

# **BIMM 101: Recombinant DNA Laboratory**

## **Fall 2015**

**Instructor** Cindy Gustafson-Brown  
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**Phone** 534-4242  
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**Office hrs** Mon 1:10-2:00 PM in HSS 1145L

**Lecture** Tuesday/Thursday 11:00A-12:20P, SEQUO 147

**Labs** Tuesday/Thursday: 12:30-4:30 PM  
York 3306 and 3406 – Check which room you are in!

### **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

### **Required texts**

BIMM 101 Lab Manual from Soft Reserves

*From Genes to Genomes* by Dale (You don't have to buy it.)

electronic version of 3<sup>rd</sup> edition available online, accessible through  
UCSD library

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

### **Required materials:**

- A lab notebook with carbons
- A lab coat – must extend down to your knees
- A fine point Sharpie marker – dark color
- UV-blocking eye protection (you may wear either safety glasses or goggles, but standard prescription eye glasses are not sufficient)
- Calculator
- iClicker – registered on TED (not on the iClicker website)
- Long pants and close-toed shoes are required in lab at all times – no skin on feet or legs should be showing

<b>IAs</b>	C01	Daniel Johnson	<a href="mailto:d3johnso@ucsd.edu">d3johnso@ucsd.edu</a>
	C02	Grace lee	<a href="mailto:gy1006@ucsd.edu">gy1006@ucsd.edu</a>

## Attendance and Absences

1. Your attendance is required at EVERY lab, until all the experimental work for the day is completed. *This includes supplemental discussion/learning times in lab.*
2. If you are likely to have interviews for graduate school, etc., please schedule them on non-lab days.
3. If you are ill or have an emergency on a lab day (or when an important assignment/exam is imminent), e-mail or call Dr. Gus before the start of the lab, due date, or exam. It is not sufficient to contact your IA alone as your IA does not have the authority to excuse your absence. If you are ill enough to miss lab you should provide documentation of your illness.
4. Documentation will be required for all unavoidable absences. Provide this to your IA.
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 IA TO DISCUSS MISSED WORK. Once you have done this, email your instructor the date of the meeting.
8. **50-point penalty** for the first unauthorized, unexplained absence from the lab. If you miss 2 labs, you will need to drop the course or receive an F.
9. **You must come to lab on time.**

## Grading Scheme

	<b>Points</b>
15 pre-lab quizzes (4 pt each)	60 points
7 lab quizzes (48 pt each)	336 points
4 submitted assignments	290 points
iClicker participation	30 points
Lab performance/skills	30 points
Comprehensive exam	254 points
<b>Total</b>	<b>1000 points</b>

1. **Pre-lab quizzes 6%:** Prior to each lab, #2 through #16, there will be an online pre-quiz worth a total of 6% of the final grade. You will have 48 hours prior to the start of lecture to complete the quiz, which will consist of 4 questions related to that day's lab. You will have two attempts to get the answers correct.
2. **Lab quizzes: 34%** Starting on Oct 1, there will be a quiz at the beginning of lab every Thursday, during weeks 2 through 8. Each lab quiz is worth 5% of your final grade. The quizzes will cover the lectures, readings, and lab experiments from the previous week, and the purpose of that day's lab. Study guides will be posted on TED.

**Note:** If you come into lab late and miss the quiz, you will receive a zero for that quiz.

3. **Submitted assignments: 29%** You will submit carbon-copies from your lab notebook, as well as homework assignments. These will vary in point value and format, but cumulatively they will comprise 30% of your final grade. Guidelines for each submission will be posted on TED.
4. **iClicker 3%:** You must be in lecture and answer the clicker questions 75% of the time to get full credit (see clicker notes below).
5. **Lab performance 3%:** All students are expected to be good lab citizens. Your attitude, cooperation with others, conscientiousness, work ethic, technique and skill in the lab will contribute to your grade. Lab performance will be based on the following criteria:
  - a. PRE-LAB PREPARATION
  - b. PRE-LAB PREPARATION
  - c. PRE-LAB PREPARATION
  - d. Paying attention during instructions
  - e. Being responsive to correction
  - f. Technical skill and careful management of lab procedures (e.g. success of experimental procedures, judicious use of reagents, proper waste disposal, etc.)
  - g. Taking care of university property (consistently locking your locker, etc.)
  - h. Ability to adapt to unforeseen procedural changes
  - i. Caliber of thinking before asking questions
  - j. Scientific approach (e.g. controls, experimental design, powers of observation)
  - k. Accuracy
  - l. Independence and initiative
  - m. Safety consciousness
  - n. Organization and general neatness in lab
  - o. Contribution to your group and cooperation with classmates
  - p. Integrity
6. **Exam 25%:** There will be a comprehensive exam on the last day of class, Thursday, Dec 3, during the lab period.

