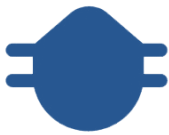


Fall 2020 Important Information

This course will be conducted in a hybrid format that includes some face-to-face sessions.

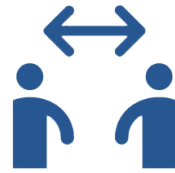
During all face-to-face activities, the following public health and safety protocols are required of all students, instructors, and teaching assistants:



Bring and wear a face mask at all times when indoors.



Wash hands (>20 sec) before and during class.



Maintain at least 6ft of distance from others.



If you feel sick or have symptoms, stay home.

Any individuals who are unable or unwilling to meet [these requirements](#) cannot participate in face-to-face activities and may be subject to progressive discipline. If you are experiencing [COVID-19 symptoms](#) please use the UF Health screening system and follow the instructions on [whether you are able to attend class](#). Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.

SUR 6934
Analytical Photogrammetry
Fall 2020 Syllabus

*****COVID SAFETY PLAN*****

This class will be delivered mostly online, with all lectures and lab instructions provided over Zoom. There will be one, two-week long lab (Lab 5) that will require you to use our Geomatics computer room on campus, since it requires specialized equipment. Similarly, REC students will be required to use the equipment housed at the FTL and PLC campuses.

*At the start of the course, you will be assigned a group number. The scheduled days for your group to use the Reed Lab computer room for Lab 5 can be found in the calendar in this syllabus **highlighted in red.***

When in the computer room:

- *Students will use the same workstation and stereo-glasses for the duration of the 2 week lab.*
- *Students are required to wear face masks (over mouth and nose) at all times.*
- *Strict 6-foot minimum social distancing must be maintained at all times, including when entering and leaving the lab.*
- *Students will sanitize the workstation and surrounding work area before and after each use.*

*****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.

SUR 6934
Analytical Photogrammetry
Fall 2020 Syllabus

INSTRUCTOR: Ben Wilkinson
Office: 406A Reed Lab
Phone: (352) 392-3465
Email: benew@ufl.edu

TEACHING ASSISTANT:
Youssef Kaddoura
Email: kaddoura@ufl.edu

MEETING TIMES: Lectures T, R 5th period (11:45-12:35), Labs R 8-10 period (3:00-6:00)

OFFICE HOURS: Web conferencing by appointment

TEXTBOOK: Wolf, P.R., B.A. Dewitt, B.E. Wilkinson Elements of Photogrammetry: with Applications in GIS, 3rd Ed., McGraw-Hill, 2014.

PREREQUISITES: Least Squares Adj. SUR5525 and Photogrammetry SUR3331C are beneficial but not required. **Requisite background information can be found in the textbook.**

GOALS AND OBJECTIVES: This course relates the principles of precise measurement and proper data reduction through measurements of photographs followed by calculations to determine spatial information. After completing this course, the student should be familiar with methods commonly used in photogrammetric practice as well as the theoretical basis for these methods.

LOGISTICS: Students may access lectures, assignments, readings, and supporting materials through the course Canvas site as they become available.

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?](#)
- Installation of proctoring software may be required and will be provided if so.

Synchronous online sessions may be recorded. By sharing your video, screen, or audio during any synchronous online class sessions, you are consenting to being recorded for the benefit of students who cannot attend live as well as for class review during the current semester. If you have special circumstances or concerns about privacy, it is your responsibility to discuss it with your instructor.

COURSE GRADING: The course grade will be based on participation, labs, HW assignments, reading assignment quizzes, and three exams. The percentage breakdown is as follows (subject to change based on course progression). Final grades are based on a curve.

