

Welcome to BIMM 101 Recombinant DNA Techniques!
Sections C01, C02 Winter 2012

Instructor: Dr. Ella Tour
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Office Hours: Wednesday, 10-11AM, in York
Hall 3080E or talk to me during the lab

LECTURE: Wed and Fri, 1-2PM, Cognitive Science Building (CSB) 005

LAB: Wed and Fri, 2– 6:00PM, York Hall 4318, 4332

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COURSE OBJECTIVES:

- Understand the theory behind molecular techniques, and the applications of the methodologies in biological research
- Be able to perform basic molecular biology techniques
- Understand and follow basic rules of lab safety and sterility techniques
- Be able to maintain proper records of your experiments, observations and conclusions
- Become familiar with bioinformatics websites and literature searching
- Improve lab math skills and ability to graph data correctly
- Be able to interpret results and make logical conclusion from experimental data
- Be able to identify and interpret controls
- Improve skills of critical analysis of scientific literature
- Improve skills of scientific writing
- Improve the ability to design your own recombinant DNA experiments, including proper controls

BRING TO LAB EACH DAY:

1. Lab Manual
2. Lab coat (the bookstore has cheap ones, you can also borrow one from the lab)
3. UV blocking safety glasses (also at bookstore)
4. Lab notebook with carbon copies (bookstore or Grove general store)
5. Pen (lab notes must be in ink)
6. Calculator
7. Proper attire (long pants, closed-toed shoes - see safety notes in Lab Manual)

LAB SCHEDULE: listed in lab manual

COURSE WEBSITE: Ted.ucsd.edu

Please check the Ted site before each lab! Important announcements, required reading, guidelines for lab reports/assignments, class handouts, exam study guides, links to websites, etc., will be posted on the website.

REQUIRED TEXTS:

- BIMM 101 Lab Manual Winter 2011 (University Readers, Inc. www.universityreaders.com)
- Readings posted on Ted

Recommended reading: Jeremy W. Dale and Malcolm von Schantz (link to the electronic version of the book will be posted on Ted). Knowledge of material in Chapter 1 (printed in your lab manual) is required, other chapters are recommended.

ATTENDANCE:

Remember that lab attendance is required – if you miss two labs, you will be dropped from the course. If you are ill, you must leave a message with me, not your TA, and make up the lab in a way that I will determine. You must be on time for lab; the TAs go over the experiments at the beginning of lab, and also the quizzes are administered then.

GRADING:

40% Exams: Midterm (15%) and Final exam (25%)

40% Homeworks and lab reports

10% pre-lab online assignments and lab notebook

5% Quizzes

5% lab performance, proper sterility techniques, attendance, participation in discussions (determined by the TA's)

1. Exams: There will be one Midterm exam on Wednesday, Feb. 22, between 1-2PM in CSB 005 and a cumulative final exam on Friday, March 16, between 2PM – 4PM, in the labs. All students are expected to take their exam at the scheduled time. The only valid excuses for missing an exam are severe illness or family emergency. You must notify the instructor prior to the scheduled exam in order to be considered for a make-up exam. Reasons for make-up examinations must be clearly documented (e.g., doctor's note) and requested in writing. If justified, a 30 min oral exam will be scheduled by the instructor.

2. Homework and lab reports: there will be two lab reports and several homework assignments: bioinformatics and research paper analysis exercises due throughout the quarter. Specific guidelines for each assignment will be posted on Ted.

3. Pre-lab online assignments and lab notebook: starting from the second week of classes, before each lab, you will need to answer two questions about the experiments you are performing in the lab. These questions will help you analyze the results you have obtained in the labs and think about the experiments you are about to perform.

4. Quizzes: Short quizzes will be given sporadically throughout the quarter. They will provide you with examples of questions you will be likely to see in the exams and will help you to gauge your understanding of the material.

5. Lab notebook: it is mandatory that you keep a lab notebook, with carbon paper. Prior to each lab, you will need to write in your notebook the following:

i. The date.

ii. Purpose of each experiment/segment of the lab. For example, the first experiment in Lab 1 would be: "Practicing straight and serial dilutions".

During the lab, record:

A. What you did, all data and results.

B. All calculations done during experiments

C. Observations

D. Immediate conclusions from your experimental results

The carbon copy of your lab notebook **must be turned in** at the end of each lab period. Selected labs will be graded.

Lab performance/attendance/participation in discussions and lecture activities:

A. One unexcused absence will result in points off your participation grade; more than one unexcused absence will result in you failing the course.

B. Your lab performance includes your effort, how well you follow lab safety regulations and the quality of your experiments. In addition, attention will be paid on how you follow the rules of sterility and proper bacteriological techniques.

