

ADVS 3200 / PHIL 4530
Ethical Issues in Genetic Engineering and Biotechnology (DSC)
(Spring 2016)

Instructors:

Dr. Richard Sherlock, Philosophy, Main 202E, 797-1244

Dr. Bart Tarbet, Animal, Dairy and Veterinary Sciences (ADVS), VSB 201, 797-3954

Course Location: Family Life 206

Course Hours: Tuesday/Thursday: 1:30 - 2:45 pm

Course Description:

Critical evaluation of ethical issues of genetic engineering in biotechnology, including biological engineering and cloning of plants, animals, and humans. Presents basic science of genetic engineering and biotechnology. Spring Semester, 3 credits.

Required Materials:

Reading packet available in the Bookstore.

Course Evaluations:

Three sectional exams and one final exam.

Students with Disabilities:

If you have a disability that will require accommodation by the instructor, contact the instructor during the first week of class and document the disability through the Disability Resource Center (797-1923). In cooperation with the Disability Resource Center, course material will be provided in alternative formats (e.g. large print, audio diskette or Braille) upon request. Additional supportive services may be provided by the Disability Resource Center.

Lecture Schedule:

Topics	Dates	Reading	Instructor
Introduction	Jan. 12		Sherlock and Tarbet
Genetics	Jan. 14 & 19	Text p. 1-29	Tarbet
Ethics	Jan. 21 & 26	Text p. 30-82	Sherlock
Exam 1	Jan. 28		
<i>Fundamental Issues</i>			
Ethics	Feb. 2 & Feb. 4	Text p. 30-82	Sherlock
<i>Agricultural Biotechnology</i>			
Genetics	Feb. 9 & 11	Text p. 83-105	Tarbet
<i>Monday Class Schedule on Tuesday</i>			
Ethics	Feb. 18	Text p. 83-105	Sherlock
Ethics	Feb. 23	Text p. 83-105	Sherlock

<i>Food Biotechnology</i>			
Genetics	Feb. 25 & Mar. 1	Text p. 106-140	Tarbet
Ethics	Mar. 3	Text p. 106-140	Sherlock
<i>Spring Break (Mar. 7-11)</i>			
Ethics	Mar. 15	Text p. 106-140	Sherlock
Exam 2	Mar. 17		
<i>Animal Biotechnology</i>			
Genetics	Mar. 22 & 24	Text p. 141-201	Tarbet
Ethics	Mar. 29 & 31	Text p. 141-201	Sherlock
Exam 3	Apr. 5		
<i>Human Biotechnology</i>			
Genetics	Apr. 7 & 12 & 14	Text p. 202-329	Tarbet
Ethics	Apr. 19 & 21	Text p. 202-329	Sherlock
<i>Current Issues: Biotechnology and Terrorism</i>			
Genetics	Apr. 26		Tarbet
Review	Apr. 28		Sherlock and Tarbet
Final Exam	Thursday, May 5 at 1:30 pm		

Extra credit: due April 28 (last day of class): 20 points, write a 4-page (double-spaced) term paper on one of the following issues:

- 1) A substantial majority of Americans believe that abortion is acceptable when the baby will be born with genetic abnormalities, *e.g.* Down's syndrome.
 - This also holds true when a child has a likelihood of being born with other abnormalities.
 - The best data we have is that 50% of the causes of male homosexuality are due to genetics.

We do not know the precise genetic component yet, but if and when we have this identified would it be morally acceptable for a woman to abort a baby that would have a 50% chance of being gay?

Or

- 2) Companies are now marketing home genetic testing kits. They can be used in the privacy of your home without the follow-up or counseling of a doctor or trained genetic counselor.
 - There are concerns about use of these kits by people with limited knowledge: suppose a couple has a 1 in 4 chance of having a child with a disability. If their first child had the disability and they aborted can they now have 3 normal children before the abnormality comes again? A substantial majority will answer yes. The correct answer is no (each child has the same chance of having the abnormality).

Given the limited knowledge that most people have about genetics, is it a good idea to let genetic tests be sold directly to the public?

Term paper grading will be based upon:

1. Clarity.
2. Organization.
3. Mechanics (spelling, grammar).
4. Conclusions.
5. Written as an argument.