

Syllabus for Chem 151, Spring 2011

Date/Unit	Reading/Other assignment	Discussion	Presentations
Unit 1. Scope of the problem			
Tuesday 1/18		Course goals and mechanics	Mathematics of exponential growth
Thursday 1/20	Brown ch. 1	The challenge of sustainability	Mathematics of commodities
Tuesday 1/25	Brown ch. 2	Limits to land and water	Geology of aquifers
Thursday 1/27	Wackernagel; Fund for Peace	Indicators for sustainability	Intro to “the received view”
Unit 2. Philosophies of science			
Tuesday 2/1	Alberts; Hands I	The received view	Intro to “the attack”
Thursday 2/3	Hands II	Attack on the received view	
Tuesday 2/8	Hempel; Agin (Intro+ch.3)	Science and values	
Thursday 2/10	Review for exam 1		Intro to early environmentalism
Tuesday 2/15	Exam 1 (covering units 1 & 2)		
Unit 3. Philosophies of sustainability			
Thursday 2/17	Fuller; Steinberg	American transcendentalism	Portraits of Fuller, Emerson, & Thoreau
Tuesday 2/22	Edwards I; Brundtland	Sustainability and the UN	
Thursday 2/24	Edwards II; Peterson I	Sustainability in Tacoma	Brandt, Palme, and Brundtland
Tuesday 3/1	Peterson II	Guest speaker from City of Tac.	Introduction to climate modeling
Unit 4. Conventional approaches			
Thursday 3/3	Hansen (video)	Hansen’s predictions	Modeling global warming
Tuesday 3/8	Gordon	Geoengineering	Conservation of matter
Thursday 3/10	Brown ch. 5	Plan B’s energy economy	Applications of 1 st and 2 nd Laws
Week of 3/14	Spring Break		
Tuesday 3/22	Review for exam 2		Intro to writing a research paper
Thursday 3/24	Exam 2 (covering units 3 & 4)		
Week of 3/28	Individual research paper conferences (no class meetings)		

Unit 5. Emergent approaches			
Tuesday 4/5	Walker & Salt I	Resilience	
Thursday 4/7	Walker & Salt II	Resilience	
Tuesday 4/12	Walker & Salt III; Nheta	Resilience	
Thursday 4/14	Shirky I	Complexity	Mathematics of Power Laws
Tuesday 4/19	Shirky II	Complexity	
Unit 6. Where to go from here			
Thursday 4/21	Orr	Sustainability and education	
Tuesday 4/26	Edwards ch. 7; Davis	Future pathways	
Thursday 4/28		Student presentations	
Tuesday 5/3	Fleishman	Science priorities	