

ABE 6037– REMOTE SENSING IN HYDROLOGY
T R 10:40-11:55am

Instructor: Jasmeet Judge, 275 Frazier Rogers Hall
jasmeet@ufl.edu; 392-1864 ext 299

Office hours: After class and by appointment

Objective: To develop a practical understanding of remote sensing applications to hydrology using observations in different regions of the EM spectrum. The first part of the course is primarily lecture style covering the basic science and theory of remote sensing. The second part of the course is conducted in a seminar style with an emphasis on literature review and presentations.

Recommended Materials: Handouts will be provided from the following reference texts (SE) Schultz and Engman, Remote Sensing in Hydrology and Water Management, Springer, 2000.

(E) Elachi, C., Introduction to the Physics and Techniques of Remote Sensing, John Wiley & Sons, 1987.

(LK) Lilesand and Keifer, Remote Sensing and Image Interpretation, John Wiley & Sons, 2003

(S) Schott, J., Remote Sensing: The image change approach, Oxford University Press, 1997.

(U) Ulaby, F., Fundamentals of Applied Electromagnetics, Prentice Hall, 2001.

(MRS1) Ulaby, Moore, and Fung, Microwave Remote Sensing: Volume I, Fundamentals and Radiometry, Addison-Wesley, 1981

(MRS2) Ulaby, Moore, and Fung, Microwave Remote Sensing: Volume II, Active, Addison-Wesley, 1981

Course Format and Grading: Classes will be a combination of lectures and seminar style presentations/discussion. Grades will be assigned based upon homework assignments (20%), one exam (15%), one quiz (5%), and oral presentations (60%, with 40% for literature review and discussion in class; 20% for presentation).

Unless a legitimate reason is provided, homework assignments turned in after the due date will count for 25% less than the scored points. The assignments turned in after the next class past the due date will not be counted at all.

Grading scale: Curved

Course Outline:

PART I: Science and Theory of Remote Sensing:

1. Introduction

Electromagnetic (EM) spectrum

2. Radiative transfer theory in VI, IR, & Microwave

Exam I

PART II: Remote Sensing Applications in Hydrology

Precipitation; Evapotranspiration; Terrestrial water – soil, surface water, and ground water; Snow and Ice; etc.

Academic Honesty

In the process of enrolling and registering for classes at the University of Florida, every student has signed and presumably understands the following statement: AI understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.

The following information will be placed on examinations.

On my honor, I have neither given nor received unauthorized aid on this Examination.

Use of Library, Personal References, PC Programs and Electronic Data Bases:

These items are university property and should be utilized with other users in mind. Never remove, mark, modify nor deface resources that do not belong to you. If you're in the habit of underlining text, do it only on your personal copy. It is inconsiderate, costly to others, and dishonest to use common references otherwise.

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.

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

UF Counseling Services:

I hope to establish a class relationship and encourage dialog so that students feel comfortable discussing academic problems directly with me. In addition, resources are available on-campus for students having personal problems or lacking clear career and academic goals, which interfere with their academic performance. These resources include:

1. University Counseling Center, 301 Peabody Hall, 392-1575, personal and career counseling;
2. Student Mental Health, Student Health Care Center, 392-1171, personal counseling;
3. Sexual Assault Recovery Services (SARC), Student Health Care Center, 392-1161, sexual assault counseling; and
4. Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.