

Princeton University

Professor Lee M. Silver

WWS 585A: Biotechnology and Public Policy

Course Description and Logistical Information

Scientific overview and policy analysis of selected topics in biotechnology that are currently the focus of intense debate. The topics to be covered in the fall of 2007 include biotech patents, organic and non-organic food, genetically modified plants (GMOs), genetic engineering of animals, embryo stem cell and cloning research, synthetic life, self-enhancement, genetic selection of human embryos (PGD), and human germline genetic enhancement. Each topic will be examined from the perspectives of technical feasibility, individual and societal utility, public perceptions and misperceptions, the viewpoints of supporters and detractors, and the regulatory and political response in the U.S. and other countries. This course has no prerequisites other than a knowledge of high school level modern biology and chemistry.

The class will meet for three hours each week on Mondays, 1:30-4:30 pm, in Robertson room 010. During the first session, Professor Silver will summarize inductive and deductive approaches to scientific understanding and risk analysis, followed by an overview of the scientific foundation for, and terminology of, biotechnology. In each subsequent session, the first two hours of class will be devoted to discussion and analysis of a series of assigned papers that are posted on the Blackboard course website. During the third class hour, Professor Silver will present an overview of the topics under discussion in the following week's papers.

Coursework and Grading

Students will be required to write a 200 to 300 word long critique focused on one particular topic presented in one or more of the assigned papers for each class. These critiques must be posted on the Blackboard website by 11:59 pm on the Friday prior to class, and will be open to further discussion by all students during class. In addition, each week, students will be given a challenging technical or regulatory question to consider and answer for extra credit. The final grade will be based on the weekly critiques and class participation. Enrollment is limited to graduate students only.

Topics listed by Week

(Please go to the Blackboard website for the course to access links to weekly reading assignments.)

- 1. Life, Science, Faith, & Biotech Terminology**
- 2. Food, agriculture, benefit & risk assessment, regulation**
- 3. Patents on life and its products**
- 4. Genetically Modified Plants I: Science, Regulation & Testing**
- 5. Genetically Modified Plants II: GM debate and international affairs**
- 6. Film Showing and Critique: "THE FUTURE OF FOOD"**

Spring Break

- 7. Genetically Modified Animals**
- 8. Synthetic Life**
- 9. Embryo Research and Cloning**
- 10. Self-Enhancement**
- 11. Selecting Your Child's Genes**
- 12. Engineering Your Child's Genes**