REMOTE SENSING CLASS SCHEDULE FOR SPRING 2007 (updated 25 March)			
Date	**Lecture/Lab**	**Topic**	**Required reading**
Jan 8	Lecture 1.	Logistic: Goals and structure of the course.	
Jan 10	Lecture 2.	Basics of remote sensing: introductory survey	S 1.1, 1.7, p.395-398, 426-427
Jan 15		SCHOOL HOLIDAY	
Jan 17	Lecture 3.	The nature of electromagnetic radiation. Polarization. Stokes' parameters	S 2.1-2.4
Jan 22	Lecture 4.	Radiation law. Blackbody emission. Emission and reflection from the ocean and land surfaces.	S 2.5; 4.4; p. 177-183
Jan 24	*Lab 1.*	*Planck function and emission from the surfaces. Sea-ice detection.*	
Jan 29	Lecture 5.	The composition and structure of the atmosphere. Absorption/emission by atmospheric gases and effects on remote sensing	S 1.3-1.5, 3.2.1; 3.1-3.5
Jan 31	*Lab 2.*	*Absorption by atmospheric gases*	
Feb 5	Lecture 6.	Properties of atmospheric aerosols and clouds. Rayleigh scattering. Scattering/absorption by aerosols and clouds.	S 1.6, 4.1, 4.3, 5.1-5.4, 5.6, 5.7
Feb 7	*Lab 3.*	*Modeling optical characteristics with Mie theory. Analysis of aerosol optical properties measured from ground-based and aircraft platforms.*	S 6.1
Feb 12	Lecture 7.	Principles passive remote sensing using extinction and scattering. Scattering as a source of radiation. Multiple scattering.	S 6.3, 6.4, 6.6
Feb 14	*Lab 4.*	*Retrievals of aerosol properties from passive satellite remote sensing*	
Feb 19	Lecture 8.	Applications of passive remote sensing using extinction and scattering: Aerosol retrievals. Ocean color.	S 6.3, 6.5.1, pp.177-180
Feb 21	*Lab 5.*	*Retrievals of atmospheric gases from passive remote sensing*	
Feb 26	Lecture 9.	Applications of passive remote sensing using extinction and scattering: Remote sensing of ozone in the UV region.	S 6.2.1, 6.5
Feb 28		MID-TERM EXAM I	
Mar 5	Lecture 10.	Principles of passive remote sensing using emission. Radiative transfer with emission. Measurements of precipitable water vapor. Remote sensing of sea surface temperature (SST).	S 7.1, 7.3.1, 7.3.2, 7.2, 4.5.1
Mar 7	*Lab 6.*	*Retrievals of SST*	
Mar 12	Lecture 11.	Applications of passive remote sensing using emission: Sensing of precipitation and clouds.	S 7.4 , 7.6, 6.6
Mar 14	*Lab 7.*	*Cloud detection and analysis*	
		SPRING BREAK	
Mar 26	Lecture 12.	Principles of sounding by emission. Sounding of the temperature profile. Sounding of trace gases and air pollution	S 7.5, 7.5.4, 7.7
Mar 28	*Lab 8.*	*Atmospheric sounding*	
Apr 2	Lecture 13.	Principles of active remote sensing: Radar sensing of cloud and precipitation.	S 8.1, 8.2.1, 8.2.2,8.2.3, 8.3
Apr 4	*Lab 9.*	*Radar sensing of precipitation*	
Apr 9	Lecture 14.	Principles of active remote sensing: Lidars sensing of aerosols and clouds	S 8.4.1, 8.4.2, 8.4.3, 8.4.4
Apr 11	*Lab 10.*	*Analysis of lidar sensing*	
Apr 16		*Students' project presentation (Huang, Balachandran, Choi)*	
Apr 18		*Students' project presentation (Shen, Alston, Hsieh)*	
Apr 23		*Students' project presentation (Liao, Fritz,Holley, Zuluaga)*	
Apr 25	Lecture 15.	Course Review	
May		EXAM II	