

<u>Class #</u>	<u>Date</u>	<u>Topic</u>	<u>Required Reading</u>	<u>Recommended Supplemental Reading</u>
1	1/22	Introduction, syllabus, course overview	Ch. 1	
2	1/24	Origins: Elements, life and biogeochemical cycles	Ch. 2; Nisbit & Sleep (2001)	Gorham (1991); Falkowski (2006)
3	1/29	Review of key concepts: acids & bases, thermodynamics, redox & e-acceptors, balanced equations, etc.	Ch. 2; Andrews et al. (2004); Konhauser (2007)	
4	1/31	Abrupt climate change: Richard Alley interruptus (Focus on the Nation)	Alley et al. (2005)	IPCC (2007a)
5	2/5	Review of key concepts (cont.)	Ch. 2; Andrews et al. (2004)	
6	2/7	Lithosphere I: Minerals & weathering	Ch. 4 pp. 88-107; Wardle et al. (2004)	Walker & Syers (1976); Chadwick et al. (2001)
7	2/12	Lithosphere II: Soil and ecosystem development	Ch. 4 pp. 107-126; Amundson et al. (2003)	Richter & Markewitz (1995)
8	2/14	Terrestrial BGC: Plants	TOG Ch. 8.06	Ch. 6 pp. 166-188
9	2/19	Terrestrial BGC: NPP	Chapin et al (2006)	Rojstaczer et al. (2001); TOG Ch. 8.06
10	2/21	Terrestrial nutrient limitation (Class discussion)	Vitousek & Howarth (1991); Vitousek & Reiners (1975); Reich & Oleksyn (2004)	TOG Ch. 8.06
11	2/26	Terrestrial C losses: Decomposition	Couteaux et al. (1995)	TOG Ch. 8.07; Davidson & Janssens (2006)
12	2/28	Atmosphere I: Structure & climate		Ch. 3 pp. 47-87
13	3/4	Atmosphere II: Chemistry		Ch. 3 pp. 47-87
14	3/6	Ocean BGC: Structure and dynamics	Ch. 9 pp. 291-316	Broecker (1990) Ackerman (2001)
15	3/11	Ocean BGC: Nutrients & nutrient stoichiometry	Ch. 9 pp. 316-341; Arrigo (2005)	Jickels et al. (2005); Redfield (1958)

<u>Class #</u>	<u>Date</u>	<u>Topic</u>	<u>Required Reading</u>	<u>Recommended Supplemental Reading</u>
16	3/13	Midterm Exam		
17	3/18	Biogeochemistry of fresh waters: Rivers	Ch. 8 pp. 261-278	Vannote (1980)
18	3/20	Biogeochemistry of fresh waters: Lakes	Ch. 7	Lewis (1990)
19	3/25	Spring Break		
20	3/27	Spring Break		
21	4/1	Merging terrestrial and aquatic perspectives (Class discussion)	Reiners (1986); Elser et al. (2000) Townsend et al. (2007); Cleveland & Liptzin (2007); Elser et al. (2007)	
22	4/3	The global C cycle	TOG Ch. 8.09	Falkowski et al. (2000)
23	4/8	C cycle models	Cramer et al. (2001)	
24	4/10	The global C cycle: the role of forests (Class discussion)	Clark (2004); Johnson et al. (2000); Myneni et al. (2001); Carey et al. (2001)	
25	4/15	Global N and P cycles	Ch. 12; Vitousek et al. (1997)	Treseder & Vitousek (2001)
26	4/17	Modern perspectives on the global N cycle	TOG Ch. 8.12 (pp. 575-580); Aber et al. (1989)	Galloway et al. (2003); Townsend et al. (2004)
27	4/22	The "Keeling Curve" and global biogeochemical cycles (Class discussion)	Reich et al. (2006); Hungate et al. (2003); van Groenigen et al (2006) Carney et al. (2007);	IPCC (2007b)
28	4/24	Grad student presentations		
29	4/29	Grad student presentations		
30	5/1	Wrap up / review	Schlesinger (2004)	
31	5/6	Final Exam (10:10 - 12:10)		