

**Global Climate Change
GLY 6075- Spring 2015
Syllabus**

Date	General Topic	Readings
Jan. 7	Introduction and Logistics	
Jan. 9	The Climate System	R-Ch.1 (Ch 1) Discussion requests
Jan. 12	The Climate System	
Jan. 14	Earth's Energy Budget	R-Ch. 2 (online at www.whfreeman.com/ruddiman2e)
Jan. 16	Atmosphere and Ocean Circulation	R-Ch. 2 Hand out proposal info
Jan. 19	MLK Jr- no class	
Jan. 21	Ocean Circulation	Visbeck, 2007
Jan. 23	Ocean Circulation	Proposal topics due
Jan. 26	Climate models	R-Ch.3 (Ch.2) Hewitt et al., 2003
Jan. 28	<i>Discussion- Ocean conveyor and climate</i>	
Jan. 30	Carbon Cycle	R-Ch . 4 and pp. 110-119 of Ch 5) (Ch.3 and pp. 71-80 of Ch.4) Berner, 1999 ; Walker et al., 1981
Feb. 2	Carbon Cycle	Proxy choices
Feb. 4	Proxies ($\delta^{18}\text{O}$ and $\delta^{13}\text{C}$)	R- Appendices 1 and 2 (both eds.) Henderson, 2002
Feb. 6	Proxy presentation preparation	
Feb. 9	Proxy presentations (temp)	
Feb. 11	Long term paleoclimate overview	R- pp. 97-117 of Ch. 5 (pp. 64-7) Proposal outline and refs due
Feb. 13	Proxy presentations (circulation)	
Feb. 16	Proxy presentations (PCO ₂)	
Feb. 18	<i>Discussion- Snowball Earth</i>	
Feb. 20	The Greenhouse World- Cretaceous	R- Ch. 6 (Ch.5) Friedrich et al., '11
Feb. 23	MIDTERM	
Feb. 25	Cenozoic Climate History	R- Ch.7 (Ch.6) Zachos et al., '01
Feb. 27	Orbital theory	R- Ch.8 (Ch.7) Raymo and Huybers, 2008
Mar 2-6	BREAK WEEK	

Mar. 9	Paleogene Climate	Zachos et al., 200Feb.8
Mar. 11	Paleogene/Neogene Climate	Miller et al., 2009
Mar. 13	Discussion- PETM	
Mar. 16	Neogene Climate	Raymo and Ruddiman, 1992; Proposals due
Mar. 18	Neogene Climate	
Mar. 20	Pliocene Climate	
Mar. 23	Orbital Climate (Pleistocene)	R- Ch. 10 and 11 (Ch.9, 10) Proposal reviews due
Mar. 25	Discussion- Pliocene Warmth	
Mar. 27	Orbital Climate (Pleistocene)	R- Ch. 12 (Ch.11) Sigman and Boyle, 2000
Mar. 30	Deglacial/Abrupt Climate Change	R- Ch. 14 (Ch.13)
Apr. 1	Discussion- Orbital Variations	Proposals returned
Apr. 3	Abrupt Climate Change	R- Ch. 15 (Ch.14) Bohm et al. (2015) CO ₂ Assignment due
	<i>Summary-Review? Thurs, Apr 2</i>	
Apr. 6- Apr 10	Bahamas week- no class MW EXAM on Friday	R- Ch. 13 (Ch.12) the LGM
Apr. 13	Presentations	
Apr. 15	Discussion- Millennial Variability	
Apr. 17	Presentations	
Apr. 20	Presentations	
Apr. 22	Presentations	Revised proposals due

R- Ch. 1 = Ruddiman 3nd edition; (Ch 1) = 2nd edition

Online Energy chapter for Edition 2:

http://bcs.whfreeman.com/ruddiman2e/content/cat_010/EarthsClimate_Web_Chapter.pdf