

# **BIMM 101: Recombinant DNA Laboratory**

## **Fall 2011**

**Instructor:** Cindy Gustafson-Brown

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**Lecture:** Tuesday/Thursday 9:30 - 11 AM, York 1310

**Labs:** York 4318 and 4332 – Check which room you are in!  
Tuesday/Thursday: 2:30 - 6:30 PM

### **Learning objectives:**

- Learn the theory behind molecular techniques, and the applications of the methodologies in biological research
- Become proficient at basic molecular biology techniques
- Learn the importance of proper controls in designing experiments and interpreting results
- Improve lab math skills and ability to graph data correctly
- Learn to make logical conclusions from experimental data
- Become familiar with bioinformatics websites
- Learn to find, read, and evaluate primary literature
- Become aware of the implications of the technology for society

### **TAs:**

Lydia Hernandez      [rshehane@gmail.com](mailto:rshehane@gmail.com)  
Richard Shehane      [leh002@ucsd.edu](mailto:leh002@ucsd.edu)

### **Required texts:**

BIMM 101 Lab Manual from University Readers

*From Genes to Genomes* by Dale (You don't have to buy it.)  
on reserve at BML and electronic version available online,  
accessible through Roger.

Readings on class web site on TED ([ted.ucsd.edu](http://ted.ucsd.edu)).

### **Required materials:** (all available at bookstore)

- A lab notebook with carbons
- A lab coat
- A Sharpie marker
- UV-blocking eye protection (you may wear either safety glasses or goggles, but standard prescription eye glasses are not sufficient)

### Attendance and Absences:

1. Your attendance is required at EVERY lab and through the entire lab period, until all the experimental work for the day is completed.
2. If you are likely to have interviews for graduate school, etc., please schedule them on non-lab days.
3. If you are ill on a lab day or have an emergency, e-mail or call Dr. Gus before the start of the lab. If you are ill enough to miss lab you must go to the student health center to obtain documentation of your illness.
4. Documentation will be required for all unavoidable absences. Provide this to your TA.
5. All absences without **PRIOR** approval of the instructor and the appropriate paperwork will be considered unauthorized.
6. Absences will NOT be treated lightly. Your absence will place an unnecessary burden on your partner. There are no make up labs and you will not be allowed in the lab on non-lab days or in the other lab sections, although you may be asked to make up the work from the day you missed.
7. **YOU MUST MEET WITH YOUR TA TO DISCUSS MISSED WORK.** Once you have done this, email your instructor the date of the meeting.
8. **100-point penalty** for the first unauthorized, unexplained absence from the lab. If there is a second such absence, you will be asked to drop the course or receive an F.
9. **You must come to lab on time.** There will be a penalty imposed of 1 point per minute that you are late each day.

### Grading Scheme

Class work	Points
5 notebook checks (8 pt each)	40 points
6 lab quizzes (33 pt each)	198 points
3 homework assignments (50 pt ea)	150 points
Lab report	180 points
Lab performance	62 points
Exam 1	170 points
<u>Exam 2</u>	<u>200 points</u>
<b>Total</b>	<b>1000 points</b>

**Note:** Just coming to lab does not ensure that you will get a passing grade in the class. You must hand in all assignments and get a passing score on those assignments (an average of 65%) to get a C- in the class. You will not pass the course if the combined score for your two exams is less than 185 points (50%).

