

# Science and Society

Science Education 370

Scott Linneman, ES 340, 650-7207, [Scott.Linneman@wwu.edu](mailto:Scott.Linneman@wwu.edu)

Office hours: 11 AM MWF; other times by appointment or ambush

Course webpage on Blackboard (check frequently for announcements)

## **Texts:**

**Just a Theory – Exploring the Nature of Science**, Moti Ben-Ari

---

As the human population of Earth inexorably grows and as human activities have more and more profound effects on the environment, science becomes an essential tool for understanding human impacts. Yet, as the importance of using scientific tools increases, the public, if anything, is becoming less sophisticated, often rejecting outright, conclusions based on good science and, at the same time, embracing pseudo-scientific claims which have little or no basis in fact.

In this course we will explore three broad areas. *First*, we will look at basic models for how scientific knowledge is generated and gains reliability. *Second*, we will explore how science is used to understand a variety of issues having significant global importance. A few possibilities are: proliferation of nuclear weapons, the possibility of global climate change, energy resources, the AIDS crisis, deforestation, large-scale extinction of species, availability of potable water, depletion of the ozone layer, energy usage and the population crisis. *Third* we will compare and contrast science and pseudo-science.

---

This course will rely heavily on your participation. Class meetings will generally revolve around discussions of assigned readings and of your research. You will be expected to come to each session with a passage for discussion selected from that day's reading. During the quarter you become something of an expert on the two topics on which you will research, prepare posters or write papers, and make a presentation to the class. In conjunction with each paper you will provide a one page summary and an annotated bibliography including internet resources. These will be posted on the class Blackboard site.

**You are required to subscribe to a listserv: Science in the News from Sigma Xi. Links are provided on the class Blackboard site (see External Links section).**

## **Participation**

---

**You must come to class prepared to actively engage in the discussion.**

- Throughout the quarter I want you to be on the lookout for information in the media about topics related to science and society and pseudo-science. At the beginning of classes during the first part of the quarter we will spend a few minutes sharing news items.
- I will note your participation in discussions of the assigned readings.
- Our discussion of some of the readings will be guided by small groups of students and I will note your contribution here.

- Part of your final grade will be based on my assessment of the degree to which you have extended yourself **and taken charge of your own learning**.
- At the end of the quarter I will ask you to submit to me a self-evaluation of your participation. I will use this in deciding on your participation grade.

## Grading

---

Part I	Causal Link Assignment (pairs)	10%
	Online CL Discussions	5%
Part II	Big Issue Assignment Paper (groups of ~5)	30%
	Issue Presentation	5%
Part III	Pseudo-science Wikipedia Assignment (pairs)	20%
	Pseudo-science Presentation	10%
Overall	Participation (including self-assessment)	20%

## SCED 370 Class Schedule (Subject to Change)

<b>Date</b>	<b>Activity</b>	<b>Reading or Writing due</b>
Wed 23 Sep	Course Introduction; Construct Big Issues List	<b>Complete</b> student info survey (on BB)
Fri 25 Sep	<b>SL@NSF (no class)</b>	<b>Take</b> the online Pew Quiz on Science Literacy (linked on BB); write short response; <b>Read</b> Ben-Ari Chap 1
Mon 28 Sep	Bauer's Filter Model for Science Intersections of Science and Society	<b>Read</b> Bauer article (linked on BB); <b>Discuss in class.</b>
Wed 30 Sep	Causal Links background	
Fri 2 Oct	Causal Links examples	CL homework exercises due
Mon 5 Oct	Words Scientists Use Differently	<b>Read</b> Ben-Ari Chap 2,3 Topic due for CL project (pairs)
Wed 7 Oct	Ways of Thinking and Learning about Particular Fields of Science	<b>Read</b> Kastens article (posted on BB); <b>Read</b> Ben-Ari Chap 12
Fri 9 Oct	Progress reports on CL projects; Discuss Issues Assignment / Collaboration	Choose issues topics
Mon 12 Oct		
Wed 14 Oct		
Fri 16 Oct	<b>SL@GSA</b> ; peer review of CL posters	Bring draft of poster
Mon 19 Oct	Gallery walk of CL posters	CL 'poster' due
Wed 21 Oct	<b>SL@GSA</b> ; work on Issues Assignment	
Fri 23 Oct	Discussion of Essay by: TBA	
Mon 26 Oct	Updates on Issues Papers	
Wed 28 Oct	Discussion of Essays by: TBA	
Fri 30 Oct	Work on Issues Paper	
Mon 2 Nov	Discussion of Essays by: TBA	Issues paper due
Wed 4 Nov	Class presentations on Issue 1:	
Fri 6 Nov	& discussion on Issue 1:	
Mon 9 Nov	Class presentations on Issue 2:	
Wed 11 Nov	Veterans Day – <b>No Class</b>	Topic due for Pseudo-science paper
Fri 13 Nov	& discussion on Issue 2:	Issues paper due <b>again</b>
Mon 16 Nov	Class presentations on Issue 3:	
Wed 18 Nov	& discussion on Issue 3:	
Fri 20 Nov	Class presentations on Issue 4:	
Mon 23 Nov	& discussion on Issue 4:	
Wed 25 Nov	Presentations on Pseudo-science	Pseudo-science papers due
Fri 27 Nov	Thanksgiving Recovery – <b>No Class</b>	
Mon 30 Nov	Presentations on Pseudo-science	
Wed 2 Dec	Presentations on Pseudo-science	
Fri 4 Dec	Presentations on Pseudo-science	(WP) Pseudo-sci papers due <b>again</b>
Wed 13 Dec 3:30-5:30	Presentations on Pseudo-science	Self-assessment essays due