

**New SLO/Academic Assessment Plan Submission Form**

Check one:

- New Certificate Academic Assessment Plan
- New Undergraduate Academic Assessment Plan
- New Graduate Academic Assessment Plan
- New Professional Academic Assessment Plan
- New Student Learning Outcome (SLO)

Major: CEG - GAN

College: AG

Effective term and year of implementation: Term: Spring Year:2015

**IMPORTANT:** If you are submitting an **Academic Assessment Plan**, please enter your plan into Compliance Assist, and then submit this form to the approvals submission site. Once we receive this form, we will download the plan for committee review. You do not need to restate the SLOs on this form because the SLOs are in the Plan. Instead, skip items 1-5 and go directly to items 7 and 8, the Department and College Contact Sections.

If you are submitting one or more new **Student Learning Outcomes (SLOs)**, please complete items 1 through 6.

1. Include the new SLO here:

2. Indicate the areas of the SLOs:

Undergraduate:  Content  Critical Thinking  Communication

Graduate:  Knowledge  Skills  Professional Behavior

3. What types of assessments will be used?

- Course-related Exam  Capstone
- Final Paper/Project/Presentation  Course Grades
- Course Assessments/Assignments  Standardized Exam
- Other – please describe here

4. What assessment methods will be used?

- Rubric
- Single Faculty Member

Other:

5. Who applies the method?

Faculty Committee

Single Faculty Member

6. Describe the individual student assessments and the assessment method that will be used to measure each SLO.

7. Department Contact

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8. College Contact

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# School of Forest Resources & Conservation

## Geospatial Analysis Graduate Certificate

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### Mission Alignment

The SFRC is part of the University of Florida’s Institute of Food and Agricultural Sciences with four missions: undergraduate education, graduate education, research and extension. Our programs provide: (1) a rich personal educational experience for students; (2) new discoveries and applications that enrich lives, communities and natural resources; and (3) lifelong learning opportunities for professionals, policy makers, landowners, youth and the general public. The Graduate Certificate in Geospatial Analysis aims to address geographic information science, remote sensing, image analysis, geostatistics, GIS programming/scripting, web mapping, data visualization, and spatial modeling for students and working professionals seeking deeper knowledge of these topics. This program directly supports and enhances our mission through providing education to individuals who might otherwise be unable to attend the University of Florida.

### Student Learning Outcomes

At the conclusion of the Certificate program courses, students will be able to:

- 1) Apply theoretical and technical knowledge of geospatial information sciences to research problems in resource management and conservation.
- 2) Design and implement experimental and descriptive research methodologies used in geospatial analysis applications.
- 3) Utilize digital spatial data tools and resources for mapping and analysis tasks in Geomatics or natural resource related projects.
- 4) Analyze critically and synthesize relevant primary information sources, such as spatial data, technical reports and scientific publications.

### Program Goals

Seventy percent of students assessed are expected to be considered “successful” (as determined through specific assessment methods described below) within each distinct outcome.

### Assessment Timeline

Direct assessment of the Student Learning Outcomes is conducted in the two required courses for the Geospatial Analysis Graduate Certificate.

SLO	Semester Assessed	Assessment
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<b>1</b>	Spring	GIS6116 – Assignment 1 Assignment 2
	Spring	SUR5386 – Final Project
<b>2</b>	Spring	GIS6116 – Assignment 1 Assignment 2
	Spring	SUR5386 – Final Project
<b>3</b>	Spring	GIS6116 – Assignment 1 Assignment 2
	Spring	SUR5386 – Final Project
<b>4</b>	Spring	SUR5386 – Final Project

Student Learning Outcomes are assessed within courses using a combination of assignment grades specific to each outcome. For each student, median grades on the specified assignment will be used to determine successful completion of SLOs. Scores of 80% or better are considered “successful” and for program evaluation purposes, 70% of students are expected to fall into the “successful” category.

Indirect assessment as described below will be conducted during the final term of the student’s pursuit of the Graduate Certificate.

## Assessment Cycle

Student Learning Outcomes are assessed for students in the program during every offering of GIS6116 GIS Analysis (Spring) and SUR5386 Image Processing for Remote Sensing (Spring), both offered annually.

Assessment:	Direct assessments in Spring semester Indirect assessment varies by student (final term)
Analysis and Interpretation:	January-February
Improvement Plans:	February
Reporting:	September

## Methods & Procedures

Student Learning Outcomes are Cumulative Assignments 1 and 2 in GIS6116 and a Final Project in SUR5386.

Assignment descriptions:

GIS6116, Cumulative Assignments 1 & 2 (SLOs 1-3)

### SUR5386 Final Project (SLOs 1-4)

Student will submit at a power point presentation and three page (maximum) summary report for their final project. The presentation and summary report should reflect the following items: Statement of the Problem and Literature Review, Methodology (including data used, study area, and procedure), Results and Discussion, and Conclusion

Submissions for these assignments will be scored for SLO assessment purposes, in addition to separate course grading evaluation, using the following rubric:

<b>Outcome</b>	<b>Criteria</b>	<b>2 Points</b>	<b>1 Point</b>	<b>0 Points</b>
<b>1</b>	<b>Applies theoretical and technical knowledge of geospatial information sciences to natural resource problems.</b>	Correctly identifies and describes geospatial methods to address or explore natural resource problems.	Relevant methods and explanations conflated with non-related methods.	Inappropriate methods or poor explanation; fails to demonstrate applied knowledge of geospatial information sciences.
<b>2</b>	<b>Designs/implements appropriate geospatial research methodologies to projects.</b>	Project design and research methodologies appropriate to the problem; no errors; literature references support decisions.	Minor errors in methodology or implementation of project design.	Flawed research design; consistent errors in implementation.
<b>3</b>	<b>Demonstrates use of spatial data tools for mapping and analysis.</b>	Several spatial data tools/techniques are described and employed, addressing both mapping and analysis.	Spatial data tools/techniques are included but incomplete or inadequately discussed.	Relevant tools/techniques are not described or not included.
<b>4</b>	<b>Utilizes relevant literature sources and spatial datasets in a meaningful way.</b>	Relevant evidence from literature references supports methodological decisions.	Includes only one primary source with minimal citations.	No reference made to current research literature.

Scores of “2” are considered successful and for program evaluation purposes, 70% of students assessed are expected to be successful within each distinct outcome.

In addition to these direct assessments, students will be given a self-reflective survey to indirectly assess their perceptions of learning and confidence relative to intended outcomes. This assessment is triggered by the individual application to receive the Undergraduate Certificate at the end of the program. The surveys will be administered through Qualtrics with the option of anonymity and collected by Sandra Houder.

Data obtained through both direct and indirect assessments will be compiled and reviewed by the online programs office, Distance Education Committee, and Graduate Programs Committee in the School of Forest Resources & Conservation. Weaknesses identified and/or changes needed will be implemented directly and promptly via these groups.

## Assessment Oversight

Name	Departmental Affiliation	Email	Phone

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