

BILD87 (Freshman Seminar) Philosophy of Science

(1 unit/2 hrs per week)

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

Description: This seminar class will discuss the basics for the scientific method, and follow some of the most significant discoveries. It will also evaluate the scientific basics for beliefs in supernatural entities. Rationalism and Humanism will be considered in relationship to religious belief systems.

Contact information:

Prof. Milton Saier

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Times available: afternoons and early evenings

Office hours: Immediately following class, or by appointment

Topics to be discussed:

Outline 1:

- (1) Introduction and Overview
- (2) Rationalism and Humanism
- (3) The Creation Story in the Bible and its Sumerian, Babylonian, and Egyptian antecedents. This will introduce myths as a human tradition to explain the unknown.
- (4) The Ptolemaic Universe with the Earth at the Center and the Sun, Planets and Stars Revolving around it Early attempt at a model based on observations.
- (5) Aquinas' proof of the existence of God, how to explain the supernatural.
- (6) Copernicus and Galileo and the Heliocentric Solar System. The reaction to the Inquisition. Faith vs. Observation and Reason.
- (7) Kepler's analysis of the data of Tycho Brahe. The Introduction of the idea of elliptical orbits of planets to explain the data better than Ptolemy did.
- (8) Darwin and Evolution. A non-biblical explanation of the origin of species, including humans.
- (9) Koch's Postulates for infectious diseases. Microbiology. Microscopes and culture methodology. Disease is due to bugs not devils. Jenner and vaccines to prevent diseases.
- (10) Mental Illness: possession by demons or cellular malfunction?
- (11) Definition of the scientific method and definition of faith. The current state of antiscientific emotion in the faith community and growing atheism in the scientific community.

Outline 2:

- (1) The Scientific Method (The Empirical Approach)
- (2) The Natural World: From Atoms to Universe
- (3) Darwin, Evolution and The Third Law of Biology
- (4) The Psychological Basis for a Belief in the Hereafter
- (5) World Mythology: Themes and Variations

- (6) The Dark Bible and Its Implications
- (7) The Biological Basis for Belief Systems
- (8) Richard Dawkins and “The God Delusion”
- (9) Science: the record of dead religions (Oscar Wilde)
- (10) Rationalism

Grading Policy:

- There will be no exams or quizzes. Active participation is STRONGLY encouraged.
- Grading will be based on attendance and participation, additionally:
 - (1) Each student will write a letter to the newspaper(s) or politician(s) (less than 200 words) about some issue of interest and importance to her/him, read it to the class, and submit it signed to Dr. Saier as well as to one or more newspaper(s) for publication.
 - (2) Each student will present a short talk (~10 mins, with slides if preferred) on an 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.

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

UCSD Guardian	editor@ucsdguardian.org	[Must specify as UCSD student]
Coast News	editor@coastnewsgroup.com	
San Diego Union-Tribune	letters@uniontrib.com	
Los Angeles Times	letters@latimes.com	
San Francisco Chronicle	opinion@sfnchronicle.com	
San Jose Mercury	dborenstein@bayareanewsgroup.com	
Sacramento Bee	http://www.sacbee.com/customer-service/contact-us/	[Use this form to contact the Newspaper]
Orange County Register	letters@ocregister.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 Kamala Harris
 Senator Dianne Feinstein
 Etc., etc., depending on your district

The link is <http://capwiz.com/mygov/home/>. If you enter your zip code, you get a list of your specific elected officials. You can select an official, and then the website will let you type in a message to them. 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 Harris), 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 (through HERO), and demonstrations/protests can be useful for bringing the important issues to the attention of the general public and other students. Do your part!