**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.

## Homework policies

1. Homework (and lab notebook carbon copies) must be handed in **at the START** of lab on the due date. Penalty for late assignments is 10%, if turned in by 6 PM the next day. Another 10% will be deducted after that. Homeworks will not be accepted if they are more than 2 days late. **You** must make arrangements with your IA, **in advance**, to turn in the late work.
2. In addition to the hard copy, you are required to submit an electronic copy of homework to Turnitin.com, by the due date/time. A link to the e-submission website will be provided on TED. Failure to submit to Turnitin.com will result in zero points.

Students agree by taking this course that all assignments will be subject to review for textual similarity by Turnitin.com for the detection of plagiarism. All submitted assignments will be included as source documents in the Turnitin.com 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.

3. Although you will be doing the experiments and collecting data with a partner, you must hand in your own homework, *written in your own words*. **Copying someone else's lab report or homework is cheating** (see below).

## Regrade Requests

All regrade requests for submitted assignments, quizzes, or exams should be submitted in writing within one week of receiving the graded material.

## Grade Distribution

A = 90% - 100%  
B = 80% - 89.9%  
C = 68% - 79.9%  
D = 60% - 67.9%  
F = below 60%

## **Clickers in BIMM101**

Getting clicker points towards your grade is very simple – show up to class, watch for the clicker questions, read them, and click in with your answer. All clicker points are for participation only and are not graded.

### **Q. What kind of clicker should I buy and where can I get it?**

The iClicker, preferably version 2, although the regular iClicker works too. You can get one at the UCSD bookstore. iClicker 1 has had issues with “remembering” class settings even within the course of a lecture.

### **Q. Can I share a clicker with another student?**

**NO!**

### **Q. Where and when should I register my clicker?**

Register it on class web site on TED. Look for the link in the Tools folder.

### **Q. When do the scored clicker questions start?**

On Tuesday, Sept 29 in lecture.

### **Q. What are the max points possible?**

30 points = 3% of your grade.

### **Q. How many days will we have clicker questions?**

17

### **Q. How many days will I have to be present to qualify for the full 30 points?**

15 ... you get 2 free absences without penalty

### **Q. How many points is each day worth?**

2 points per day x 15 days for a maximum of 30 clicker points

### **Q. How do I get the 2 points each day?**

You must answer 75% of the questions posed that day. The number of questions will vary from lecture to lecture.

### **Q. Is there partial credit for days when I click in to less than 75% of the questions?**

No, on days when you are absent or click in for less than 75% of the questions, you get no points. It pays to click in. This is also why we have 2 “permitted” absences – so you don’t have to ask me about making up the missed days.

### **Q. If my battery fails, or I forget my clicker, but I do attend the class, do I get clicker points for that day?**

No ... see answer to question above. This would fall under the 2 “permitted” absences. We don’t have to negotiate credit; you can still get all 30 points from the remaining days attended.

### **Q. If I attend fewer than 15 lectures, will I get any points?**

Yes, you can still get 2 points each day if you answer 75% of the questions that day.

### **Q. What is my best strategy for getting all the points?**

Show up for as many lectures as possible, stay awake, and PARTICIPATE!

## 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, assignment guidelines, etc. Please check the site regularly and update yourself on the information provided.

## Letters of recommendation

I will consider writing recommendations only for students who receive an A or an A+, have good academic records and realistic goals, and who have been active participants in the in the course. This means that I need to know who you are because you have come to office hours, or you have answered questions in class, etc. If I don't know you well or don't have much to say about you, I will have no choice but to decline your request to write a letter.

## 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 his 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 provide, procure, 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 quiz, examination, or assignment for another person.
- No student shall knowingly allow any quiz, 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 without citing the source.*
- **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 indications 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.

Your assignments must be independently written, *i.e.* **your own ideas 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 assignments by lab partners that contain shared work is forbidden. *Both* students will be held accountable. The exception is when a figure or table contains the raw data that is supplied to each member of the group (*e.g.* absorption spectra or a gel photo). 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 IA for clarification.

Because assignments are to be your own work in your own words, **you may not view, copy or paraphrase, to any extent, current or past assignments written by other students**. This is plagiarism, a direct attempt by the student to present the ideas of others as their own, and is no different than cheating on an exam.

Copying material from another source without surrounding it by quotation marks is plagiarism, even if the source is cited as a reference. In science writing it is not customary to directly quote others. Rather, you should paraphrase the ideas of your source and then *cite the reference*.

Plagiarism in assignments is rigorously sought out and penalized.

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