

INTRODUCTION TO OCEAN REMOTE SENSING  
(EOS 724/824, Spring Semester, 2002)

<u>Tuesdays (except *)</u>	
January 22 (Chap. 1)	<u>Introductions</u> : discussion of goals and strategy, the computer-based exercises, weekly exercises, readings, and projects
January 24* (Chap. 2-3)	<u>Basics of remote sensing</u> : rationale, time and space scales, spatial resolution, orbital geometry and temporal coverage
January 29 (Chap. 4-5)	<u>Electromagnetic radiation</u> : solar and terrestrial radiation, spectral bands, radiative transfer through atmosphere and ocean
February 5 & 7* (Chap. 6)	<u>Ocean color remote sensing</u> : instruments (past and present), theoretical basis, radiation terms and units, absorption & bio-optical algorithms for case 1 and case 2 waters
February 12-14	No class this week (Ocean Sciences Meeting)
February 19 (Chap. 7)	<u>Infrared remote sensing (part 1)</u> : ocean thermal structure measurements at sea, black-body radiation, satellite instruments
February 26 (Chap. 7)	<u>Infrared remote sensing (part 2)</u> : atmospheric corrections, algorithms, cloud detection & masking techniques
March 5 (Chap. 7)	<u>Applications of ocean color and infrared remote sensing</u> : tracking monitoring global change, science goals & issues, the "big picture"
March 12	MID-TERM EXAM
March 14	<u>Student paper abstracts due</u>
March 18-22	SPRING BREAK
March 26	Discussion of exam, wrap-up of visible and infrared remote sensing
April 2 (Chap. 8)	<u>Passive Microwaves</u> : physical principles involved, the instruments (SMMR, SSM/I), and algorithms (SST, winds, water vapor, rain)
April 9 (Chap. 9)	<u>Altimetry</u> : surface topography and the geoid, the instruments (SEASAT ALT, TOPEX/Poseidon, Jason), ocean currents and tides
April 16 (Chap. 12)	<u>Synthetic Aperture Radar (SAR)</u> : Physical principles, applications, high resolution surface and internal wave imaging.
April 23 (Chap. 13)	<u>Scatterometry</u> : Physical principles, remote sensing of wind speed and direction, applications
April 30, and May 2*, 7, and 9*	<u>Student presentations</u> : Students will make 20-minute presentations based on their papers (class will meet Tues. and Thurs.)
May 14*	<u>Last class</u> : Final papers due, review of concepts & vocabulary
May 16-23	FINAL EXAM. Open book, open notes. Schedule to be announced

\* Thursdays