

Academic Assessment Plan

University of Florida

Academic Affairs

Academic Colleges

College of Agricultural & Life Sciences

Certificates

Mapping with Small Unmanned Aerial Systems (UG)

Mapping with Small Unmanned Aerial Systems (Undergraduate) Certificate

Mission

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 Undergraduate Certificate in Mapping with Small Unmanned Aerial Systems focuses on the use of UASs as a geospatial data-acquisition tool. It is well-suited for students studying geomatics, as well as other disciplines which require high resolution geospatial information such as agriculture, forestry, wildlife management, mining, infrastructure planning and monitoring, and disaster management. It supports our mission by providing education to undergraduate students in a growing field that is changing and/or augmenting the way users from many disciplines collect valuable geospatial information.

Responsible Roles: Associate Dean (Brendemuhl, Joel)

Program: Mapping with Small Unmanned Aerial Systems (UG)

Progress: Ongoing

SLO 1: Literacy in UAS

Describe and discuss the history, evolution, and essential components of geospatial data acquisition and processing using UAS to include the aerial platform, sensor suite, and supporting systems.

SLO Area (select one):

Responsible Role: Associate Dean (Brendemuhl, Joel)

Progress: Ongoing

Assessment Method

Term Project - SUR 4376 - The term project is an instructor-approved UAS-related subject, and may be a research paper, a video, a comprehensive literature review, or some other approved format. Throughout the semester, the student will provide milestone reports on their project, each of which will be graded and returned with accompanying guidance from the instructors. At the end of the semester, students will prepare a brief presentation of their project.

Final Presentation - SUR 4501C - Each student is given 10 minutes to present a summary of one of the topics or projects completed during the semester. The presentation should

include a brief summary of the objective, methodology, data processing, analysis, results and conclusion(s) reached.

SLO 2: Understand UAS Applications

Identify and discuss the main applications of UAS geospatial products.

SLO Area (select one):

Responsible Role: Associate Dean (Brendemuhl, Joel)

Progress: Ongoing

Assessment Method

Discussion Board - SUR 4376 - Students are evaluated based on thoughtfully contributing to the class discussions and message board. Following a preparatory presentation, students identify and prioritize relevant questions for the subsequent guest speaker. Asynchronous students are expected to participate in the discussion via the website message board.

SLO 3: Geospatial Data Collection

Examine and critique the critical aspects of collecting geospatial data using UAS.

SLO Area (select one):

Responsible Role: Associate Dean (Brendemuhl, Joel)

Progress: Ongoing

Assessment Method

Final Paper - SUR 4940C - As the course progresses, students are required to submit several intermediate products, such as: flight plans, ground control plan and coordinates, point cloud, orthophoto, and analysis. The aggregated documents serve as the Final Paper reporting on the deliverables.

Final Presentation - SUR 4501C - Each student is given 10 minutes to present a summary of one of the topics or projects completed during the semester. The presentation should include a brief summary of the objective, methodology, data processing, analysis, results and conclusion(s) reached.

Discussion Board - SUR 4376 - Students are evaluated based on thoughtfully contributing to the class discussions and message board. Following a preparatory presentation, students identify and prioritize relevant questions for the subsequent guest speaker. Asynchronous students are expected to participate in the discussion via the website message board.

Exam(s) - SUR 4376 - One to two online Exams/Quizzes will be composed of questions related to the guest lectures and the assigned reading material.

Start: 7/1/2017**End:** 6/30/2018**Progress:** Ongoing**Providing Department:** Mapping with Small Unmanned Aerial Systems (UG)**Responsible Roles:** Associate Dean (Brendemuhl, Joel)**Research (Graduate and Professional AAPs only)****Assessment Timeline (Graduate and Professional AAPs only)****Curriculum Map (UG AAPs only)****Assessment Cycle (All AAPs)****Assessment Timeline**

Direct assessment of the Student Learning Outcomes is conducted in SUR 4501C, SUR 4940C, and SUR 4376 for the Undergraduate Certificate in Mapping with Small Unmanned Aerial Systems.

SLO/ Course	SUR 4501C Foundations in UAS Mapping	SUR 4940C Practicum in UAS Mapping	SUR 4376 Geospatial Applications of UASs
1	Final Presentation (Project Presentation)		Term Project
2			Discussion Board
3	Final Presentation (Project Presentation)	Final Paper (Deliverables)	Exam(s)
4	Final Exam + Project Assignments		
5	Processing Project Assignments	Final Presentation (Poster)	

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 course in spring (SUR 4501C), summer (SUR 4940C), and fall (SUR 4376).

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

Year	17-18	18-19	19-20	20-21
SLOs				
#1	X	X	X	X
#2	X	X	X	X
#3	X	X	X	X
#4	X	X	X	X
#5	X	X	X	X

Methods and Procedures (UG and Certificate AAPs)

Student Learning Outcomes are assessed using: the Processing and Analysis Reports, Exam(s), and a Final Presentation in SUR 4501C; a Final Report, and Final Presentations in SUR 4940C; and Exam(s), a Term Project, and Discussion Board Posts in SUR4376.

Assignment descriptions:

SLOsAssignment	Course	Description
3Final Paper (Deliverables)	SUR 4940C	As the course progresses, students are required to submit several intermediate products, such as: flight plans, ground control plan and coordinates, point cloud, orthophoto, and analysis. The aggregated documents serve as the Final Paper reporting on the deliverables.
5Final Presentation	SUR 4940C	Each student is required to complete a POSTER which summarizes the methodology, technology, analysis and results achieved using both a vertical-take-off-and-landing (VTOL) and fixed-wing UAS carrying lidar, multi-spectral and RGB sensors. Students are required to evaluate their results and compare these with conventional approaches. Students give a short poster presentation on the final day of class.
4Exam(s)	SUR 4501C	One to two quizzes covering the main principles, concepts and content of the course topics are done on-line outside of class. These are open-book.
1, 3Final Presentation	SUR 4501C	Each student is given 10 minutes to present a summary of one of the topics or projects completed during the semester. The presentation should include a brief summary of the objective, methodology, data processing, analysis, results and conclusion(s) reached.
5Processing Project Report	SUR 4501C	Processing and Analysis Reports are assigned and due each week associated with multiple field sessions covering facets of UAS mapping.
1Term Project	SUR 4376	The term project is an instructor-approved UAS-related subject, and may be a research paper, a video, a comprehensive literature review, or some other approved format. Throughout the semester, the student will provide milestone reports on their project, each of which will be graded and returned with accompanying guidance from the instructors. At the end of the semester, students will prepare a brief presentation of their project.
2, 3Discussion Board	SUR 4376	Students are evaluated based on thoughtfully contributing to the class discussions and message board. Following a preparatory presentation, students identify and prioritize relevant questions for the subsequent guest speaker. Asynchronous students are expected to participate in the discussion via the website message board
3Exam(s)	SUR 4376	One to two online Exams/Quizzes will be composed of questions related to the guest lectures and the assigned reading material.

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 Graduate 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.

SLO Assessment Rubric (All AAPs)

Measurement Tools (Graduate and Professional AAPs Only)

Assessment Oversight (All AAPs)

Name	Departmental Affiliation	Email	Phone
Rhiannon Pollard, Manager, Online Programs	SFRC	rhiannon-pollard@ufl.edu	273.0184
Sandra Houder, Academic Support	SFRC	shouder@ufl.edu	846.0146

Academic Assessment Plan Entry Complete: