SUR 5365 - Digital Mapping – Fall 2013

INSTRUCTOR:

Dr. Hartwig Henry HOCHMAIR (FLREC Fort Lauderdale)

LECTURES: Fridays, 11:45 am - 2:45 pm (per. 5-7)
taught via Adobe Connect (Web based)

Lectures begin Aug 23 and end Nov 22 (no class on Nov 8)

OFFICE:

Ft. Lauderdale Research & Education Center, Davie West 224
PHONE/VOICE MAIL: (954) 577-6317
E-MAIL: Use the e-mail function in eLearning
OFFICE HOURS: Feel free to call me any time by phone, or e-mail me to set up a meeting in Adobe Connect

READING MATERIALS:

- References to books, book chapters, and online resources will be given during the lecture.
- Some reading material will be posted on the eLearning Web site (http://lss.at.ufl.edu/)

SOFTWARE REQUIREMENTS:

ArcGIS 10.1 will be needed for many topics taught in this course. A free 1-year student copy is available for registered students. Instructions on how to obtain the software are posted on E-Learning under Resources.

INTRODUCTION - COURSE CONTENT and OBJECTIVES:

This course covers theoretical concepts and practical aspects for mapping and analyzing digital spatial data. The course objective is to provide students with (1) with the theoretical foundation for understanding map projections and coordinate systems, (2) procedures to utilize digital mapping resources on the Internet, such as Google Maps APIs, Google Earth, and concepts used in Web mapping, (3) basics of point cloud visualization of LIDAR data sets, and (4) methods of assessing the quality of spatial data published on the Web.

STUDENT LEARNING OUTCOMES:

At the completion of the course, the student should be able to:

i. understand the role of map projections in visualizing spatial information
ii. identify and perform appropriate coordinate transformations for a given mapping problem
iii. read coordinates in the different systems from digital topographic maps
iv. analyze the quality of spatial information mapped on the Internet
v. visualize spatial information in Web browsers using APIs and other techniques
vi. perform software based analysis functions on LIDAR data

TOPICS:

- Coordinate systems, geodetics datums
- Map projections
- 2D coordinate transformations
- Topographic maps
- Web mapping, ArcGIS Online, Google Maps API,
- Web 2.0 geo-data sources and their data quality
- Principles of LIDAR (Light Detection And Ranging)

RECOMMENDED COURSE PREREQUSITES: No formal course pre-requisites. Some experience with ArcGIS software is an advantage. Basic analytic geometry, trigonometry, analysis, and statistics is recommended. Free ArcGIS Desktop student versions with a 1 year license can be requested from the instructor.

GRADING POLICY:

1. Grading scale

Grade	***Percentage***	***Grade***	***Percentage***
A	92.0-100.0	C+	78.0-79.9
A-	90-91.9	C	72.0-77.9
B+	88.0-89.9	C-	70.0-71.9
B	82.0-87.9	D	60.0-69.9
B-	80.0-81.9	F	0-59.9

Grading item	***Percentage***
Timeliness and completeness of assignments	80
Online quizzes and online discussions	17
Home assignment in-class demo	3
	100

CLASS FORMAT AND POLICIES

1. This course is a distance education course taught synchronously through virtual classroom software. Although the lectures are recorded and available online for review, attendance is strongly encouraged. Partial course credit will be given for presenting one of the home assignments to the other students on the due date, which is usually one week after the hand-out.
2. The E-Learning system should be used as the platform for written communication between students and the instructor, where the built-in e-mail or discussion function should be used. Any short-term changes concerning lectures or classes are announced through E-Learning. Feel free to call the instructors with any questions.
3. For each assignment a due date and time is given, which is usually the beginning of the next class.
4. Lecture material can be downloaded from the E-Learning website (http://lss.at.ufl.edu/) at least half an hour before the lecture starts.

MISSING AND LATE ASSIGNMENT POLICIES

1. A 10% penalty per day will be applied to late assignments up to one week after they are due date/time. This means that assignments handed in late on the due date or the next calendar day get a 10% point deduction, for 2 days late this gives a 20% penalty, and so on. Assignments will not be accepted if handed in more than one week (7x24 hours) after the due date/time. 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.
2. Students who cannot attend the class regularly need to arrange with the instructor to satisfy the in-class presentation(s) requirements.

USING ADOBE CONNECT SOFTWARE:

GIS sessions (for the distance section) and office hour meetings (per request) will be conducted using Adobe Connect web conferencing software. The software is accessed by clicking a link posted by the instructor through e-Learning. The instructor will schedule the sessions and post the link to you earlier in the semester. You should click on the link each time you need to join the GIS or office hour sessions.

The following link explains how to participate in Adobe Connect meetings/sessions. Adobe Connect only requires an internet connection, a web browser, and Adobe Flash Player version 10.1 or higher. Adobe Connect supports nearly

any operating system including Windows, Macintosh, Linux and Solaris, as well as the most widely used browsers including Internet Explorer, Firefox, Safari, and Chrome. A microphone is also needed to communicate with the instructors and the students attending the session.

NOTE - This syllabus is tentative and subject to change. As with all classes, you are responsible to know the course schedule, readings & labs, and check for short term changes in the topics, dates, etc.

GRADES AND GRADE POINTS:

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

ABSENCES AND MAKE-UP WORK:

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.

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 to 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/honorcodes/honorcode.php.

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:

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.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,* **www.counseling.ufl.edu/cwc/**
  - Counseling Services
  - Groups and Workshops
  - Outreach and Consultation
  - Self-Help Library
  - Training Programs
  - Community Provider Database
- *Career Resource Center,* First Floor JWRU, 392-1601, **www.crc.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/