

*****RECORDED MATERIAL*****

Class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

In-person attendance is required for students in GNV sections unless accommodations are otherwise discussed and agreed upon with the instructor.

COURSE SYLLABUS

*NOTE: This syllabus may change slightly due to speaker availability and student enrollment

SUR4376 / SUR6377 *Geospatial Applications of UASs* Fall Semester (3 Credits)

W 7th Period (1:55-2:45) F 6-7th Period (1:50-2:45)

Prerequisites: SUR3501C *Foundations of UAS Mapping* (or Permission of Instructor).

Instructors

Dr. Ben Wilkinson benew@ufl.edu (352) 392-3465

Reed Lab 305

Office Hours – Wednesday (3:00–5:00PM) Thursdays (1:30-2:30PM) in-person or via web conferencing. Please schedule an appointment by emailing the instructor to ensure availability.

Technology Requirements:

- A computer or mobile device with high-speed internet connection.
- A webcam, headset and/or microphone, and speakers.
- Latest version of web browser. Canvas supports only the two most recent versions of any given browser. [What browser am I using?](#)

Course Overview and Objectives

This covers issues and applications associated with small unmanned aerial systems (UASs). By the end of this course, the student will be able to:

- describe common/typical UAS applications (e.g. agriculture, ecology, surveying and mapping)
- describe the technical considerations involved in implementing UAS applications
- cite the common business and legal aspects of operating UASs
- lead and participate in current debates on UAS issues and applications

Method of Instruction

This class is designed as an active learning experience. In-class and online discussions are critical, and students are expected to engage in these activities. Students prepare for each weekly guest lecture by completing related reading assignments and doing independent research.

In addition, each week a *facilitator or facilitator-group*, is tasked to lead a discussion in preparation for the lecture. This serves to increase the class' foundational knowledge in the area to be presented and facilitates active discourse during the guest lecture. A different person or team will guide the preparatory discussion each week.

Students are expected to participate via the message boards on the course website, which is the primary method of engagement for students taking the course asynchronously (non-GNV sections). Students will also, with guidance from the instructors, develop a term project (see below) to be presented towards the end of the semester.

Meeting Times and Places

The class meets twice a week:

- **Wednesday (1:55pm-2:45pm)** for a preparatory discussion led by a student or team of students
- **Friday (12:50pm-2:45pm)** for the lecture

Asynchronous distance students participate in the discussion by posting comments to the course website prior to the class meeting time. All asynchronous students are required to participate live on Wednesday and Friday at least one week in the semester when they are the week's *facilitator*.

Readings

Depending on the week/presenter, readings are provided for each week's theme/application within the module for that week.

Communication

The course is managed through the Canvas system and all communication with instructors should be done through the facilities in that system.

Course Evaluation

The final course grade is broken down as follows:

- | | |
|--|------------------------------|
| 1) Participation. | 20% |
| 2) Facilitation/preparatory presentation | 30% |
| 3) Term Project | 30% (Graduate Students: 40%) |
| 4) Quizzes | 20% (Graduate Students: 10%) |

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

1. Participation (20%)

Students are evaluated based on thoughtfully contributing to the class discussions and message board. Attendance is mandatory, and unexcused absences will be penalized. For asynchronous students, the discussion board contributions will be more heavily weighted based on their inability to attend live lectures.

2. Preparatory Presentation (30%)

Students are expected to develop a 30-35-minute professional-grade presentation encompassing key components of the week's topic. The presentation will cover the week's assigned reading material in addition to material from other sources which the student person/team will identify through independent research. The person/team is also expected to work with the instructor to ensure that the presentation is professional.

3. Term Project (Undergrads: 30%) (Graduate Students: 40%)

The term project will be on an instructor-approved UAS-related subject, and may involve **a research project, an experiment, a computer program, a comprehensive literature review, or some other approved format** which will culminate in a presentation. Throughout the semester, students will seek out guidance from the instructor as needed. At the end of the semester, students will present their project to the class. The presentations will be uploaded to the course website and peer-reviewed. See the handout on the course website for more information.

