permission of instructor. Fa, Sp

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. Fa, Sp

ENVS 473G. Remote Sensing in GIS. (2,2,3)
Emphasis on practical Remote Sensing applications. Introduces Remote Sensing and analysis based on aerial photography and satellite imagery, applying this technology for analyzing spatial-related issues, in a variety of sciences and fields of study. Offering introductory RS software skills, and basic scientific image interpretation and principles of Photogrammetry. Fa, Sp

ENVS 487G. Advanced GIS Analysis and Applications. (2,2,3)
Advanced course in GIS and Remote Sensing applications. GIS is used as a tool for analyzing spatial-related issues, in a variety of sciences, fields of study and disciplines. Prereq. ENVS464G and ENVS473G. Fa, Sp

ENVS 494G. GIS Capstone Seminar (Independent Study). (1-3)
Practical Application of GIS technology to address a spatial problem more effectively within the students chosen field of study. Prereq. ENVS487G. Fa, Sp.

Admission Criteria

Current students taking or who have taken the initial GIS courses will receive priority admission to the Certificate Program.

Students will qualify for admission to the certificate program by maintaining good standing in a cooperating department and completing an application specific to the GIS Certificate.

Perspective students must complete prerequisites listed for the Level One Required course, or pass a proficiency test.

Testing Out

An option will be available for students admitted to the Certificate Program to test out of the Level One required course. To test out of the first required course a student will have to:

(1) show proof of taking a GIS course offered either through a University or Community College in the last two years and,
(2) Pass a written exam and a hands-on computer test with a score of 90 percent or higher. The hands-on portion of the test will be administered through the centralized GIS Training Center (RAC) and the candidate will need to be able to test out using the training software package taught in the certificate program curriculum.

Completing the GIS Certificate Program

To receive the GIS Certificate you must fulfill the requirements of the program by completing the required courses. Once these are completed you must fill out the GIS Completion Form and have it signed by the director(s) of the GIS Certificate Program and the Chair of the participating department the student is enrolled.

A letter containing the students name, student ID # and some indication that the program has been satisfactorily completed from the director(s) of the program must be attached to the form, both of these are to be sent to R. Brent Yantis, Director, NASA/Regional Application Center. He will then sign the form and forward the information to the Dean of the College of Sciences who will alert the transcript office so that completion of the GIS certificate program can be recorded on the student transcripts. Copies of the signed form and letter should be returned to the director(s) of the program. Once the signed form and letter are returned to the program directors, the Certificate Program will issue the certificate of completion to the student.

Model Curricula

A minimum of ***13*** *(maximum 15)****, 455G or above level credit hours*** consisting of four required (three credit hours each) plus a **Capstone Seminar** (1 to 3 credit hours) is required to complete the GIS Certificate. Of the four required courses, one Level 1 course and three Level 2 courses must be taken. The G classification on the course numbering system allows for graduate level credit to be awarded for these courses. Extra course work is required of graduate level students.

Courses that will comprise the Certificate curriculum, associated Learning Outcomes, are listed below. Required courses may be cross-listed between participating departments and taught in some instances by 'teams' comprised of tenure and tenure-track faculty with post-docs or adjunct faculty.

LEVEL ONE: REQUIRED COURSE

Course	Class Title	
ENVS455G	**455G. Geographic Information Science I. (2,2,3)** GIS theory and methodology, practical GIS software skills, and basic scientific computing skills, map development and basic photo interpretation. Prereq. Basic Computer literacy in micro-computers. Sp, Fa	**3**

LEVEL TWO: REQUIRED COURSES

ENVS464G	**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. ENVS455G. Fa, Sp	**3**
ENVS473G	**473G. Remote Sensing in GIS. (2,2,3)** Emphasis on practical Remote Sensing applications. Introduces Remote Sensing and analysis based on aerial photography and satellite imagery, applying this technology for analyzing spatial-related issues, in a variety of sciences and fields of study. Offering introductory RS software skills, and basic scientific image interpretation and principles of Photogrammetry. Prereq. ENVS455G. Sp	**3**
ENVS487G	**487G. Advanced GIS Analysis and Applications. (2,2,3)** Advanced course in GIS and Remote Sensing applications. GIS is used as a tool for analyzing spatial-related issues, in a variety of sciences, fields of study and disciplines. Prereq. ENVS464G and ENVS473G. Fa	**3**
ENVS494G	**494G. GIS Capstone Seminar (Independent Study). (1-3)** Practical Application of GIS technology to address a spatial problem more effectively within the students chosen field of study. Prereq. ENVS487G. Fa, Sp.	**1 - 3**

CAPSTONE SEMINAR COURSE

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.
This course completes the GIS course core curriculum in the College of GeoSciences at UL Lafayette (2015) and may also be used in conjunction with the UL Coastal Community Resilience Studio Program.