

Theme	Week	Session	Subject	Primary	Topic	Lab	Preparation	Assignments	Reading	Foundations (Science)	Application (Technology)	Historical	Societal	Learning Goals	Discussion
INTRO	1	A	Introduction	Eric	Intro	x				Program Goal Give students the preparation and confidence to understand the foundations and implications of any new technology. • Basic confidence to research and grasp the underlying principles of any given technology • Breadth to launch social, historical and scientific studies • Understand the relationship and interplay between history, society and technology				Understand the approach of the course - considering nanotechnology and sustainability from 4 perspectives history, science, technology and society	
		B		Eric	Intro	x								Define sustainability, technology, nanotechnology & nanoscience, distinguish between science & technology, understand fundamental science concepts	
		28-Jan		Lab	ECL/W	x	"Decide" Game	One page write-up having students research their persona from decide game discussing 3 different topics. To be used in mini debate-week 4							
INTRO	2	A	Introduction	Eric		x									
		B		Eric		x									
	4-Feb	Lab		ECL/W	x	Nano Gold	Handout "Are you an energy Hog" worksheet Due 2/11/10							Acquaint students with nanotechnology lab and procedure. Synthesis of particles on a nanoscale.	
Green Bldg	3	A	Green Bldg	Eric		x				What factors make a building 'green'? What problems are we trying to solve?	Why do materials matter?	How has building construction shifted and why (architecture, technology, availability of	How can individuals make an impact on and in green buildings?	What is a green building? [science, society], How did buildings become un-green? Why do we have 'green' designation? [history]	
		B		Eric		x				In what ways can science/nanotechnology improve the way we construct buildings to create a more sustainable	What impact will green building technology have on infrastructure?	What are technological and nontechnological approaches to green building? [tech]			
	11-Feb	Lab		ECL/W	x	Energy Audit/Ecological Footprint-Guided Discussion/Mini Debate	Give Ecological Footprint Assignment-One page write up due at the beginning of next lab. Prepare students for mini debate.	"Are you an energy hog" Worksheet Due			Identify sources of energy usage on SBCC campus. Understanding energy units and the conversion of energy from crude sources to usable sources. Understanding the costs of this type of energy. [sci, soc]				
Green Bldg	4	A	Green Bldg	Eric		x								For 1-2 nanotechnologies, be able to explain the sci fundamentals behind how they work [sci, tech]	
		B		Eric		x									What are the economic ramifications of green buildings? [soc], Understand your personal ecological footprint wrt green buildings [sci, soc]
	18-Feb	Lab		ECL/W	x	HOLIDAY								Understand policy issues associated with incorporating nanotechnology in society. Identify alternative view points surrounding issues of nanotech. [soc]	
LED	5	A	LED	Eric		x				What's the fundamental science behind light bulbs and solid state lighting?	How is solid state lighting and nanotechnology changing societies around the globe?	How have we gone from candles to LEDs, and why?	What drives the change to new lighting technologies	Understand the history of lighting and the progress that has been made in its development and the impact it has had on society. [hist, soc]	
		B		Eric		x					Explain the science behind different lighting technologies - different light bulbs, LEDs [sci, tech]				
	25-Feb	Lab		ECL/W		Exploring Light Emitting Diodes				Exploring the relationship between LED color and current, voltage and power associated with it. [sci]					
LED	A	LED	Eric		x									Make the connection between nanotechnology and modern lighting. [tech]	
	B		Eric		x									Understand both the advantages and disadvantages of different lighting technologies and the forces that drive the need for change. [all 4]	



Water	12	B	Water	Eric		x									
	22-Apr	Lab		ECLW		Policy Forum Role Play									Investigate the impurities in different water samples from local sources. [sci]
Food	13	A	Food	Eric		x				<p>What is the science behind genetically modified foods.</p> <p>How is nanotechnology being incorporated into the food industry?</p> <p>What is the brief history of food packaging and problems/solutions associated with the evolution of nanotech in food?</p> <p>What are the environmental impacts and health risks associated with nanotech in food? Are current policy and regulation of nanotech in food sufficient or are we playing catch up?</p> <p>Examples (environmental estrogen, bisphenol, etc.)</p> <p>What is the precautionary principle and the public backlash?</p>	Understand the two main uses of nanotech in the food industry (physiological and industrial nanotech). [tech]				
		B		Eric		x									
	29-Apr	Lab		ECLW		UCSB Field Trip: Lab Tour							Understand the methods and principles that are used for controlling microbial contamination and for preventing subsequent growth of undesirable microorganisms in raw and processed foods. [sci, tech]		
Food	14	A	Food	Eric		x									
		B		Eric		x									
	6-May	Lab		ECLW		Liquid Nitrogen Nano Ice Cream Lab/discussion					Understand the benefits/risks of using nanotechnology in food-based products. [soc] Have fun...end of class YEAH!				
CONC	15				Wrap Up / Closure	x									
	13-May	Lab				Final Debate									
		Debate				x									
<b>Theme</b>	<b>Week</b>	<b>Session</b>	<b>Subject</b>	<b>Primary</b>	<b>Topic</b>	<b>Lab</b>		<b>Pre Class Activity</b>	<b>Reading</b>	<b>Foundations</b>	<b>Application</b>	<b>Historical</b>	<b>Societal</b>	<b>Learning Goals</b>	<b>Discussion</b>