

Earth System Science 55: EARTH'S ATMOSPHERE (Spring 2025)

(<http://www.ess.uci.edu/~yu/ess55.html>)

COURSE TIME

Lecture: Tuesday & Thursday, 11:00am-12:20pm, HH262

Discussion: Monday (1:00-1:50pm; 2:00-2:50pm; 3:00-3:50pm), RH184

INSTRUCTOR

Professor Jin-Yi Yu

CH3315, jyyu@uci.edu

Office Hour: 10-11am Wednesday or by appt.

TEACHING ASSISTANT

Ms. Lurui Niu

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Office Hour: 12-12:50pm Monday

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.

<u>WEEK</u>	<u>DATE</u>	<u>TOPICS</u>	<u>CHAPTER</u>
Week 1	4/01 & 4/03	A Brief Survey of the Atmosphere	Ch.1
Week 2	4/08 & 4/10	Global Energy Balance	Ch.2
Week 3	4/15 & 4/17	Radiation Transfer in the Atmosphere	Ch.2-3
Week 4	4/22 & 4/24	Atmospheric Motion	Ch.8-9
Week 5	4/29 & 5/01	Atmospheric General Circulation	Ch.10
Week 6	5/06 & 5/08	Moist Processes in the Atmosphere	Ch.4-5
Week 7	5/13 & 5/15	Cloud Development & Precipitation Process	Ch.6-7
Week 8	5/20 & 5/22	Mid-Latitude Weather	Ch.11-12
Week 9	5/27 & 5/29	Tropical Hurricane	Ch.16
Week 10	6/03 & 6/05	Climate Variability and Change	Ch.17-18

Textbook: "Meteorology Today", The 12th Edition, by C. Donald Ahrens, 2018.

Grades: Homework (30%), midterm (30%), Final Exam (30%), quizzes and in-class participation (10%). It is student's responsibility to make sure that the TA receives their homework.

Discussions: There is no grading for discussion attendance. During the discussion, the TA may hand out worksheets to help you better understand the course material. TA is also available to answer your questions and may go over the homework. There is no Discussion on Week 1.

Email answers are not acceptable. If you turn in your homework after the lectures, you should email TA to notify them where and when you drop the homework. You should also check the Canvas grade book to make sure you receive accurate homework and exam grades. There is no dispute of the grades one week after the grades are posted on the grade book.

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

Final Examination: Tuesday, Jun 10, 10:30ams-12:30pm