REMOTE SENSING CLASS SCHEDULE FOR SPRING 2005			
Date	**Lecture/Lab**	**Topic**	**Required reading**
Jan 11	Lecture 1.	Logistic: Goals and structure of the course.	
Jan 13	Lecture 2.	Basics of remote sensing: introductory survey	S 1.1, 1.7, p.395-398, 426-427
Jan 18	Lecture 3.	The nature of electromagnetic radiation. Polarization. Stokes' parameters	S 2.1-2.4
Jan 20	*Lab 1.*	*Electromagnetic radiation: basic radiometric quantities and polarization.*	
Jan 25	Lecture 4.	Radiation law. Blackbody emission. Emission and reflection from the ocean and land surfaces.	S 2.5; 4.4; p. 177-183
Jan 27	*Lab 2.*	*Planck function and emission from the surfaces. Sea-ice detection.*	
Feb 1	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
Feb 3	*Lab 3.*	*Absorption by atmospheric gases*	
Feb 8	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 10	*Lab 4.*	*Modeling optical characteristics with Mie theory. Analysis of aerosol optical properties measured from ground-based and aircraft platforms.*	S 6.1
Feb 15	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 17	*Lab 5.*	*Retrievals of aerosol properties from passive satellite remote sensing*	
Feb 22	Lecture 8.	Applications of passive remote sensing using extinction and scattering: Remote sensing of ozone in the UV region	S 6.2.1, 6.5, pp.177-180
Feb 24	*Lab 6.*	*Retrievals of atmospheric gases from passive remote sensing*	
Mar 1	Lecture 9.	Applications of passive remote sensing using extinction and scattering: Ocean color retrievals and atmospheric correction algorithms	
Mar 3		EXAM I	
Mar 8	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 10	*Lab 7.*	*Retrievals of SST*	
Mar 15	Lecture 11.	Applications of passive remote sensing using emission: Sensing of precipitation and clouds.	S 7.4 , 7.6
Mar 17	*Lab 8.*	*ISCCP project. Cloud detection and analysis*	
		SPRING BREAK	
Mar 29	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 31	*Lab 9.*	*Atmospheric sounding*	
Apr 5	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 7	*Lab 10.*	*Analysis of radar sensing*	
Apr 12	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 14	*Lab 11.*	*Analysis of lidar sensing*	
Apr 19	Lecture 15.	Special Topic	
Apr 21	Lecture 16.	*Students' project presentation*	
Apr 26	Lecture 17.	*Students' project presentation*	
Apr 28	Lecture 18.	Course Review	
May 3		EXAM II	