1. **Notebook checks:** It is mandatory that you keep a lab notebook with carbon paper. You will receive instructions on keeping the notebook updated properly. Periodically the TA's will collect the carbons from your notebooks, without prior notice. So keep your notebooks up to date!
2. **Quizzes** will be administered at the start of lab. They will cover that day's experiments, as well as lecture and lab material from the previous 7 days. If you come into lab late and miss the quiz, you will receive a ZERO for that quiz.
3. **Homeworks:** There will be 3 homework assignments due throughout the quarter.
4. **Lab report:** There will be one lab report. Note that a portion of the grade will depend on how well you present your data, so be sure to correctly label figures and graph data properly.
5. **Lab performance:** All students are expected to be good lab citizens. Your attitude, cooperation with others, technique and skill in the lab will contribute to your grade. This includes pre-lab preparation, paying attention during instructions, careful management of lab procedures, safety consciousness, organization, general neatness, proper waste disposal, ability to adapt to unforeseen changes, scientific approach, accuracy, powers of observation, independence, and caliber of thinking before asking questions.
6. **Exams:** There will be two exams given in lecture, on Oct 25 (17% of your grade) and Dec 1 (20% of your grade)

#### **Homework and lab report policies:**

1. A hard copy of each homework or the lab report is due in the first 10 minutes of the lab period of the day on which your assignment is due. Assignments turned in more than 10 minutes after the start of class will be considered late. Penalty for late assignments will be 10% for each day late.
2. Although you will be doing the experiments and collecting data with a partner, you must hand in your own homeworks and lab report, *written in your own words*. **Copying someone else's lab report or homework is cheating** (see below).
3. In addition to the hard copy of the lab report, you are required to submit an electronic copy to Turnitin.com. A link to the e-submission website will be provided on TED. Failure to submit on Turnitin.com will result in zero points recorded for that report. Check the deadline of the Turnitin.com submission and make sure you adhere to it. Students agree that by taking this course all required papers would be subject to review for textual similarity by Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers.

Use of the Turnitin.com service is subject to the terms of use agreement posted on the Turnitin.com site.

4. Additional points will be deducted for late electronic submissions.

### **Regrade Requests for homework, lab report, or exams:**

All regrade requests should be submitted in writing within one week of receiving the graded material.

### **Grade Distribution**

A = 90% - 100%

B = 80% - 89.9%

C = 70% - 79.9%

D = 60% - 69.9%

F = below 60%

### **Course Website**

This course is on TED (<https://ted.ucsd.edu>) and should automatically appear on your TED account as soon as you register for the class. We will use TED to post announcements, information on experiments, exams, schedules, readings and practice material, experimental data, report guidelines, etc. Please check the site regularly and update yourself on the information provided.

## **University Policy on Integrity of Scholarship**

The principle of honesty must be upheld if the integrity of scholarship is to be maintained by an academic community. The University expects that both faculty and students will honor this principle and in so doing protect the validity of University grading. This means that all academic work will be done by the student to whom it is assigned, without unauthorized aid of any kind. Instructors, for their part, will exercise care in planning and supervising academic work, so that honest effort will be encouraged.

### **Student Responsibility:**

Students are expected to complete the course in compliance with the instructor's standards. No student shall engage in any activity that involves attempting to receive a grade by means other than honest effort; for example:

- No student shall knowingly procure, provide, or accept any unauthorized material that contains questions or answers to any examination or assignment to be given at a subsequent time.

- No student shall complete, in part or in total, any examination, or assignment for another person.
- No student shall knowingly allow any examination or assignment to be completed, in part or in total, for himself or herself by another person.
- No student shall plagiarize or copy the work of another person and submit it as his or her own work. *This includes rewriting the same ideas in different words.*
- **If any work is plagiarized from that of another student, both students will be reported to the Office of Academic Integrity, even if one of the students has graduated already. Remember that most graduate schools check the undergraduate records for any indication of dishonesty before awarding a degree.**
- No student shall alter graded class assignments or examinations and then resubmit them for regrading.
- No student shall submit substantially the same material in more than one course without prior authorization.

All lab reports 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 must independently 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 T.A. for clarification.

Because lab reports are to be your own work in your own words, you may not copy or paraphrase, 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 ideas 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.

**Because all quizzes, exams, homeworks and reports are required for satisfactory completion of this course, any student caught cheating on a quiz, exam, homework or report may be given a failing grade for the course and referred to the Office of Academic Integrity for administrative discipline.**