

BILD87 (Freshman Seminar) Earth's Fragile Biosphere

(1 unit/2 hrs per week)

Thursday, 1:00 PM-1:50 PM; Room 3880 AP&M Building

Description: The human population has caused documented global warming, polluted the environment, and caused extensive species extinction. We face an environmental crisis of unprecedented magnitude. This seminar class will focus on these issues in the context of our complex human society.

Contact information:

Prof. Milton Saier

Department of Molecular Biology

School of Biological Sciences

Office: Room 4254 Muir Biology Bldg.

John Muir College, UCSD

Phone: 858-534-4084

E-mail: msaier@ucsd.edu

Times available: afternoons

Office hours: Immediately following class, or by appointment

Potential topics to be discussed

- | | |
|------------------------------|---|
| (1) The Human Population | (17) Assisted Suicide |
| (2) Global Warming | (18) Microbes and regeneration |
| (3) The Ozone Layer | (19) Renewable Energy |
| (4) Our Oceans and Forests | (20) Nutrition-McDonald's Society |
| (5) Species Extinction | (21) The Frozen Zoo |
| (6) Why Eat Vegetarian? | (22) Population Dynamics |
| (7) Social Consciousness | (23) Env. History |
| (8) World Ethics | (24) Sustainability |
| (9) Governmental Policies | (25) Pollution to air, water, earth, etc. |
| (10) Water We doing? | (26) The human animal |
| (11) Agribusiness | (27) Abortion |
| (12) Marine life and death | (28) Contraception |
| (13) Organic Farming | (29) Rapid Transit |
| (14) War and the environment | (30) Coral Reefs |
| (15) Rainforest destruction | (31) The Meat Industry |
| (16) Bees-decline | |

Grading policy

- There will be no exams or quizzes. Active participation is **STRONGLY** encouraged.
 - Grading will be based on attendance and participation as follows:
- (1) Each student will write a "letter to the editor" or a letter to a politician (≤ 200 words) about some environmental/social issue of interest and importance to you, read it to the class, and submit it to Dr. Saier (by E-mail or hardcopy with your name) as well as to one or more newspaper(s) for publication or to one or more politicians.

- (2) Each student will present a short talk (~10 mins) (with slides if preferred) on an environmental issue of the student's choosing. You can do this with another student or alone, depending on your preference. The range of topics is almost unlimited, but over 30 such topics are listed above.
- (3) All students who are eligible to vote in the U.S. should have registered to vote. It is the responsibility of every citizen in a democratic country to become informed and vote. Only then can we hope to inspire the maintenance of a democratic way of life.

Potential Class Outline (topics to be included)

1. The Population Bomb and the Solution
2. The Human Animal: Population Dynamics
3. Our Oil Addiction and Climate Change
4. Our Protective Stratospheric Ozone Layer
5. Why Vegetarian: The Harms of Eating Meat
6. Living in a McDonald's Society and its consequences
7. Water We Doing? Environmental Consequences
8. The Rape of our Forests and Oceans
9. Species Extinction and Conservation Efforts
10. Social Consciousness and World Ethics

Climate change permeates everything

Political Scientists	Ethicists	Economists
climate migration and poverty	rising inequality	impact of extreme weather events on national economies
risk assessments	individual responsibility vs debt owed to future generations	how climate will transform professional fields: <ul style="list-style-type: none"> • law • architecture • teaching • medicine • technology
sustainable sourcing and energy efficiency	protecting biodiversity	environmental sustainability
population displacement	<ul style="list-style-type: none"> – pandemic lesson: we are implicated in a shared world – who dies early and why 	<ul style="list-style-type: none"> – population as a resource for economic development – green chemistry: systems thinking for sustainability
<ul style="list-style-type: none"> – driver of urbanization – rural migrants transition to urban livelihoods 	<ul style="list-style-type: none"> – corporate responsibility – privatization and colonization 	<ul style="list-style-type: none"> – corporate profits – material degradation – life cycle analysis – carbon analysis

Political Scientists	Ethicists	Economists
production of harmful products (fossil fuels)	<ul style="list-style-type: none"> – unintended consequences of industrial activity – human and biosphere health 	<ul style="list-style-type: none"> – impact on agriculture – hazardous waste releases
climate change causing a decline in GDP	corporations ethical filth: <ul style="list-style-type: none"> • Philip Morris (destroyed research) • ExxonMobil (funded climate deniers) 	<ul style="list-style-type: none"> – Connection between climate change and GDP – green jobs
<ul style="list-style-type: none"> – surge in poverty and migration – reduced productivity – spike in crime 	leadership in climate movement	climate change: multiple causes of economic decline vs opportunities for novelty and rejuvenation

Suggested California newspapers for submission (with e-mail addresses):

UCSD Guardian	opinion@ucsdguardian.org [Must identify as UCSD student]
Coast News	editor@coastnewsgroup.com, jordan@coastnewsgroup.com
San Diego Union-Tribune	letters@uniontrib.com
Los Angeles Times	letters@latimes.com
San Francisco Chronicle	opinion@sfchronicle.com

Note: Submissions must include full name, status (e.g., freshman student at UCSD), full address, telephone number and e-mail address. They may contact you to verify your identity. Any other newspapers that you may prefer are equally acceptable. It's exciting to see your own thoughts and efforts in print; you just need to overcome the activation energy required to do it. I'm merely trying to help you with this by providing additional incentive.

Suggested California politicians to contact:

Senator Toni G. Atkins
 Senator Dianne Feinstein
 Senator Alex Padilla
 Etc., etc., depending on your district

The link is <https://www.senate.gov/senators/senators-contact.htm>. If you select your state, you get a list of your specific elected senators. You can find an elected officials in the link <https://www.usa.gov/elected-officials>. These websites will let you type in a message to the officials you select. Unfortunately, there is no obvious way to send to a bunch of officials all at once, but that may be okay because it has been noted that politicians often ignore emails that were sent to a bunch of people all at once. If the email is addressed just to them they are more likely to read it. Also, if the email greets them by name (i.e., Dear Senator Atkins), they are more likely to read it.

Members of the class are also encouraged to join environmentally concerned student or community groups on and/or off campus. Participation in outreach programs, Earth Days, helping environmental

teachers in high schools, and demonstrations/protests can be useful for bringing the important issues to the attention of the general public and other students. Do your part!

The web address for BILD 87 is <https://bild18.wordpress.com/bild87/>