

LIDAR APPLICATIONS SUR 6934 – SUMMER A 2014 (May 12, 2014 – June 20, 2014) Summer A

Catalog Description:

This course investigates some of the multitude of applications in LiDAR remote sensing. Course topics include a wide array of applications in fields such as construction, forestry, ecology, transportation, archaeology and more.

Instructor: Dr. Ben Wilkinson (Phone: 352.392.3465, Email: benew@ufl.edu)
Office Location: 406A Reed Lab
Office Hours: Wed. 2:00 – 4:00 p via Adobe Connect* & by appointment
Class Hours: Adobe Connect* – Monday periods 2-3 (9:30a – 12:15p) & Thursday periods 2-3 (9:30a – 12:15p)
Website: <https://lss.at.ufl.edu> (Sakai system)

Course Objectives:

At the conclusion of this course, the student will be able to:

- Understand the various uses for LiDAR remote sensing data
- Identify emerging applications for LiDAR remote sensing data

Course Resources:

RECOMMENDED TEXTBOOKS

Paul Wolf, Bon Dewitt, Benjamin Wilkinson (2014) Elements of Photogrammetry: with Applications in GIS, 4th Ed., McGraw-Hill. ISBN: 978-0071761123

Jie Shan, Charles Toth (ed.) (2009). Topographic Laser Ranging and Scanning. CRC Press. ISBN: 978-1420051421

George Vosselman, Hans-Gerd Maas (ed.) (2010). Airborne and Terrestrial Laser Scanning. CRC Press. ISBN: 978-1439827987

ADDITIONAL MATERIALS:

- Headset & microphone are highly recommended for full course participation
- Reading and multimedia assignments will be issued as needed
- Links to websites covering Remote Sensing topics and data sources will be given throughout the semester.
- A web link to the course Adobe Connect site will be provided through the Sakai course site.

Grading Policy:

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D	E
Corresponding Course Score	90.0-100.0	87.0-89.9	85.0-86.9	77.0-84.9	75.0-76.9	73.0-74.9	67.0-72.9	65.0-66.9	50.0-64.9	0-49.9

*Adobe Connect is a software program used to conduct virtual meetings. See "[Using Adobe Connect Software](#)" section.

Grading Item	Percentage
Discussion/Participation	40%
Assignment 1	20%
Class Presentation 1	10%
Assignment 2	20%
Class Presentation 2	10%

1. Attendance is strongly encouraged but not mandatory.
2. Assignments turned in after the due date will be deducted points. A 10% penalty per 24 hours will be applied to late assignments up to one week after they are due (i.e., 10% penalty between 1 minute and <24 hours late, 20% penalty between 24 and <48 hours late, etc.) Once the submission function on E-learning is closed, a home assignment is considered late. Assignments will not be accepted if handed in more than 1 week over due. If you know in advance that you will be late for an assignment, let the instructor know in advance (via E-learning) and it will be decided by the instructor whether an exception can be made on a case-by-case basis.

Discussion/Participation

Students will be responsible for writing a short synopsis of journal articles on Sakai prior to each class meeting. Comments on other students' posts are encouraged and will reflect positively in the grade.

Assignments

There will be two projects: (Assignment 1) a literature review (submitted as a poster) focused on one type of LiDAR application and (2) a research proposal to test a developed hypothesis regarding the LiDAR application investigated in Assignment 1. Details regarding these projects will be given during the first week of class.

Presentations

As a discussion format based course, students will present both assignments to the class. The poster presentation can be a presentation of the submitted poster. The proposal presentation will be setup as a short PowerPoint attempting to get funding from the class. Be convincing!

Using Adobe Connect Software:

Laboratory sessions and office hour meetings will be conducted virtually using the **Adobe Connect virtual classroom software**. The software is accessed by clicking the course link provided by the instructors through Sakai. The instructors have scheduled a semester long session with Adobe Connect.

The following [link](#) explains the minimum computer requirements and the instructions to connect to a session. Generally, current computer configurations satisfy this requirement. You should have [Java](#) installed on your machine <http://www.java.com/en/> in order for the software to work. A microphone is also needed to communicate with the instructors and the students attending the session.

Communication

The E-learning system should be used as the primary platform for written communication between students, the instructor, and the TA, where the built-in e-mail or discussion function can be utilized. Any short-term changes concerning lectures or other course components will be announced through E-learning.

Schedule of Topics:

Week #	Topic
1 – May 12th	(M) Course outlines – Introduction, Remote Sensing Concept Review; Selection of LiDAR Application Area; Literature Review Basics (Th) LiDAR Application Topic
2 – May 19th	(M) LiDAR Application Topic (Th) LiDAR Application Topic
3 – May 26th	(M) LiDAR Application Topic (Th) Assignment 1 due; Class Presentations
4 – June 2nd	(M) LiDAR Application Topic (Th) LiDAR Application Topic
5 – June 9th	(M) LiDAR Application Topic (Th) LiDAR Application Topic
6 – June 16th	(M) Assignment 2 due; LiDAR Application Topic (Th) Class Presentations

Academic Honesty Policy:

In 1995 the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students. In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code. **The Honor Code: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.** On all work submitted for credit by students at the university, the following pledge is either required or implied: **“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”** The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge is diminished by cheating, plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior. Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court. (Source: 2007-2008 Undergraduate Catalog) It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor. This policy will be vigorously upheld at all times in this course.

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.

Additional Gainesville Campus Resources:

Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. Both the Counseling Center and Student Mental Health Services provide 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. The Counseling Center is located at 301 Peabody Hall (next to Criser Hall). Student Mental Health Services is located on the second floor of the Student Health Care Center in the Infirmary.

- *University Counseling Center*, 301 Peabody Hall, 392-1575, www.counsel.ufl.edu
- *Career Resource Center*, CR-100 JWRU, 392-1602, www.crc.ufl.edu/
- *Student Mental Health Services*, Rm. 245 Student Health Care Center, 392-1171, www.shcc.ufl.edu/smhs/
 - Alcohol and Substance Abuse Program (ASAP)
 - Center for Sexual Assault / Abuse Recovery & Education (CARE)
 - Eating Disorders Program
 - Employee Assistance Program
 - Suicide Prevention Program

Accommodations 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. 0001 Reid Hall, 392-8565, www.dso.ufl.edu/drc/