GENETHICS SYLLABUS
5280/6280 levels

Instructor: Jim Bradley, Professor, Department of Biological Sciences
Office: 131 Funchess Hall
Phone: 844-9262   Email: bradljt@auburn.edu

Prerequisites: Junior, Senior, or Graduate level standing.
10 semester hours or equivalent of General Biology.
The course is especially directed at pre-professional and graduate students in the life sciences, but non-science majors with the biology pre-requisites are also encouraged to register.

Course objective and approach:
The aim of the course is to examine the ways we think, feel, and act at the interface between 21st century biotechnology and human values. This objective will be accomplished through a partnership between instructor and students that includes:
(1) attentive, careful reading and contemplation,
(2) diligent class attendance, and
(3) preparedness for engaged and informed participation in class discussions

Required texts, readings, event:
Bioethics and the New Embryology, (Gilbert, Tyler, and Zackin, 2005. Sinaur Associates, Inc.)
The Elements of Moral Philosophy (Rachels, 2003.)
Selected chapters from instructor’s book draft, 21st Century Biotechnologies and Human Values (provided)
Selected articles and book chapters (electronic or hard copies provided)
Attendance at Littleton-Franklin lecture on Tuesday, April 4, 4-5 pm, Science Center Auditorium
    Professor Gregory Stock, UCLA School of Medicine, author of Redesigning Humans: Our Inevitable Genetic Future (2002).

Grading:
Class participation: 30%
Journal: 20%
Class presentation/discussion leading/annotated bibliography: 20%
Take-home essay questions: 30%

Class participation:
Our class meetings will be discussion-based, not lecture-based. It is essential that everybody reads and studies the assigned material before each class meeting. You will be expected to contribute your informed opinions and ideas to the discussions. You will not be graded on the number of times you speak, but on the quality and regularity of your contributions. I will provide you with a mid-term evaluation of your class participation. Short weekly quizzes may be given to encourage everybody to study and contemplate the assigned material before
class, and these will constitute a portion of the “participation” grade. Small group events will also be used to facilitate discussion.

**Journal:**

A journal (handwritten or typed) of your positions and ideas on specific bioethical issues and how/whether your ideas change as you gain new information must be recorded in a bound notebook. Entries should be dated and regular (at least once per week). The journal should also include definitions of terms that are new to you, descriptions of technologies and moral philosophies, and your reactions to these. A detailed table of contents at the front of your journal is required. I will collect these during the week of February 27, look them over, and return them to you within a week so that you have some mid-term feedback. **Please bring your journals to class each week so that you can refer to your written thoughts during our discussions.**

**Class presentation, discussion leading and annotated bibliography:**

During the course of the semester, each student will prepare and present material on a specific biotechnology that includes its scientific and moral dimensions. The class presentation should be about 30 minutes long. Following the presentation, you will be asked to lead a 30 minute discussion on the topic. The rest of the class will have read articles or book chapters relevant to your discussion topic. You will be the expert on this topic and will be expected to have read much more deeply on the topic than the other class members. You should come prepared with leading questions and plans for keeping the discussion moving for 30 minutes. The aim is to involve class members in the discussion rather than to lecture to the class. Your presentation will lay the groundwork for the discussion.

An annotated bibliography on your presentation topic will be due on the day of your presentation. The bibliography should contain 6-7 references to refereed journal articles and/or book chapters beyond those assigned as class readings. About equal numbers of scientific reports and articles with an ethical focus should be included in the bibliography. The full citation for each reference must be followed by a short paragraph that describes in your own words the main findings or position reported in the piece. The bibliography should be made available for every class member - either electronically 24 hours or more before your presentation or in hard copy at the time of your presentation. Students are expected to have read and studied each of the items in the bibliography, incorporating relevant information from them into the presentation and discussion.

**Essay questions:**

During the semester students will write three essays on specific questions. The answers should be 5-7 typewritten pages, double-spaced, 12 pt. font, and with no more than 1 inch margins all around. Each answer must give your own informed position(s) on the question(s) and cite at least 6 original sources. Some sources must be used to support your position, while others must offer counterpoints to your position and be refuted in your answer. Complete references to the sources must be included at the end of the 5-7 page answer. These essays will be due by the following dates:

- **February 10 (Essay 1):** What ought to be the moral status of the human embryo?
- **March 17 (Essay 2):** What does it mean to be human? What are the promises, perils and ethical issues associated with humans directing their future evolution?
- **April 28 (Essay 3):** Should human values adapt to new technologies or should new technologies
be designed to be compatible with existing human values?

Course Topics (including but not limited to):
Embryonic Stem Cells
Adult Stem Cells
Human Therapeutic Cloning
Human Reproductive Cloning
Human Genomics
Gene Therapy
Genetic Enhancement
Age retardation
Neuropharmacology, pharmacogenetics, neuroethics
Transgenic Organisms
Synthetic Biology
Animal Use in Research
Nanomedicine
Synthetic Biology

JUSTIFICATION FOR GRADUATE CREDIT

Students enrolled in Genethics for graduate credit will be expected to perform at a higher level in their written essay assignments and in their class presentations. Specific graduate credit requirements above those described for these activities above are as follows:

1) Written essays must reference at least 12 original sources. In addition, a section titled “Critique and Counterpoints” must be included at the end of each essay. In this section, one major argument against your position on the bioethical issue at hand must be presented and referenced. This position must then be refuted with information from other writers/thinkers and referenced. Finally, one more cycle of argumentation must be presented: i.e. counterpoints to the above refutation made, and then refutation of these counterpoints presented.

2) Class presentations must be accompanied by an annotated bibliography containing at least 12 items. In addition, your presentation must include an oral presentation of two cycles of critique and counterpoint for a particular position on a bioethical issue, as described in (1) above for the written essays.

Students with Disabilities: Students needing accomodations should arrange a meeting with the instructor during the first week of class. Come during office hours or email for an alternate time. Bring the Accommodation Memo and Instructor Verification Form to the meeting. Discuss items needed in this class. If you do not have an Accommodation Memo but need special accommodations, make an appointment with The Program for Students with Disabilities, 1244 Haley Center, 844-2096 or email: haynemd@auburn.edu.

Academic Honesty: Students must abide by the Auburn University Academic Honesty Code. Please familiarize yourself with what constitutes a violation of the code at
http://www.auburn.edu/tigercub/files/section5_2008.pdf. All violations will be reported and subject to sanctions as described in the Tiger Cub Student Handbook.