Earth System Science 5: THE ATMOSPHERE (Spring 2007)
(http://www.ess.uci.edu/~yu/ess5.html)

COURSE TIME

Lectures: Tuesdays & Thursdays 3:30-4:50, BH-1100
Discussion 1 (optional): Fridays 9:00-9:50, SH-128
Discussion 2 (optional): Tuesdays 11:00-11:50, MSTB-120
Discussion 3 (optional): Tuesdays 8:00-8:50, MSTB-118

INSTRUCTOR

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TEACHING ASSISTANTS

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COURSE DESCRIPTION

This course introduces students to the fundamental properties of the atmosphere and helps them understand the physics behind the weather and climate. The course begins with an introduction of the thermal structure, mass distribution, and general circulation of the atmosphere and an explanation of how these properties are determined by the balance between the solar and terrestrial radiations. The second part of the course describes the weather features we experience in daily life, including midlatitude storms, tropical hurricane, tornadoes, clouds, and precipitation. The last part of the course looks into how the atmosphere interacts with oceans, land, ice, and human activities to determine the past and possible future climate changes. Students will be tested on their knowledge of the atmosphere and also on their understanding of the physical processes behind it.

WEEK	DATE	TOPICS	CHAPTER
Week 1	4/03	Composition and Structure of the Atmosphere	Ch.1
	4/05	Composition and Structure of the Atmosphere	Ch.1
Week 2	4/10	Solar Radiation & Seasons	Ch.2
	4/12	Energy Balance & Temperature	Ch.3
Week 3	4/17	Atmospheric Pressure & Wind	Ch.4
	4/19	Atmospheric Pressure & Wind	Ch.4
Week 4	4/24	Atmospheric Moisture	Ch.5
	4/26	Atmospheric Moisture	Ch.5
Week 5	5/01	***Midterm Examination***	Ch.1-5
	5/03	Movie on Global Warming	
Week 6	5/08	Cloud Development & Forms	Ch.6
	5/10	Precipitation Processes	Ch.7
Week 7	5/15	Global Atmosphere/Ocean Circulations	Ch.8
	5/17	El Niño & Climate Variability	Ch.8
Week 8	5/22	Air Masses & Fronts	Ch.9
	5/24	Mid-Latitude Cyclones	Ch.10
Week 9	5/29	Mid-Latitude Cyclones	Ch.10

	5/31	Lighting, Thunder & Tornadoes	Ch.11
Week 10	6/05	Tropical Storms and Hurricane	Ch.12
	6/07	Climate Changes	Ch.16
Week 11	6/12	***Final Examination*** *(4pm)*	Ch.6-12+Ch.16

Textbook: "*Understanding Weather and Climate*", 3rd or 4th Ed., by Aguado, E., and J. E. Burt, Prentice Hall.

Grades: Homework (30%), midterm (30%), pop quizzes (10%) and Final Exam (30%).

Homework: Usually issued on Thursday and due on the following Thursday. There is a 20% penalty per day for late homeworks. Group answers are not acceptable. Homeworks will be returned by TAs in the discussion section.

It is student's responsibility to make sure that the TAs receive their homework. **Email answers are not acceptable.** If you turn in your homework after the lectures, you should email TAs to notify them where and when you drop the homeworks. You should also check the EEE grade book to make sure you received homeworks grades.

Optional Discussion Sessions: TAs will review course material and answer questions about the homework problems. They will also provide reviews for midterm and final examinations.

TA OFFICE HOURS (at Croul Hall Room# 3242A)

	Monday	Tuesday	Wednesday	Thursday	Friday
11:00-12:00				Sun	
1:00-200			Kai		
2:00-3:00	Pack				