C. Lecture activities: numerous studies on how college students learn have shown that when students are actively engaged in the process of learning (when they answer questions, explain things to each other, etc.), they understand and retain the acquired knowledge better. In order to promote active learning, I will be asking you questions, on which you will either have to vote or submit a very short answer on an index card. Your answers will also help me to evaluate my own teaching.

LATE POLICY: lab reports and homework assignments are due at the beginning of the lab on the assigned date. For each day thereafter (including weekend days), you will lose 10% off the lab report grade.

REGRADE POLICY

All requests for regrades must be submitted in writing to me. To submit for a regrade, you must write a cover letter specifying which specific problem should be looked at and fully describe why you think it was wrongly graded. Attach the cover letter to the assignment/exam and deliver it to me. The regrade request must be delivered within 1 week after the assignments are returned. In some cases, I will regrade the entire assignment/test/lab report.

Exams, quizzes and homework assignment **must be written in pen** or will not be accepted for regrade. Exams written in pen but having the writing masked by any form of white-out or correction tape will not be accepted for regrade.

POLICY ON CHEATING: anyone caught cheating (includes plagiarizing lab reports, cheating on a test, or changing an answer for a regrade) will be reported to the Academic Integrity Office. Each student is required to read and sign the Academic Integrity Policy Regarding Written Assignments.

STUDENTS WITH DISABILITIES

Reasonable accommodations will be provided for qualified students with disabilities. If you have any disability that may impair your ability to complete the course successfully, please contact me during the first week of the course.

LETTERS OF RECOMMENDATION:

As a general rule, I will write letters only for those who receive a B or above in this course. If you think you may want me to write you a letter of recommendation, be sure to talk to me during the lab and my office hours: ask questions, offer your own ideas and interpretations of your results, bring interesting facts/papers that are connected to the material we are studying. By doing so, you will allow me to observe your way of thinking, which in turn will allow me to write a more meaningful letter of recommendation for you. Also, please save your lab reports and tests, for I will ask for some of them to review. If you never spoke to me, I will not be able to write a meaningful letter for you.

OPPORTUNITIES TO GET TO KNOW YOUR CLASSMATES, TA'S AND THE INSTRUCTOR:

This lab offers more personal settings than some of the big classes at UCSD. I encourage you to take this opportunity and talk to your TA's and to me about any course- or career-related issues. It is also a great idea to exchange email addresses/phone numbers with a few people in your class (for example, your bench-mates), in case you'll have questions or would like to form a study group – always a good idea! We will have two potlucks during this quarter (dates TBA) that will also offer an opportunity for social mixing.

Lab Reports and other written assignments

The most important part of laboratory work is the interpretation of experimental results. The skills required to accurately organize, analyze and present data must be learned, and this is a big part of what this class is designed to teach. If a student does not complete a lab report independently, he or she does not go through this process of learning and loses the chance to learn these skills. Furthermore, this denies the instructor the ability to accurately assess these skills in the student, and give a grade that represents student's independent ability.

All lab reports and homework assignments for the class must be independently written, i.e., **your own work in your own words**. While discussion of data among lab partners is encouraged, each student on their own must complete all text, references, figures, graphs, and tables. The submission of reports by lab partners that contain shared work is forbidden, and will result in points being deducted from both reports. The exception to this is when a figure is the raw data that is supplied to each member of the group (specifically absorption spectra and gel photographs). In this case the labeling of that figure must be done independently. If you have questions about the difference between discussing your work with others and unauthorized collaboration, please ask your instructor or TA for clarification.

Because lab reports are to be your own work in your own words, you may not copy to any extent current or past laboratory reports that were written by other students. This is known as plagiarism, which is a direct attempt by the student to present the work of others as their own, and is no different than cheating on an exam. Directly copying material from other sources without putting it in your own words is also plagiarism, even if the source is cited as a reference. Plagiarism in lab reports is rigorously sought out and penalized.

Students are required to upload an electronic version of each lab report to Turnitin.com, where the report is screened with a plagiarism checker against all reports in the Turnitin database. All incidents of plagiarism will automatically be turned in to the Academic Integrity Coordinator. Following UCSD's Policy on Integrity of Scholarship (www-senate.ucsd.edu/manual/appendices/app2.htm), students found to have committed plagiarism or other academic misconduct will receive both an administrative (decided by the Council of Deans) and academic penalty (decided by the instructor). Furthermore, all submitted reports are retained in the Turnitin database. Similarity hits by the plagiarism checker will also reveal the name of the student who provided the plagiarized material. Giving one's own lab report to other students to allow them to copy material from that report is also academic dishonesty, and will be pursued and penalized as rigorously as for the student committing the plagiarism.

I have read the BIMM 101 Academic Integrity Policy and understand how to complete my academic work in this class with the outmost integrity. I agree that I will keep all lab reports and written assignments/homeworks as restricted material that was used to assess only my abilities, and that I will not release these lab reports to any other students.

Signature_____ Date_____

Print name_____ Lab section_____

Student ID_____