

**Science, Gender, and Social Context**  
**SCI 347 & WS 347**  
**Winter 2009**

**Instructors:** Johanna Brenner (5-3517, brennerj@pdx.edu) CH 217P  
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Graduate Teaching Assistant:

**Course Reading**

**Course Reader:** readings from the reader are marked with an (R). This reader is available for purchase from *In Other Words: Women's Books & Resources*. See page 5 of the syllabus for instructions.

**Articles on electronic reserve:** readings on electronic reserve are marked with an (E). See page 4 of the syllabus for instructions for accessing electronic reserve articles.

**Articles on the web:** web address provided

**Book:** Dangerous Intersections: Feminist Perspectives on Population, Environment, and Development, eds. Jael Silliman and Ynestra King (South End Press, 1999) This book is on reserve at the PSU library; readings from this book are marked with a (D)

**WARNING:**

**You Are About to Enter the Multidisciplinary World of Feminist Science Studies**

This course will explore how gender shapes scientific practice and public policy by considering the issue of global climate change. The goals of this course are:

- 1) to impart some basic knowledge about the physical processes that underlie atmospheric change. This course is constructed for non-science majors. Our hope is that taking the course will increase your confidence in seeking knowledge about the natural world.
- 2) to introduce students to the new field of feminist science studies, including feminist analysis of science as a knowledge-producing practice. We hope that after considering this approach, students will have better tools for asking critical questions about scientific research, funding of science, science education, and the uses of scientific knowledge.
- 3) to introduce students to feminist perspectives on the causes of and solutions to the problem of global warming. We hope that engaging in the public policy debate, students will be better prepared to think about the complex environmental policy issues which we all face as citizens.

First, we will read about women in science. Here, the emphasis is on understanding how gender affects women's experiences in relation to science and why women are so under-represented in some fields. Then we explore how science is done and discuss what a feminist science might look like. Next, we embark on a laboratory project where we will engage in scientific exploration and at the same time reflect on how gender might affect our practice of science inquiry. The laboratory project will also lay a foundation for the next step, which is to explore more completely the dynamics underlying global warming. Once students understand the causes of global warming--and particularly the role that carbon emissions play in the process--we will be ready to turn to the environmental policy issues. There are many possible strategies for reducing carbon emissions. For over three decades, a basic framework for understanding these strategies is a model called I=PAT. Some feminists have developed a critique of this framework and called for a fundamentally different approach. In the last section of the class we will explore this debate.

**ASSIGNMENTS**

- ◆ **Reading Reflection.** This paper is to be written on the assigned reading. The goal of this assignment is to find a theme or themes across different readings and to discuss those themes. Your reflection must include AT LEAST TWO of the readings. You should identify important arguments and analyze their logical structure as well as the strength of the evidence brought forward to support them. The paper must be typed and double-spaced. It should be two pages long. Reflection papers will be worth three points. One point for writing the paper, two points for turning it on time, three points for a paper that shows thought, explores the issue in some depth, and acknowledges the complexity of the issue.
- ◆ **Gender and Science Take-Home Essay Exam:** This will be based in the assigned course reading. The essay must be typed, double-spaced, four-five pages (1,250-1,500 words approximately). Essay questions will be distributed on Tuesday, January 20. The essay is due at the beginning of class on January 29.
- ◆ **Laboratory Experiment:** Working in a research team, students will study the properties of a solar cooker of their own design. Each group will prepare a presentation that documents how a specific design feature affects the performance of the solar cooker. Each student will write a paper in scientific format that presents the results of the group experiment. Experimentation, data collection and oral presentation will be done as a group. Papers will be written individually.
- ◆ **Final Exam:** A take home essay exam covering Parts III (Global Climate Change) and IV (Global Warming: Feminist Perspectives on the Policy Debate) of the course. The exam is due by 12 noon in the Women's Studies office (NH 469)

GRADING\*\*

Reading Reflection (3)	(i)	15%
Gender & Science Essay	(i)	15%
Solar Cooker Project		
Presentation	(g)	15%
Paper	(i)	15%
Final Exam	(i)	25%
Attendance/Participation*		15%

(i)- individual assignment, (g)-group assignment

**Assignments are due at the beginning of class. Late assignments lose 3% of credit each day they are late. (Example: 3 days late= 9% off).**

\*Consistent participation in class, including completion of all assigned activities and work products, will be taken into consideration in the final grade.

