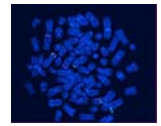


CIVE/BIOM 535 Biomolecular Tools for Engineers – 2007 Syllabus



Course Objectives: The objective of this course is to provide engineering students with the opportunity to learn cutting-edge skills in the application of biomolecular tools to environmental engineering and related engineering disciplines such as biomedical engineering and chemical engineering. By the end of this course, students should be able to carry out and understand basic qualitative and quantitative biomolecular analyses of microbial communities, including PCR, cloning, FISH, and microbial community profiling. The application of biomolecular tools to engineered systems will be a major theme.

Meeting Times: Monday: Readings, Lecture and Discussion, 12:00 – 1:40 PM, Glover 201, Wednesday: Lab, 11:00 -2:00 PM, 314 Yates OR A310 ERC

Instructor: Amy Pruden

apruden@engr.colostate.edu

<http://www.engr.colostate.edu/ce/homepages/pruden/index.shtml>

Office phone: 491-6670 (campus), 491-8814 (ERC, voicemail)

Office: A207D ENG, 309A ERC

Office Hours: Tuesdays 8:30-9:45 & Wednesdays 2:30-4:00.

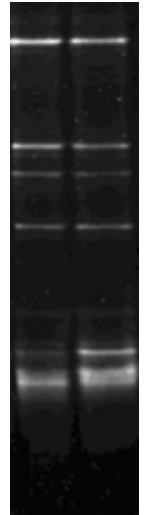
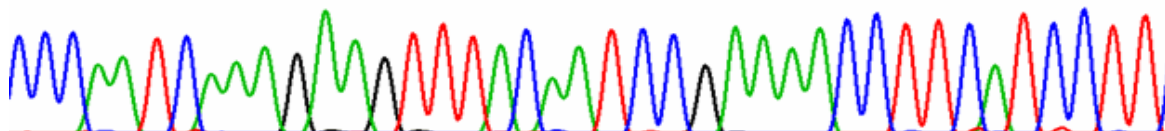
TA: Luciana Pereyra, pereyra@engr.colostate.edu, 491-8647

Text: No required text for this course. Students will be required to purchase a lab notebook and are recommended to purchase a 3” binder to organize course materials. Lab protocols will be provided and readings will be assigned.

Course Format: *Mondays* will be dedicated to a short lecture followed by class discussion and student presentations of readings. Each student will be assigned one article to read and present to the class during the semester (powerpoint required). All other students are expected to read the articles prior to the class period and to prepare at least three thoughtful questions for discussion. *Wednesdays* provide the opportunity to learn the methods “hands-on.” Students will be paired up into teams of two and will choose a sample of engineering relevance to work on for the semester. Students should be familiar with the protocols before the lab meeting time (there will be weekly quizzes to make sure!). All students must keep a detailed lab notebook recording what is done in the lab.

Evaluation: There will be ~10 lab quizzes, three mid-term exams, a final exam, and one final group lab report. The lab report should summarize the findings in the format of a journal manuscript (Students may choose a journal of choice relevant to their fields). The total manuscript should not be more than 20 pages double-spaced, and should represent a “team effort”. Class presentations and overall participation (more than “showing up”) will also comprise a significant portion of the final grade.

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Grading:

Class Discussion/Participation:

Class Presentations (1):

Lab Quizzes (~10):

Final Lab Report (Team):

Mid-term exams (3):

Final Exam (Take Home):

Percent Total Grade:

5%

10%

10%

25%

35%

15%

100%