The University of Wisconsin- Milwaukee
Geography 403 -Remote Sensing: Environmental and Land Use Analysis
Spring 2007

Class Place & Time: LEC 401 (41378) TR 11:00 am-12:15 pm at Bolton Hall B95
Lab Place & Time: Lab 801 (41379): W 10:00am-11:50am at BOL 581
Lab 802 (41380): R 1:00 pm-2:50 pm at BOL 581

Instructor

Professor Changshan Wu
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Office Hours: Tuesday, Thursday 3:30 pm – 4:30 pm or by appointment

Teaching Assistant

Greg Rybarczyk
Office: Bolton Hall 441
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Office Hours: See lab syllabus

Textbook:

John R. Jensen, 2000, Remote Sensing of the Environment: an Earth Resource Perspective, Prentice Hall, ISBN: 0134897331

Class website:

http://www.uwm.edu/Course/416-403-Wu/

Course Description and Objectives

This course explores the principals and concepts of remote sensing technologies, and their various applications in environmental and land use analysis. Through this course, students are expected to master the following contents: 1) the principles of remote sensing technologies, 2) photography and satellite remote sensing systems, 3) remote

sensing applications in various fields, including vegetation, water, urban, soil, etc., and 4) remote sensing image processing techniques using IDRISI software.

Credit Hours

This course has four credit hours (graduate and undergraduate) consisting of two 75-minute lectures and one two-hour laboratory each week.

Prerequisites

Junior status & Geography 215, or graduate status

Course Evaluation

Undergraduate

1. **Examinations (60% of class grade)** - There will be a mid-term and a final examination for this course (30% each).

2. **Laboratory exercises (30% of class grade)** - Weekly lab assignments will be given and collected corresponding to topics covered in class. The laboratory exercises will require the use of IDRISI software.

3. **Class participation (10% of class grade)** - Throughout the quarter, quizzes and other assignments may be given as a component of class participation. Attendance and participation in class discussion is expected for all students.

Graduate

1. **Examinations (40% of class grade)** - There will be a mid-term and a final examination for this course (20% each).

2. **Laboratory exercises (30% of class grade)** - Weekly lab assignments will be given and collected corresponding to topics covered in class. The laboratory exercises will require the use of IDRISI software.

3. **Class project (20% of class grade)** – A project that applies remote sensing technologies in a specific problem is required for graduate students. Students are required to prepare a final report (about 8-10 pages double space), and give a short presentation (about 10 minutes) in the class. The due date of the final report is 11:00 am, May 10, 2007.

4. **Class participation (10% of class grade)** - Throughout the quarter, quizzes and other assignments may be given as a component of class participation. Attendance and participation in class discussion is expected of all students.

Grading Scale

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

Make-up: No make-ups will be allowed without emergency reasons with written proof.

Final Exam: At the same classroom.

Notices:

- Grades, once given, are final except in cases of clerical error
- Cheating on exams, map quizzes, or lab exercises will not be tolerated. Additional information about the policies and procedures can be found at http://www.uwm.edu/Dept/Acad_Aff/policy/uniformsyllabus.html and are posted in the Geography Department main office, BOL 410.
- Attendance is not required but strongly recommended.
- Students are expected to attend each class, and are responsible for their own notes.
- If you are having trouble in class, please come and see me.

Disability Statement:

Any student who feels he or she may need an accommodation based on the impact of a disability should contact me privately to discuss his or her specific needs.

Geography 403 Tentative[#] Schedule (Spring 2007)

Week	Dates	Topic(s)	Text	Due
1	January 23 January 25	Introduction to remote sensing	Chapter 1&3	
2	January 30 February 1	Remote sensing principles	Chapter 2	

3	February 6 February 8	Aerial photography	Chapter 4	
4	February 13 February 15	Photogrammetry	Chapter 6	
5	February 20 February 22	Photogrammetry Elements of visual interpretation	Chapter 5	
6	February 27 March 1	Elements of visual interpretation Midterm Preview	Chapter 5	
7	March 6 March 8	Satellite basis Midterm	Chapter 7	
8	March 13 March 15	Remote sensing systems	Chapter 7	
9	March 20 March 22	Spring recess		
10	March 27 March 29	Thermal remote sensing Active remote sensing	Chapter 8 Chapter 9	
11	April 3 April 5	Remote sensing of Vegetation	Chapter 10	
12	April 10 April 12	Remote sensing of water	Chapter 11	
13	April 17 April 19	Remote sensing of water Remote sensing data in AGS library	Chapter 11	
14	April 24 April 26	Remote sensing of urban	Chapter 12	
15	May 1 May 3	Remote sensing of soils and geology Final exam preview	Chapter 13	
16	May 8 May 10	Project presentation (graduate)		Graduate project report due
	May 14	**Final exam** (10:00 am – 12:00 noon)		