4. Midterm Quizzes (Undergrads: 20%) (Graduate Students: 10%)

Midterms will be composed of questions related to the guest lectures and the assigned reading material. Note, students enrolled in the REC1 section must take the quizzes in person.

Grade Scale

A	94 - 100%	B-	80 - 82.99%	D+	67 - 69.99%
A-	90 - 93.99%	C+	77 - 79.99%	D	63 - 66.99%
B+	87 - 89.99%	C	73 - 76.99%	D-	60 - 62.99%
B	83 - 86.99%	C-	70 - 72.99%	E	0 - 59.99%

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Schedule

The following schedule will be followed:

Week prior to lecture:

The week prior to lectures, reading and/or watching assignments will be posted to the course website. All students are expected to read and watch them before the following Wednesday. The following week's *facilitator* (or facilitator-group depending on enrollment) will also research additional material and begin developing his/her presentation and preparatory discussion with the assistance of the instructors. Facilitator lecture/date assignments will be made the first week of class. *Note: distance students must be able to participate live on both Wednesday and Friday of the week that they are assigned to the facilitator.*

Week of the lecture:

Wednesday: The facilitator will give a 30-35 minute presentation on the week's topic, which will be recorded and posted to the website. They will also assign additional material such as articles or online videos related to the topic. Following the presentation, the class will identify and prioritize relevant questions for the speaker. Asynchronous students are expected to participate in the discussion via the website message board, and should make their contributions by midnight Wednesday. **All students will post topic-related questions to the website by midnight on Wednesday, and "like" at least one other student's question by midnight on Thursday.**

Friday: The guest lecturer will give a ~50 minute presentation in class. Following a 10 minute break, the facilitator will lead a Q/A discussion based on the posted questions. The facilitator will record and enter summarized answers to the prepared questions and in-class discussion on the class website. Both the recorded lecture and Q/A session will be posted to the website.

List of topics (Tentative)

MODULE	SPEAKER	TOPIC(S)	Organization	Wed. Prep Session	Friday Lecture
1	John Rouse	UAS Rules and Regulations	UF EH&S	28-Aug	30-Aug
2	Bret Bienkowski	Surveying Industry	TetraTech	4-Sep	6-Sep
3	Allix North	Coastal Ecology	Florida DEP	11-Sep	13-Sep
4	Adam Watts	Interdisciplinary Applications	US Forest Service	18-Sep	20-Sep
5	Dr. Peter Ifju	Vehicle Design	UF Aerospace Eng.	25-Sep	27-Sep
6	Casey Shanks	NGA Applications	NGA Geodetic Surv.	2-Oct	4-Oct
7	TBD	TBD	TBD	9-Oct	11-Oct
8	Dr. Josh Rudd	Agricultural Applications	Syngenta	23-Oct	25-Oct
9	Dr. Ray Carthy, Naty Teryda	Wildlife Applications	USGS, UF Wildlife Ecology	30-Oct	1-Nov
10	Dr. Mike Starek	Transportation Applications	TAMUCC, Mantis	6-Nov	8-Nov

Critical Dates:

- 21-Aug Online Class Introductions Due on Discussion Board (Introduce yourself and respond to at least two other posts)
- 23-Aug Online Survey: Lecture Preference Due
- 13-Sep Term Project Proposal Due
- 2-Oct Online Quiz 1
- 13-Nov Online Quiz 2
Term Project Slides Due
- 15-Nov, 20-Nov, 22-Nov Term Project Presentations

