

Science, Society & Self

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How our scientific beliefs form our self and our world

— A 3 day workshop or a full semester course —

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Course Description

This course is designed for:

- science literacy since globalization has brought about a demand for social awareness,
- the humanist who needs to relate hard science to the social sciences of Literature, History, and Psychology,
- the artist and poet in all of us.

What does science have to do with society?

From 1970 to 2004 the U.S. had a 30% increase in writers where 240 universities have established creative writing MFA programs, up from fewer than twenty. Recently, Harvard admitted 10% of their MBA applicants, while UCLA admitted 3% MFA applicants. MFAs are the new, hot MBAs. More than 50 U.S. medical schools include spirituality, moving away from old school, analytical, and information-based work and toward empathy, narrative medicine, and holistic care. While financial groups such as Lehman Brothers, Bear Stearns, Morgan Stanley, and JPMorgan Chase are contracting to Indian MBAs, left brain dominated portions of science are being balanced with a right brain emphasis. Clearly, society is calling out for a more creative, intuitive individual to lead us – and science, therefore has a changing role.

How do scientific beliefs form our world?

When our society believes a scientific idea we invent ways to sustain that idea. Society wants sustainable processes that can continue without doing harm. Therefore at this critical moment in history, as the human species embarks on globalization, it is valuable to study what we have historically allowed to be sustained by our scientific beliefs, and decide on possibilities for the future.

The need for an integrated approach.

Science can support society with a balanced approach to our stewardship of Earth. It can help us to create processes that will continue without hurting nature. But if we are to successfully to achieve science literacy that includes sustainability, our lessons must

reach across the curriculum – and they must be deeply experiential. We must show examples that integrate biology with physics, chemistry, earth science, astronomy, sociology, history, literature, and even psychology.

The need for science literacy to come from actual experience.

Through numerous ‘hands-on’ scientific demonstrations, this course will examine the process by which science has shaped the meaning of the place of humans in nature. The main objective is for students to come away with an ability to distinguish between processes that are sustainable and ones that must eventually cause a problem. Emphasis is placed on experiential learning; students will actually simulate important historical scientific experiments before discussing philosophical implications of them. The chronology spans ancient teachings (~5,000 B.C.) to Quantum Physics, with grounding references to the evolution of consciousness in pre-recorded history. In order to gain an integrated view of major changes in human consciousness, readings will include the works of the great scientists and thinkers that are sometimes considered to be outside the realm of science. These include: Homer, Shakespeare, DesCartes, Jefferson, Emerson, Tolstoy, Goethe, and Melville. Topics include Quantum Physics, Einstein’s Relativity, Faraday’s Field, Darwin’s Evolution, Newton’s Bucket, Galileo’s Pendulum, and a comparison of the modern, Copernican, Ptolemaic, and Aristotelian views of the world. Attention is given to relationships across science and sociology. In particular, students will note significant areas where psychology, medicine, literature, biology, chemistry, and physics interrelate when they pertain to the human being.

Conceptual Overview

This course is a tour of the sustainability of various scientific processes in the recorded period of the history of humankind. Careful projections will be made as to the activities from the time periods before recorded history and into the future. We will interweave three distinct strands simultaneously by: tracing sociological implications of innovations and inventions to their origins, highlighting scientist biographies, and simulating key original experiments.

Course Objectives

The goals of this course are:

- to recognize sustainability in all of its forms;
- to introduce scientists through biography & ‘hands-on’ scientific demonstrations;
- to experience the actual phenomena by performing simulations of key historical experiments, discussing the reaction and proaction of society to them.

Guiding Questions

You will be asked to critically think through some of the big questions of our time.

- When is a process sustainable?
- How does sustainability apply to: science, psychology, sociology, philosophy, and anthropology.
- How has the question, “What is matter made of?”, evolved throughout history.
- How is one life like the life of collective humanity?
- Does humankind have a group consciousness similar to creatures like the bees?
- Why do great discoveries get lost and forgotten?
- Is there synchronicity in scientific discoveries?
- If innovation is accelerating, is there a speed limit?
- When did humankind stop living in a sustainable way – and why?
- What controls biology – chemicals or intention?
- What has a greater impact on nature's cycles – physical reality or beliefs?