

ESE/Ge 148b

Winter 2007

Atmosphere/Ocean Circulation

Instructor: Andy Ingersoll (api@gps.caltech.edu, 150A South Mudd, ext. 6167)

T.A.: Xavier Levine (xavier@caltech.edu, 100B South Mudd, ext. 2190). Review session time and place to be determined. Same for class web site.

Textbook is Dennis. L. Hartmann's *Global Physical Climatology* (Academic Press, 1994). In addition, I will assign chapters from David G. Andrews' *Introduction to Atmospheric Physics* (Cambridge University Press, 2000).

Homework policy: You may talk with whomever you want, but you must write up the solutions by yourself.

Exams: I am considering 15-minute oral exams focusing on material in the book.

Attendance is important. Grading will be 30% MT, 30% final, 20% class participation, and 20% your lecture. Some material from the student lectures will be on the exam

Lectures will be a review of a paper in Science, Nature, or a more specialized journal, and will typically be 8 minutes long plus 2 minutes for questions.

Week of	Hwk due	Reading	Topics
Jan 7	----	1, 2, 3	Radiative transfer review
Jan 14	#1	4, App. C	Conduction, dry convection
Jan 21	#2	5, App. B	Latent heat, moist convection
Jan 28	#3	6	Atmospheric circulation
Feb 4	#4	7	Oceanic circulation
Feb 11	---	MT exam	Chemical tracers of the motion
Feb 18	#5	Andrews 4	Equations of motion
Feb 25	#6	Andrews 4	Coriolis force, geostrophic balance
Mar 3	#7	10	Numerical models
Mar 10-12	#8	---	Student lectures
Mar 17-19		---	Final exam