

NSC 110H Fall 2016
Biotechnology and Society
Unique # 47384

Monday 4–5 PM
PAI 5.42
Professor: Barrick

Instructor: Dr. Jeffrey Barrick <jbarrick@cm.utexas.edu>

Office Hours: Fridays 11 AM –12 Noon, 3:30 PM – 4:30 PM

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Description: Recent advances in biological technologies may be outpacing our ability to fully understand their ramifications for society. We will examine some of these developments by discussing scientific papers, talks, and news coverage. Content will be roughly half understanding the science and half discussing the relevant ethical issues.

Course Format:

- **Preparation:** Each week some combination of scientific papers, related news stories, online videos, popular science articles, etc., will be assigned. Watch, listen to, or read this material so that you are up-to-speed for our discussion. This should take at most 1-2 hours per week.
- **Worksheet:** Everyone in the class will fill out a short one-page worksheet and bring it to class to turn in. This worksheet is designed to help you key in on the main points presented in the background material and to help kickstart the discussion.
- **Czars:** 2-4 students per week will be assigned to serve as "czars" (as in experts who are called in to advise on a topic). Czars will present the basics of a technology or viewpoint that is key to our discussion of the topic to the rest of the class. This is not a formal presentation. It is a five-minute (max) overview plus time to answer some questions, so that we can be sure we are fully informed about the topic. You can draw on the board to explain things, but no Powerpoint allowed. Feel free to stop by during office hours on Fridays to discuss your Czar topic and clear up any questions.

Course web page: The course web site on the SynBioCyc Wiki will host reading assignments, worksheets, and links to associated content (<http://synbiocyc.org>). If you find any additional resources that are of interest, let me know and I will add links!

Grading: This course is graded **pass/fail**. You will be assigned a grade of **pass** if you: (1) attend and turn in a completed pre-discussion worksheet **for at least 10 of the 13 applicable course meetings**, (2) Put in the effort to **act as a reasonably competent czar twice during the semester** (if you come up short one time, you can try additional times with no penalties), and (3) take part in class discussions with a positive attitude and in a way that is respectful to your fellow students.

If you anticipate being unable to meet these criteria, we can discuss alternative ways to make up missing credit. However, you must notify me before **Nov. 18** if you will need to make any kind of alternative arrangement.

#	DATE	TOPIC
Intro	Aug 29	Recombinant DNA Technology: Beginning up to CRISPR-Cas9
	Sept 5	Labor Day: No class.
1	Sept 12	Dual-Use Research: Smallpox and Influenza
2	Sept 19	Do-It-Yourself (DIY) Biology versus Bioterrorism
3	Sept 26	Genetically Modified versus Organic Crops and Livestock
4	Oct 3	In vitro Meat versus Soylent
5	Oct 10	Probiotics versus Microbiome Engineering
6	Oct 17	Biofuels versus Fossil Fuels
7	Oct 24	Gene Drives: Mosquito Extinction versus Tropical Diseases
8	Oct 31	Personalized Medicine: Precision versus Privacy
9	Nov 7	Gene Therapy versus Human Genome Editing
10	Nov 14	Stem Cell Therapies versus Artificial Organs
11	Nov 21	Conventional Drug Development versus Self-Experimentation
12	Nov 28	Conservation Biology versus De-extinction
13	Dec 5	The Origin of Life: Recreating it in the Lab

*Schedule subject to change. See <http://synbiocyc.org> for a current schedule.

Scholastic Dishonesty: If you are caught in some form of scholastic dishonesty, (for examples, see: http://deanofstudents.utexas.edu/sjs/scholdis_what_is.php) you will receive an F in the course, and you will be reported to Student Judicial Services (Office of the Dean of Students). You will receive no warning before these actions are taken.

Accommodations: The University of Austin provides appropriate academic accommodations for qualified students with disabilities upon request. For more information, contact the Office of the Dean of Students at 471-6259, 471-6441 TTY.

It is the policy of The University of Texas at Austin that the student must notify each instructor at least fourteen days prior to the classes scheduled on dates he or she will be absent to observe a religious holy day. For religious holidays that fall within the first two weeks of the semester, the notice should be given on the first day of the semester. The student may not be penalized for these excused absences but the instructor may appropriately respond if the student fails to complete satisfactorily the missed assignment or examination within a reasonable time after the excused absence.