\*\* Students taking the class P/NP must satisfactorily complete all assignments in order to receive a passing grade.

## Schedule

- January 6:       **Introduction**
- January 8:       Reading: "Introduction: Science and Feminism" (**R**);  
Handout: "Science: a white, male profession"
- Movie: "Rachel Carson's Silent Spring"

## I. Women in Science

- January 13       “Women in Engineering: A Review of the Literature 2005, Lisa Frehill *et al*  
([http://www.swe.org/stellent/groups/website/@magazine/documents/webdoc/swe\\_004121.pdf](http://www.swe.org/stellent/groups/website/@magazine/documents/webdoc/swe_004121.pdf))  
“The Loss of Women from Science, Mathematics and Engineering Undergraduate  
Majors: An Explanatory Account,” Elaine Seymour (**E**)
- January 15       Reading: Mixed Messages: Men and Women in Advertisements in *Science*” Mary  
Barbercheck (**R**); "Never Meant to Survive, A Black Woman's Journey: An Interview  
with Evelyn Hammonds," Aimee Sands (**R**); "Snow Brown and the Seven Detergents,"  
Banu Subramaniam (**R**)
- Reading reflection #1 due**
- Movie: "Asking Different Questions"

## II. Gender and Scientific Practice

- January 20       Reading: "Constructing Gender, Constructing Science," (**R**); "Science, Facts, and  
Feminism," Ruth Hubbard (**R**)
- January 22       Reading: "Can There Be a Feminist Science?" Helen E. Longino (**R**); "Is Primatology a  
Feminist Science?" Linda Marie Fedigan (**R**).
- Reading reflection #2 due**
- January 27       Begin Solar Cooker Project
- Gender & Science Essay Due**
- January 29       Solar Cooker
- February 3       Solar Cooker
- February 5       Solar Cooker
- February 10      Solar Cooker
- February 12      **Solar Cooker Presentations**

February 17      Finish Solar Cooker Lab work  
**Solar Cooker Papers Due**

February 19      Solar Cooker Scientific Practice

### **III. Global Climate Change**

February 24      <http://www.exploratorium.edu/climate/primer/index.html>  
<http://www.grida.no/climate/vital/>

February 26      Climate Change Lecture

March 3          Climate Change Impact and Policy  
"Taking Population Out of the Equation," pp. 39-55 (D)

### **IV. Strategies to Address Global Warming--Feminist Perspectives and the Policy Debate**

March 5          Patricia Hynes: "Consumption: North American Perspectives," pp. 189-201(D)  
**Reading Reflection #3 due**

March 10        Reading: WHAT IT WILL TAKE, By: Ehrlich, Paul R., Ehrlich, Anne H., Mother Jones,  
Sep/Oct95, Vol. 20, Issue 5 (E)  
"Taking Population Out of the Equation," pp. 55-73 (D)

March 12        Take Home Final Exam given out

March 18        **Take Home Final -- DUE by noon in WS office (NH 469)**

#### **DIRECTIONS TO E-RESERVE ARTICLES:**

Go to the PSU Library Home Page ([www.lib.pdx.edu](http://www.lib.pdx.edu))

Select Find Course Reserves

In the dialogue box type 347 and click on Search

Click on SCI/WS 347

Click on view

Click on Reading Folder

If you are asked for a password, the password is brenner

Click on View

You should now see a list of the readings on electronic course reserve

## SUPPORT YOUR LOCAL FEMINIST BOOKSTORE: BUY YOUR BOOKS FROM IN OTHER WORDS

### ABOUT US

IN OTHER WORDS WOMEN'S BOOKS & RESOURCES IS THE LAST SURVIVING NON-PROFIT FEMINIST BOOKSTORE IN THE UNITED STATES. FOR THE LAST 15 YEARS WE HAVE OFFERED A COMPREHENSIVE AND DIVERSE COLLECTION OF BOOKS, MAGAZINES, AND ZINES WITH A WIDE VARIETY OF SUBJECTS, INCLUDING: FEMINIST & QUEER STUDIES, EROTICA, SEX & SEXUALITY, TRANS STUDIES, SPIRITUALITY, HERBS, AND NON-SEXIST CHILDREN'S BOOKS, TO NAME A FEW. IN OTHER WORDS IS MORE THAN A BOOKSTORE AND HAS RECENTLY BECOME A HUB OF ACTIVITY—HOSTING A WIDE RANGE OF COMMUNITY EVENTS, MEETINGS AND WORKSHOPS THAT INCLUDE AUTHOR READINGS, SPANISH CLASSES, WRITING WORKSHOPS, CONCERTS, ART SHOWS, YOGA AND MUCH MORE. WE ALSO SUPPORT MANY LOCAL PROGRESSIVE ORGANIZATIONS BY PROVIDING THE SPACE AND OUTREACH OPPORTUNITIES FOR COMMUNITY BASED ACTIVITIES AND PUBLIC FORUMS TO ENCOURAGE DIALOGUE AND DEBATE.