Calendar

Monday	Tuesday	Wednesday	Thursday	Friday
8/19	8/20	8/21 Intro Message Board Due Module 1 Volunteer	8/22	8/23 Background Lec. Lec. Preference survey
8/26	8/27	8/28 Mod. 1 Prep	8/29	8/30 Mod. 1 Guest Speaker
9/2 Labor Day	9/3	9/4 Mod. 2 Prep	9/5	9/6 Mod. 2 Guest Speaker
9/9	9/10	9/11 Mod. 3 Prep	9/12	9/13 Mod. 3 Guest Speaker Term Project Proposals Due
9/16	9/17	9/18 Mod. 4 Prep	9/19	9/20 Mod. 4 Guest Speaker
9/23	9/24	9/25 Mod. 5 Prep	9/26	9/27 Mod. 5 Guest Speaker
9/30	10/1	10/2 Mod. 6 Prep Quiz 1	10/3	10/4 Mod. 6 Guest Speaker
10/7	10/8	10/9 Mod. 7 Prep	10/10	10/11 Mod. 7 Guest Speaker
10/14	10/15	10/16 No Class	10/17	10/18 Homecoming
10/21	10/22	10/23 Mod. 8 Prep	10/24	10/25 Mod. 8 Guest Speaker
10/28	10/29	10/30 Mod. 9 Prep	10/31	11/1 Mod. 9 Guest Speaker
11/4	11/5	11/6 Mod. 10 Prep	11/7	11/8 Mod. 10 Guest Speaker
11/11 Vet. Day	11/12	11/13 Quiz 2 Term Project Slides Due	11/14	11/15 Project Presentations
11/18	11/19	11/20 Project Presentations	11/21	11/22 Project Presentations
11/25 Thanksgiving	11/26 Thanksgiving	11/27 Thanksgiving	11/28 Thanksgiving	11/29 Thanksgiving
12/2	12/3	12/4	12/5 Reading Day	12/6 Reading Day

LATE POLICY: It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course.

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues **MUST** be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You **MUST** e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration.

For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

COMMUNICATION COURTESY AND PROFESSIONALISM: Just as in any professional environment, meaningful and constructive dialogue is expected in this class and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view. Respect for individual differences and alternative viewpoints will be maintained in this class at all times. All members of the class are expected to follow rules of common courtesy, decency, and civility in all interactions. Failure to do so will not be tolerated and may result in loss of participation points and/or referral to the Dean of Students' Office.

SEMESTER EVALUATION PROCESS: Student assessment of instruction is an important part of efforts to improve teaching and learning. **At approximately the mid-point of the semester**, the School of Forest Resources & Conservation will request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required but encouraged. This is not the UF Faculty Evaluation! **At the end of the semester**, students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

ACADEMIC HONESTY POLICY: As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:
"We, the members of the University of Florida community, pledge to hold ourselves and our

peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."* It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct or appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

INCLUSIVE LEARNING ENVIRONMENT: This course embraces the University of Florida's Non-Discrimination Policy, which reads,

The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: <http://multicultural.ufl.edu>.

SERVICES FOR STUDENTS WITH DISABILITIES: The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. 0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

SOFTWARE USE: All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator.

Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

CAMPUS HELPING RESOURCES: For issues with technical difficulties for e-learning in Canvas, please post your question to the Technical Help Discussion in your course, or contact the UF Help Desk at:

- Learning-support@ufl.edu | (352) 392-HELP - select option 2 | <http://elearning.ufl.edu>
- Library Help Desk support <http://cms.uflib.ufl.edu/ask>
- SFRC Academic Hub <https://ufl.instructure.com/courses/303721>

STUDENT LIFE, WELLNESS, AND COUNSELING HELP: Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- Counseling and Wellness resources <http://www.counseling.ufl.edu/cwc/>
- U Matter, We Care <http://www.umatter.ufl.edu/>
- Career Connections Center <http://career.ufl.edu/>
- Other resources are available at <http://www.distance.ufl.edu/getting-help> for online students.

STUDENT COMPLAINT PROCESS: The School of Forest Resources & Conservation cares about your experience and we will make every effort to address course concerns. We request that all of our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered.

If you have a more urgent concern, your first point of contact should be the SFRC Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration:

- Students in online courses: <http://www.distance.ufl.edu/student-complaint-process>
- Students in face-to-face courses: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>