

**ATM 240 – tentative course outline**

Fall Quarter – 2008

Updated: 26 September 2008

Date	Subjects	Reading (pages)	Homework
Sept. 25	Course admin, Principle balances, Deducing the general circulation	Reading: 1.1, 1.2, 1.3 (3-14) Also, Grotjahn (2007)	Assign #1
30	Imaginary circulations;	Reading: Also Grotjahn (2008)*	
Oct. 2	Radiation obs & simple theory Radiation slab model concepts	Reading: 2.2, 2.3.1, 2.5, 2.6, 3.1 (start) (16-25*, 28-38*, 39-45, 218-220)3.1 (finish) (46-57)	#1 Due, Assign #2
7	T fields, application of rad/conv model	Reading: 3.2, 6.1 (52-63, 221-227, skim rest of 6.1)	
9	finish T, U & $\Psi$ fields, ang moment. cons.	Reading: 3.3 (most of), (first part of 4.1) (63-72, skim: 228-230 & 91-92)	#2 Due Assign #3
14	Instructor out of town this day		
16	finish vel fields, P, Z, and cloud fields	Reading: 3.3 (end), 3.4, 6.2.3.2, start 3.5 (73-77, 241-244, 77-85)	
21	moisture fields, averaging, start momentum	Reading: end of 3.5, Appendix A, 4.1 (83, 86-89, 91-96, 388-390)	#3 Due Assign #4
23	maintenance against friction	Reading: 6.2.2 (233-238)	
28	maintaining momentum: a KE balance perspective	Reading: 4.2 (96-111, skim derivation)	#4 Due Assign #5
30	maintaining momentum (KE perspective) some implications	(supplements)	
Nov. 4	Available potential energy (intro)	Reading: 4.3.1, 4.3.2, skim 4.3.3 (111-115, skim: 116)	#5 Due Assign #6
6	Observed “global” APE; Limited area energetics (diabatic)	Reading: 4.5.1 Skim: 4.4 (120-121, 128-134, skim:116-119 122-127)	
11	Veterans Day holiday		
13	APE to KE conversion, start Eddy & zonal average energetics	Reading: 4.5.2, skim: 4.5.3-4.5.5, start 4.6 (135-145)	#6 Due Assign #7
18	finish Eddy & zonal average energetics, Summarize energetics	Reading: 4.6 (146-159)	
20	Start chapter 5, Nonzonal fields: radiation, T, V, P	Reading: 5.1, 5.2, 5.3, 6.2.3.1, 5.4 (skim: 161-181, 238-240)	
25	finish chapter 5 moisture, momentum & heat fluxes, Storm tracks, Asian Monsoon	Reading: 5.5, 5.6, 5.7, 5.8, skim: 5.10 (skim: 181-217; except skip §5.9)	#7 Due Assign #8
27	Thanksgiving Holiday		
Dec 2	meridional cells (Kuo-Eliassen Eqn)	Reading: 6.3.2, skim 6.3.1 (254-264; skim: 249-254)	
4	Eddy life cycles, reconciling jets & eddies	Reading: 7.3.2, 6.5 (349, 352-358, 269-281)	#8 Due
9	10:30-12:30 Tues	“official time”	

\* chapter 2 parts and much of Grotjahn (2008) are reading only — not in the formal lecture