Biotechnology– BISC 406L
Fall 2017

Lectures: TTh 1:00-1:50 p.m., ZHS472
Lab: Th 1:00-5:00 p.m., ZHS472

Instructor:
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Office hours: TTh, 12:00-1:00 p.m.
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Laboratory Director:
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Teaching Assistant: TBD

Prerequisites: BISC 320
Recommended Preparation: BISC 313 or BISC 325

Course Learning Objectives: BISC406L is the capstone course for the Minor in Biotechnology offered by the College of Letters, Arts and Sciences and the Marshall School of Business. The course will focus on the impact of the biotechnology revolution on health care in this age of molecular medicine. Topics to be covered include: (1) Recombinant DNA technology; (2) Genomics and Proteomics; (3) Manipulating Prokaryotic and Eukaryotic gene expression; (4) Molecular Diagnostics and Therapeutics; (5) Vaccines and Gene Therapy; (6) Genetic Engineering of Plants and Animals and; (7) Biotechnology regulation. We will address the ethical, legal and social implications of advances in biotechnology and will discuss governmental regulation of food, drugs and biotechnology itself. The laboratory exercises will focus on recombinant DNA and other DNA techniques, which have played a fundamental role in the “new” biotechnology revolution.

Textbook: There is no textbook for the course. All reading assignments will be posted on Blackboard in .pdf format for you to access.

Course Grades:
The course grade will be based upon 625 possible points:
150 pts. Midterm 1
150 pts. Final Exam
40 pts. Classroom discussion
30 pts. Student presentations
255 pts. Laboratory
Readings:
9a. on-line appendix: http://jama.jamanetwork.com/
23. CRISPR identifies genes that might be targeted to hobble HIV infection Sharon Begley - https://www.statnews.com/2016/10/25/crispr-identifies-hiv-genes/
population modification of the malaria vector mosquito Anopheles stephensi. PNAS. 112 (49) : 6736-6743.

Lectures: Class periods will sometimes be lectures (labeled Lect. on syllabus calendar) and sometimes discussions (labeled Disc. in bold red on syllabus calendar) BY STUDENTS OF READING ASSIGNMENTS. Participation in these discussions is an important part of the course. A TENTATIVE reading list is given on p. 2-4 of this course syllabus. If we deviate from this version of the reading list, a new, dated version of this syllabus will be posted on Blackboard. You should be prepared to discuss reading assignments on the days specified as discussions. Typically I will assign questions that each student answers during the discussion period.

It is important to attend all of the lectures during the course and to take good notes for study. Prior to attending each lecture, it is important to have read the appropriate papers. However, many of the lectures will contain new and additional information that is not in those readings. Examinations will be based mainly on information given in the lectures. In studying for examinations, complete and accurate lecture notes are of prime importance.

The lecture slides will be posted on the course Blackboard internet site as .ppt and .pdf files (https://blackboard.usc.edu). They may contain material that is not presented in the lectures—and the lectures may contain information that is not conveyed in the Blackboard lecture summaries. The lecture summaries, as posted on Blackboard, and the readings are intended to be helpful, but auxiliary to the lectures. All course materials, information, announcements and grades will be posted on Blackboard until the end of the semester.

Exam: In case the midterm exam must be missed for legitimate reasons, discuss the situation with the course instructor prior to the exam, if possible. If an exam is missed for an emergency or for a valid health reason (with written documentation), the score of the final exam will be used to comprise your total point score for course exams. Rules governing exams are given in more detail in your Student Contract, which is also posted on the class website: https://blackboard.usc.edu.

In the event an error is made in the grading of your exam, written submittal a description of the error, using the regrade form posted on Blackboard, with the exam should be
returned to Dr. Bancroft within a week after receiving your graded exam. After this time period, exams will not be regraded.

Email Communication:
To ensure privacy, only student’s USC email accounts may be used for email communications. Students are responsible for understanding the content of email messages that the instructor sends to their USC accounts. Therefore, each student must check their USC email regularly and make sure their account is not over quota, so new messages can be received.

Statement on Academic Integrity:
USC depends on honesty, integrity, and ethical behavior among its members. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one’s own academic work from misuse by others as well as to avoid using another’s work as one’s own. All students are expected to understand and abide by these principles.

Resources on academic integrity standards, policies, and expectations:
3. Overview of Academic Integrity: http://www.usc.edu/student-affairs/SJACS/forms/AcademicIntegrityOverview.pdf
4. Tutorial on Academic Integrity:
   http://www.usc.edu/libraries/about/reference/tutorials/academic_integrity/index.php

Statement For Students With Disabilities:
Students requesting academic accommodations based on a disability are required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP when adequate documentation is filed. Please be sure the letter is delivered to Dr. Bancroft as early in the semester as possible. DSP is located in STU 301 and is open 8:30am–5:00pm, Monday through Friday. The phone number for DSP is (213) 740-0776. For more information, please visit the following link:
http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html