

AOS 425: GLOBAL CLIMATE PROCESSES FALL 2016
TENTATIVE LECTURE, ASSIGNMENT, AND READING SCHEDULE

DATE	LECTURE TOPIC	DUE DATES AND READINGS
9/7	Course Overview, Survey	
9/9	Global Energy Balance	M&P Ch. 1 & 2
9/12	Greenhouse Effect	
9/14	Lab Exercise: Earth's Radiation Budget	
9/16	Convection	M&P Ch. 3 and §4.1-4.3
9/19	Lab Exercise: Radiative-Convective Equilibrium	M&P §4.4-4.7
9/21	Clouds	
9/23	Global Energy Transport	M&P Ch. 5; PS#1 Due
9/26	Surface Energy Balance I (Radiation)	Hartmann Ch. 4 (handout)
9/28	Surface Energy Balance II (Turbulent Fluxes)	
9/30	Introduction to Atmospheric Circulations	M&P Ch. 8
10/3	Guest Lecture: M. Chandler EdGCM	Extended class to 12:15 pm for those able
10/5	EVA Tutorial	
10/7	Tropical Circulations	PS#2 Due
10/10	Midlatitude Circulations	
10/12	Rotating Tank Demo: Atmospheric Circulations	
10/14	The Ocean	M&P Ch. 9
10/17	Ocean Circulations (Ekman processes)	M&P Ch. 10
10/19	Rotating Tank Demo: Ekman	
10/21	Wind Driven Ocean Circulations	EdGCM Part I & Proposals Due
10/24	Deep Water Circulations and Heat Transport	M&P Ch. 11
10/26	Mid-term Review	
10/28	Mid-term Exam (Energy Balance/Atmospheric and Oceanic Circulations)	Mid-term Exam
10/31	The Carbon Cycle I	Sarmiento and Gruber (2002)
11/2	The Carbon Cycle II	
11/4	EdGCM Project Panel Discussion	Proposal Reviews Due
11/7	Lab Exercise: The Carbon Cycle	
11/9	Climate Feedbacks (Physical and Biogeochemical)	
11/11	Ice-Albedo Feedback	PS#3 Due
11/14	Cloud Feedbacks	
11/16	Lab Exercise: Energy Balance Climate Model	
11/18	Climate Variability (ENSO)	M&P Ch. 12
11/21	Paleoclimate (past climates on Earth)	Two Mile Time Machine
11/23	Paleoclimate (ice sheet dynamics)	PS#4 Due
11/25	No Class: Thanksgiving	
11/28	No Class: Professor Travel	
11/30	Rotating Tank Demo: Wind-driven Circulations	
12/2	EdGCM Project Q&A	
12/5	The Anthropocene	Climate of Man
12/7	IPCC/UNFCC Discussion	IPCC WG1 Summary
12/9	Final Review, Evaluations	PS#5 Due
12/12	EdGCM Project Presentations (AGU)	
12/14	EdGCM Project Presentations (AGU)	
12/16	EdGCM Project Presentations (AGU)	Modeling Reports Due by 5 pm
12/??	Final Exam (Cumulative)	Final Exam

* For guidance only. Lecture/lab schedules and due dates are subject to change.