Welcome to BIMM 101 Recombinant DNA Techniques!
Sections C01, C02 Winter 2013

Instructor: Dr. Ella Tour
(858)-534-0913 (or dial 40913 from campus phone)
Email: etour@ucsd.edu

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

LECTURE: Tue, Thu, 12:30-1:50PM, Sequoia Hall 148
LAB: Tue and Thu, 2:30– 6:30PM, York Hall 4318, 4332

TA	TA email
Kelly Chao	k4chao@ucsd.edu
Pagkapol (Yhew) Pongsawakul	ppongsaw@ucsd.edu

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
- Be able to perform basic bioinformatics analyses
- 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 literature search and critical analysis of scientific papers
- 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 2013 (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:

25% Final exam
30% Three lab reports
20% Quizzes
15% Homework assignments
5% pre-lab online assignments
5% lab skills, performance, and lab notebook

1. Exam: The cumulative final exam will take place on Thursday, March 14, between 2:30PM – 4:30PM, in the lab. 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. Lab reports: there will be three lab reports, covering experiments performed in labs 3-8 (Lab report 1), labs 9-14 (Lab report 2), and labs 14-16 (Lab report 3). Specific guidelines for each assignment will be posted on Ted.

3. Quizzes: will cover material from lectures and especially from labs. Quiz dates will be posted in the course calendar on Ted.

4**. Homeworks**: there will be several homework assignments in which you will practice skills learned in bioinformatics labs, labs, and lectures. Some homeworks will include searching scientific literature databases and analysis of scientific papers. Deadlines and instructions will be posted on Ted.

5. Pre-lab online assignments: starting from the second week of classes, before each lab, you will complete a short online quiz 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.

6. Lab skills, performance, and lab notebook. This grade will be assigned primarily by the TA's, based on your performance on the following criteria:

a. Attendance and participation: starting and finishing on time, following TA's instructions, participating in discussions.

b. Preparedness: knowing what experiments you are about to perform, being able to answer TA's and instructor's questions about them

c. Consistent use of sterility techniques

d. Ability to plate and streak bacteria, perform transformations

e. Ability to assemble restriction digests, ligation, and PCR reactions (includes pipetting skills)

f. Ability to perform agarose gel electrophoresis and interpret its results

h. Ability to extract genomic, plasmid, and mitochondrial DNA

i. Maintain clear records of experiments (lab notebook)

j. Work as part of a team with your immediate partner and with another group you share the bench with

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 ATTENDANCE: One unexcused absence will result in points off your participation grade; more then one unexcused absence will result in you failing the course.

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 first to your TA, then (if problem is pot resolved) 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 students 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. One way for me to observe your abilities is for you to give a short presentation on the topic related to the course – please talk to me if you are interested.

BIMM 101 Spring 2012
ACADEMIC INTEGRITY POLICY AND STUDENT CONTRACT:

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.