DEPARTMENT OF GEOLOGY AND GEOPHYSICS, UAF
GEOS 422: Geoscience applications of Remote Sensing (Instructor: Anupma Prakash)
Class Schedule : Fall 2008 (Version: September 17, 2008)
(lectures 1.00 - 2.00 pm Reichardt Building 237; labs 2.00 - 5.00 pm Reichardt Building 316)

Date	Day	Lecture/Lab No.	Topic	Comments
Sep-04-07	Thursday		No structured lab this week	Follow instructions in intro email
Sep-08-07	Monday	Lecture 1	Introduction to Remote Sensing	Read chap. 1, pp. 1-23 (for lec 2-4)
Sep-10-07	Wednesday	Lecture 2	The Electromagnetic Spectrum	
Sep-11-07	Thursday	Lab 1	Remote sensing and image resources	web resources view and compilation
Sep-15-07	Monday	Lecture 3	Principles of Remote Sensing -1	Read chap. 6, pp.397-485 (for lec 5)
Sep-17-07	Wednesday	Lecture 4	Principles of Remote Sensing -2	Read chap. 4, pp.193-205 (for lec 7)
Sep-18-07	Thursday	Lab 2	Introduction to projects + ERDAS Imagine	Discuss your ideas
Sep-22-07	Monday	Lecture 5	Sensors/platforms	HW assignment: satellites and sensors
Sep-24-07	Wednesday	Lecture 6	Aerial Photography	
Sep-25-07	Thursday	Lab 3	EDG search + data mining	data from ASF, GINA, USGS, NASA, etc
Sep-29-07	Monday	Lecture 7	Elements of Visual Image Interpretation	
Oct-01-07	Wednesday	Lecture 8	Digital Image Processing -1	Read chap 7 (for lec 8-14)
Oct-02-07	Thursday	Lab 4	Data import/export, display, management	time intensive lab
Oct-06-07	Monday	Lecture 9	Digital Image Processing -2	Prakash at GSA: Lecture moved TBD day
Oct-08-07	Wednesday		QUIZ	closed book quiz
Oct-09-07	Thursday	Lab 5	Statistics and vector data handling	
Oct-13-07	Monday	Lecture 10	Operations on multiband images	
Oct-15-07	Wednesday	Lecture 11	Image rectification (geometric)	
Oct-16-07	Thursday	Lab 6	Image rectification (radiometric + geometric)	
Oct-20-07	Monday	Lecture 12	Image rectification (radiometric)	
Oct-22-07	Wednesday	Lecture 13	Image Enhancements	Lecturer: Rudi Gens
Oct-23-07	Thursday	Lab 7	Data stretching and arithmetic operations	Supervision: R Gens + project work
Oct-27-07	Monday	Lecture 14	Recap + discussions + any other concerns	
Oct-29-07	Wednesday	Lecture 15	Image Classification	
Oct-30-07	Thursday	Lab 8	Project work	apply techniques on your own data sets
Nov-03-07	Monday	Lecture 16	Image fusion + Take home test and homework	Read chap 5, pp.347-393 (for lec 18-19)
Nov-05-07	Wednesday	Lecture 17	Radar remote sensing	also go through ASF outreach CD

Nov-06-07	Thursday	Lab 9	Image Classification	
Nov-10-07	Monday	Lecture 18	Thermal remote sensing	
Nov-12-07	Wednesday	Lecture 19	Hyperspectral remote sensing	
Nov-13-07	Thursday	Lab 10	Model Maker - Temp estimation	Also go through image fusion tutorial
Nov-17-07	Monday	Lecture 20	Application: volcanoes	Guest: John Dehn
Nov-19-07	Wednesday	Lecture 21	Application: planetary science	Guest: Robby Herrick
Nov-20-07	Thursday	Lab 11	Visit to Industry/ASF/AVO	Details TBD
Nov-24-07	Monday	Lecture 22	Final Project: Report, Presentation	Past examples
Nov-26-07	Wednesday	Lecture 23	Application: Geologic Mapping and others	
Nov-27-07	Thursday	Lab 12	Thanksgiving	
Dec-01-07	Monday	Lecture 24	Application: natural hazards	
Dec-03-07	Wednesday	Lecture 25	Application: Landcover and habitat mapping	
Dec-04-07	Thursday	Lab 13	Image fusion + mapmaking + Project work	
Dec-08-07	Monday	Lecture 26	Applications: SAR InSAR and/or Project work	
Dec-10-07	Wednesday	Lecture 27	Recap + discussions + any other concerns	
Dec-11-07	Thursday		Make project presentation and backup	
Dec-15-07	Monday		Final Exam	Time and scheddule TBA

Basic Principles
Digital Image Processing
Applications
Exam
No Class

Text Book: Remote Sensing and Image Interpretation, fifth edition

by Lillesand, Kiefer and Chipman

HW :Homework; GSA :Geolgoical Society of America;