Earth's Atmosphere (ESS55)

- Course Time

  Lectures: Tuesdays & Thursdays 11:00-12:20, PCB1300

  Discussions: Monday 11:00-11:50, RH184
- Text Book

  Meteorology: Understanding the Atmosphere, by S. A. Ackerman and J. A. Knox, Thomson Brooks/Cole, 2003.
- Grade

  Homework (30%), Midterm (30%), Final (30%), In-Class Participation (10%)
- Homework

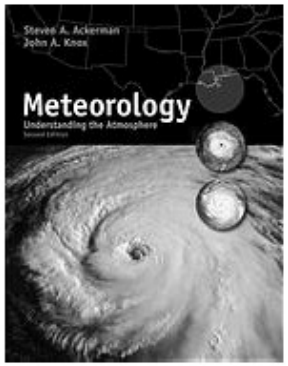
  No group answer; no email answers.

  a 20% penalty per day for late homework
- Discussion

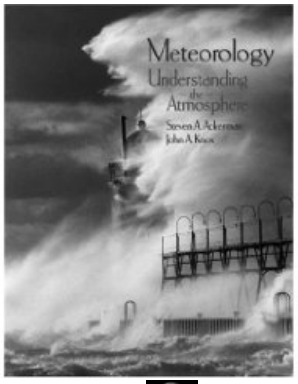
  Review course material; answer homework problems; reviews for midterm and final

Textbook

2007



2003



Office Hour

TEACHING ASSISTANT

Ms. Yi Wang
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Office Hour: 2-3pm Thursday or by appt.

INSTRUCTOR

Professor Jin-Yi Yu
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Office Hour: 2-3pm Tuesday or by appt.

Croul Hall / Earth System Science

Course Description

The course will cover some fundamentals of atmospheric science, such as the static atmosphere (including composition, hydrostatic balance and thermodynamics), the global energy balance, radiative transfer and climate, the hydrologic cycle, the general circulation and climate regimes.

Prerequisite: Mathematics 2B; Physics 3B or 7B.

Syllabus

WEEK	DATE	TOPICS	CHAPTER
Week 1	3/31 & 4/02	A Brief Survey of the Atmosphere	Ch.1
Week 2	4/07 & 4/09	Global Energy Balance	Ch.2
Week 3	4/14 & 4/16	Radiation Transfer in the Atmosphere	Ch.2-3
Week 4	4/21 & 4/23	Atmospheric Motion	Ch.6
Week 5	4/28 & 4/30	Atmospheric General Circulation	Ch.7
Week 6	5/05 & 5/07	Moist Processes in the Atmosphere	Ch.4
Week 7	5/13 & 5/14	Cloud Development & Precipitation Process	Ch.4
Week 8	5/19 & 5/21	Mid-Latitude Weather	Ch.9-11
Week 9	5/26 & 5/28	Tropical Hurricane	Ch.11
Week 10	6/02 & 6/04	Climate Variability and Change	Ch.14-15