Labs: 30%
 EXAM I: 10%
 EXAM II: 10%
 EXAM III: 15%
 HW: 20%
 Quizzes: 10%
 Participation: 5%

A	95 -100	C	73 - 76.99
A-	90 - 94.99	C-	70 - 72.99
B+	87 - 89.99	D+	67 - 69.99
B	83 - 86.99	D	63 - 66.99
B-	80 - 82.99	D-	60 - 62.99
C+	77 - 79.99	E	0 - 59.99

MODULES: The course will cover ten main modules:

Module	Num Lec	Topics	Reading
1	1	Introduction	Syllabus
2	1	3D angles and angular conversion	C-7 (Step 1 only), D-9, D-11
3	3	2D Coordinate transformations	C-1...C-6, C9, C10
4	2	3D Conformal coordinate transformation	Section C-7 (all steps), C-8
5	1	Homogeneous coordinate representation	C-11
6	5	Collinearity , space resection, space intersection, relative orientation, analytical stereomodel	Ch. 11
7	5	Aerotriangulation - Independent Models, bundle adjustment, self-calibration, airborne control	Ch. 17, 3-9, 3-10, 19-4...19-9
8	4	Digital photogrammetry - Modulation transfer, image model, spatial frequency, resampling, softcopy, image matching, orthophoto generation, digital mapping cameras, ASPRS accuracy standards	3-14, Ch. 15, App. E
9	4	Lidar	Ch. 14
Bonus Module	1	Computer Vision, UAS Photogrammetry,	

LAB	TOPIC
1	3D Rotations, Omega-Phi-Kappa – Tilt-Swing-Azimuth Conversion
2	2D Coordinate Transformations – Rectification
3	3D Transformation – Terrestrial Lidar (Two Weeks)
4	Space Resection
5	Softcopy Stereoplotter Operations (Two Weeks)
6	Simultaneous Bundle Adjustment (Two Weeks)
7	Close Range Photogrammetry/Analytical self-calibration (1 ½ Weeks)

Monday	Tuesday	Wednesday	Thursday	Friday
8/31	9/1 Intro	9/2	9/3 Module 2	9/4
9/7 Labor Day	9/8 Module 3	9/9	9/10 Module 3 Lab 1	9/11
9/14	9/15 Module 3	9/16	9/17 Module 4 Lab 2	9/18
9/21	9/22 Module 4	9/23	9/24 Module 5 No Lab	9/25
9/28	9/29 Module 6	9/30	10/1 Module 6 Group 1 Lab 3, Group 2 Lab 4, Group 3 Lab 5	10/2 Homecoming
10/5	10/6 Module 6	10/7	10/8 Module 6 Group 1 Lab 3, Group 2 Lab 4, Group 3 Lab 5	10/9
10/12	10/13 Module 6	10/14	10/15 Exam 1 Group 1 Lab 4, Group 2 Lab 5 , Group 3 Lab 3	10/16
10/19	10/20 Module 7	10/21	10/22 Module 7 Group 1 Lab 4, Group 2 Lab 5 , Group 3 Lab 3	10/23
10/26	10/27 Module 7	10/28	10/29 Module 7 Group 1 Lab 5 , Group 2 Lab 3, Group 3 Lab 4	10/30
11/2	11/3 Module 7	11/4	11/5 Module 8 Group 1 Lab 5 , Group 2 Lab 3, Group 3 Lab 4	11/6
11/9	11/10 Module 8	11/11 Veterans Day	11/12 Module 8 Lab 6	11/13
11/16	11/17 Module 8	11/18	11/19 Exam 2 Lab 6	11/20
11/23	11/24 Module 9	11/25 Thanksgiving	11/26 Thanksgiving	11/27 Thanksgiving
11/30	12/1 Module 9	12/2	12/3 Module 9 Lab 7	12/4
12/7	12/8 Module 9	12/9	12/10 Reading Day	12/11 Reading Day
12/14	12/15	12/16 Final Exam 12:30-2:30 PM	12/17	12/18

LATE POLICY: Due dates will be announced when assignments are given. A deduction of 25% will be made for each day they are late. 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.a.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.a.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/>