TO ACCOMPANY PROPOSAL FOR ADDITION OF COURSE
TO AN EXISTING UNST CLUSTER

Name of proposing faculty member: Lisa Weasel
Title of proposed course: Genes & Society
From which department(s): WS, Biology
For which cluster: Freedom, Privacy & Technology
Name of cluster coordinator: Jamie Ross

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COURSE APPROVED FOR CLUSTER INCLUSION BY

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DEPARTMENT CHAIR(S): [Signature]
DATE: 3/20/00

DATE: 3/30/00

CLUSTER COORDINATOR: [Signature]
DATE: 3/30/00

DATE: 4/4/00

A.F. CHAIR, CLUSTER COORDINATORS: [Signature]
DATE: 4/4/00

DATE: 4/6/00

CHAIR, UNST COMMITTEE: [Signature]

Copies of completed document are to be filed with appropriate cluster coordinator(s) as well as sent to appropriate department chair(s), UNST Scheduling, and Chair, Cluster Coordinators.

University Studies: March, 1999
A. COURSE DESCRIPTION Although today it may seem that there are "genes for everything," the concept of the gene is relatively new. This course explores how historical and social forces have intersected with biology to create this "genetic moment" in history. Issues considered include the eugenics movement, case studies of Rosalind Franklin and Barbara MacClintock; critiques of sociobiology and genetic determinism concerning race and gender; prenatal genetic testing; ecofeminist perspectives on the agricultural biotechnology revolution, and cloning of "Dolly". Placing science and society side-by-side, this course offers an opportunity to understand genes in context, by contemplating the origins, ethics and implications of our genetic worldview.

B. COURSE DEVELOPMENT. This course was previously taught as an interdisciplinary course cross-listed in Biology and Women's Studies at the University of California at Irvine, from 1997-1999. It is being modified and developed for the University Studies program at Portland State University.

C. GENERAL EDUCATION GOALS. This course satisfies many of the University Studies goals. For example, in goal area 1, inquiry and critical thinking, this course develops the skills of critical reasoning and ability to engage in debate and discussion surrounding different perspectives on genetic issues. The incorporation of feminist perspectives on science into the course provides students with exposure to a variety of differing theories and modes of inquiry relating to genetics. Students are asked to evaluate different scientific and social theories that have served as the underpinning of genetics over time, and learn to consider the social construction of science as well as critically evaluate the experiments and data that support different theories. By engaging with the subject matter, students gain a greater familiarity with science and scientific inquiry, and through journal assignments learn to use writing as a way of thinking, discovering ideas, and making and expressing meaning about science and society.

In goal area 2, the course enhances student ability to express and explore knowledge in multiple forms. For example, in-class activities include re-enactment of debates over the use and ethics of recombinant DNA; student panel sessions; and presentations of student flow charts prepared in association with the consuming genetics assignment. Discussions of several scientific papers relating to behavioural genetics and sexual orientation give students practice with communicating quantitative concepts within a social and ethical framework. Relating to goal area 3, human experience, this course encourages students to think carefully about the value of social and biological human diversity, and the ways in which science can be both constructively used and irresponsibly abused with regards to that diversity. Also pertaining to area 3, one of the main functions of the course is to acquaint students
with the social nature of science, exposing them to the course and implications of scientific and technological change and the impact that such change has on society. With regard to goal 4, ethical issues and responsibility, the course focuses extensively on issues of ethics and responsibility surrounding genetics, many of which figure prominently in today’s society and will touch the lives of a large number of individuals. Pedagogical structures of the class which encourage the representation and consideration of diverse views on these real-life ethical dilemmas give students the opportunity to be exposed to a range of views, and to practice their capacities to engage with these issues.

This course provides an important addition of science into the Women’s Studies cluster, presenting the science of genetics within a feminist social context paying specific attention to issues of race, gender, class and sexuality. In contrast to a generic introductory “Women and Science” or “Gender and Science” class, this course aims to revise the teaching of a specific and highly socially-relevant aspect of science from a feminist perspective. Thus, in this course issues of science practice and science content are fully integrated. Women scientists such as Barbara MacClintock and Rosalind Franklin are presented not only as isolated examples of “women worthies” but as individuals fully connected to and integrated within the subject matter being studied; students become familiar with the scientific basis of these women’s discoveries and contributions to genetics as well as their particular trajectories as female scientists. Similarly, attention to issues of gender, race, class and sexuality in the course of studying genetics can help students to see how these aspects are fully and integrally woven throughout the history of science, rather than being isolated examples of “bad science” or exceptions to an otherwise “value free” enterprise. Because genetics has so many social applications and elements directly pertaining to gender, race, class and sexuality, from the eugenic Better Babies contests in the early 1920’s to the DNA tie club in the mid 20th century to the search for “gay genes” and cloning of Dolly (named after Dolly Parton) and human reproductive technologies in the 1990’s, this subject matter is directly relevant to a fully interdisciplinary women’s studies curriculum. Feminist pedagogical techniques that stress student-centered learning and small-group work and highlight a broad spectrum of diverse responses to the material are emphasized in this course.

D. Course Outline: Topics include:
1. Heredity Before Genes
2. The Birth of Genetics: Mendel Rediscovered
3. The Eugenics Movement: Race, class and reproduction
4. The Development of Classical Genetics: Sex, Flies, and….?
5. The Double Helix: Cracking the Code (Rosalind Franklin, the DNA tie club)
6. Jumping Genes: The Case of Barbara MacClintock
7. Debates over Recombinant DNA
8. Genes and Behavior: Inherited “tendencies” and sexual orientation
10. The Biotechnology Revolution in Agriculture
12. Medical Implications
13. Legal Implications
14. Discrimination Issues
15. Reproductive Technologies
16. The Science Behind Cloning
17. Ethics and Policy of Cloning