

DEPARTMENT OF GEOLOGY AND GEOPHYSICS, UAF
GEOS 654: Advanced Visible and Infrared Remote Sensing (by Anupma Prakash)
Class Schedule : Spring 2007 (Version: January 7, 2007)
(Time 3.40 - 5.40 pm WRRB 004; Remote Sensing Computer Lab)*

Date	Day	Lecture/Lab No	Topic	Comments
Jan-16-07	Tuesday	Session 1	Introduction to the course + recap	Reading material on Advanced Principles
Jan-18-07	Thursday	Session 2	Advanced Principles: EM spectrum + terminology	
Jan-23-07	Tuesday	Session 3	Advanced Principles: Radiation Laws + computation	HW1: Plotting Plancks Equation
Jan-25-07	Thursday	Session 4	Atmospheric interactions - 1: Aerosols; Atm. Profile; Radiation transfer	
Jan-30-06	Tuesday	Session 5	Atmospheric interactions - 2: Standard atmospheres; Lowtran	HW2: Summary: Atm RS / Spectroscopy
Feb-01-07	Thursday	Session 6	Spectral signatures - 1; spectroscopy	Additional reading assignment
Feb-06-07	Tuesday	Session 7	Spectral signatures - 2; vegetation/atmosphere	Lab with ASD spectrometer + S. Li
Feb-08-07	Thursday	Session 8	Spectral signatures - 3; minerals/rocks	Lab with ASD spectrometer
Feb-13-07	Tuesday	Session 9	Remote sensing of soil moisture and soil salinity	
Feb-15-07	Thursday	Session 10	Quiz-1 + project work	
Feb-20-07	Tuesday	Session 11	Sensors and sensor technology	What's in a pixel?
Feb-22-07	Thursday	Session 12	Physical Principles of Land Surface Reflectance:BRDF	
Feb-27-07	Tuesday	Session 13	Physical Principles of Land Cover and Land Cover Change	
Mar-01-07	Thursday	Session 14	Orthorectification for terrain correction	
Mar-06-07	Tuesday	Session 15	TIR data acquisition, temp (integrated, subpixel)	HW3: Subpixel area and temp estimation
Mar-08-07	Thursday	Session 16	Emissivity, TES algorithms, FLIR	
Mar-13-07	Tuesday	Session 17	Spring Break (no class)	
Mar-15-07	Thursday	Session 18	Spring Break (no class)	
Mar-20-07	Tuesday	Session 19	Recap + Discussion	
Mar-22-07	Thursday	Session 20	Quiz-2 + project work	HW4: Literature review article (double pts)
Mar-27-07	Tuesday	Session 21	Higher order data products	
Mar-29-07	Thursday	Session 22	Hyperspectral remote sensing + OIF	
Apr-03-07	Tuesday	Session 23	Hyperspectral tools	
Apr-05-07	Thursday	Session 24	Special composites and ratios	
Apr-10-07	Tuesday	Session 25	Filtering, lineament extraction and analysis	
Apr-12-07	Thursday	Session 26	Classifications and transformations	
Apr-17-07	Tuesday	Session 27	Fusion and user defined algorithms	

Apr-19-07	Thursday	Session 28	DEM, DTM, slope, aspect, draping	
Apr-24-07	Tuesday	Session 29	State of art review presentation - Geologic RS	Time for Project Work
Apr-26-07	Thursday	Session 30	State of art review presentation - Volcanology	Time for Project Work
May-01-07	Tuesday	Session 31	State of art review presentation - Permafrost and Glaciology	Time for Project Work
May-03-07	Thursday	Session 32	State of art review presentation - Planetary RS	Time for Project Work
May-08-07	Tuesday	Session 33	Finals	

Text Book: Remote Sensing Geology, Second edition

by R.P. Gupta

* WRRB = West Ridge Research Building; HW = Homework;