Course Schedule:

		Lecture topic	Readings
W	Jan 15	Intro to Course	
F	Jan 17	(1) Scientific process	1_how_science_works
M	Jan 20	No Class	
W	Jan 22	(2) Overview: GE, Keeling curve , current and future climate	Chapt 1; 2_GE_overview; DP (10 - 15)
F	Jan 24	(3) Quantifying Global Change: plotting activity, powers of 10	Atoms, Sections 2.4 and 2.5
M	Jan 27	(4) Electromagnetic radiation and spectrum (forms of energy)	Chapter 3, 36 - 44
W	Jan 29	(5) Radiation Laws	
F	Jan 31	(6) Radiation Laws and Eco Footprint in-class activity	(IA) Ecological Footprint due
M	Feb 3	(7) Atmospheric Structure and heat transfer	Chapter 3, 44 - 48; Atoms 2.2, 2.3
W	Feb 5	(8) Atmospheric Structure and phase changes	Chapter 3 and Atoms RQ
F	Feb 7	**Test 1**	
M	Feb 10	(9) Physical Causes of Greenhouse Effect (greenhouse gases)	Chapter 3, 48 - 50
W	Feb 12	(10) Energy Budget (albedo, effect of clouds)	Chapter 3, 50 - 52
F	Feb 14	(11) Energy Budget (how is it changing?)	
M	Feb 17	(12) Systems and Feedbacks and Review of group activity	Chapter 2 (21 - 23) Chapter 3 (53-55)
W	Feb 19	(13) Ozone layer, part 1	3_Ozone; DP (30 - 31)
F	Feb 21	(14) Ozone hole science story	3_Ozone RQ
M	Feb 24	(15) Ozone hole policy	Chapter 4, 57 - 70
W	Feb 26	(16) Atmosphere: Global energy and Hadley Cell Circulation	
F	Feb 28	**Test 2**	
M	Mar 3	(17) Surface Winds, Polar front zone, Jet Stream	Chapter 4, 70 - 75
W	Mar 5	(18) Ocean circulation, surface currents, upwelling	Chapter 5, 84-87, 92 - 96; DP(60 - 61)
F	Mar 7	(19) El Nino and SW Climate	
M	Mar 10	Review Session	
W	Mar 12	**Midterm Exam**	Chapter 4 and 5 RQ
F	Mar 14	No Class	
		spring break	
M	Mar 24	Holocene climate history, proxy methods and results	To Be Announced . . .
W	Mar 26	Natural Climate Variability: orbital-scale forcings	
F	Mar 28	Tree-ring activity	
M	Mar 31	Natural Climate Variability: solar output, volcanic forcings	
W	Apr 2	Climate Change impacts: extreme weather and storms	
F	Apr 4	Tree-Ring Activity	(IA) Bristlecone pine due
M	Apr 7	Climate Change impacts: Drought and heat	
W	Apr 9	Climate Change impacts: Fire	Climate Change impacts RQ
F	Apr 11	**Test 3**	

M	Apr 14	Climate change impacts: sea level rise	
W	Apr 16	Climate change impacts: ocean circulation and chemistry	
F	Apr 18	Climate modeling	Sustainability Term Project due
M	Apr 21	Future climate predictions	
W	Apr 23	Mitigation	RQ modeling, prediction, mitigation
F	Apr 25	**Test 4**	
M	Apr 28	Mitigation	
W	Apr 30	Climate change skeptics/vulnerability	
F	May 2	Climate change debate	(IA) Climate change debate due
M	May 5	Review Session	
W	May 7	Review Session	
F	May 9	**Final Exam (1 - 3 pm)**	

yellow means in-class activity (10 pts)
green = RQ due on D2L (10 pts)
pink = individual assignment due (30 pts, term - 100 pts)

DP = Dire Predictions

Additional readings have numbers

Assignments and Grades:

Grading Scheme	Points	proportion
Reading Quizzes (5*10 pts)	50	5%
Individual assignments (3*30 pts)	90	9%
In-Class activity (8*10 pts)**	160	16%
Tests (4*50 pts)	200	20%
Mid-term	200	20%
Final	200	20%
Sustainability Term project	100	10%
Total	**1000**	