### WHY BUY YOUR BOOKS FROM IN OTHER WORDS?

BUYING YOUR BOOKS FROM IN OTHER WORDS INSTEAD OF ONLINE IS AN IMPORTANT WAY THAT YOU CAN SUPPORT NOT ONLY YOUR LOCAL FEMINIST COMMUNITY BUT ALSO YOUR LOCAL ECONOMY. OVER THE 15 YEARS THAT IN OTHER WORDS HAS BEEN OPEN, WE HAVE WATCHED MANY OF OUR SISTER FEMINIST BOOKSTORES CLOSE THEIR DOORS. TEXTBOOK SALES ARE A HUGE PART OF WHAT KEEPS OURS DOORS OPEN AND OUR COMMUNITY PROGRAMS THRIVING.

### HOW TO BUY YOUR BOOKS FROM IN OTHER WORDS:

TEXTBOOKS ARE AVAILABLE AT OUR STORE IN NE PORTLAND BEFORE AND AFTER THE TERM STARTS. *FOR THE FIRST WEEK OF CLASSES ONLY*, WE BRING THEM TO THE **WOMEN'S RESOURCE CENTER** IN THE BASEMENT OF THE **MONTGOMERY BUILDING**, LOCATED ON PSU CAMPUS. WE WILL ALSO MAIL BOOKS FOR OUT OF TOWN STUDENTS. WE ACCEPT CASH, CHECKS, AND CREDIT CARDS. MOST BOOKS ARE NEW AND WE SELL USED BOOKS WHEN THEY ARE AVAILABLE.

FEEL FREE TO CONTACT US: [TEXTBOOKS@INOTHERWORDS.ORG](mailto:TEXTBOOKS@INOTHERWORDS.ORG) OR [WWW.INOTHERWORDS.ORG](http://WWW.INOTHERWORDS.ORG) OR 503-232-6003

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### FOR THE FIRST WEEK OF CLASSES ONLY, BOOKS WILL BE AVAILABLE ON CAMPUS AT THE WOMEN'S RESOURCE CENTER

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THE WOMEN'S RESOURCE CENTER IS LOCATED IN THE BASEMENT OF THE MONTGOMERY BUILDING. OUR HOURS FOR THE FIRST WEEK OF CLASSES ARE: **MONDAY, JANUARY 5TH TO THURSDAY, JANUARY 8: 10 AM TO 7PM AND FRIDAY, JANUARY 9: 10 AM TO 5 PM.**

### RETURN POLICY:

*IF YOU DROP THE CLASS* YOU MAY RETURN your textbooks to our bookstore, FOR FULL CREDIT, WITHIN 10 DAYS OF PURCHASE. THEY MUST BE IN NEW CONDITION, AND YOU MUST PRESENT PROOF OF HAVING DROPPED THE CLASS (SUCH AS A PRINTOUT OF THE NEW CLASS SCHEDULE).

#### IN OTHER WORDS BOOKSTORE

8 NE KILLINGSWORTH  
STORE HOURS:

M-F 10 AM TO 9 PM  
SAT 12 PM TO 6 PM  
SUN CLOSED

**BY CAR FROM PSU:** TAKE I-5 NORTH TO EXIT 303. FOLLOW SIGNS FOR KILLINGSWORTH AND TURN RIGHT ONTO KILLINGSWORTH. DRIVE 10 BLOCKS TO WILLIAMS AVE. WE ARE ON THE RIGHT, JUST AFTER THE LIGHT.

**BY BUS FROM PSU:** BOARD THE 6 MLK AT SW COLUMBIA AND SW PARK. GET OFF AT NE MLK AND KILLINGSWORTH. WALK 3 BLOCKS WEST TO WILLIAMS. WE ARE LOCATED ON THE LEFT, JUST BEFORE THE LIGHT.