Welcome to BIMM 101 Recombinant DNA Techniques!
Sections B01, B02 Spring 2018

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

Office Hours: Wed, 11AM-12PM, in York Hall 3080E. Also, feel free to talk to me during the lab.

LECTURE: Tue, Thu 8 – 9:20AM, York 4080A

LAB: Tue, Thu, 10:00AM-1:50 PM, York Hall 4318 (section B01), 4332 (section B02)

Section	TA	TA email
B01, York 4318	Alexeeva, Arina	aalexeev@ucsd.edu
B02, York 4332	Gutierrez, Ashley	a9gutier@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
- Demonstrate 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
- Demonstrate clear, thoughtful, and concise scientific writing
- Demonstrate 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 (regular, no need for carbon copies)
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: on Ted/Schedule of labs

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

LAB SAFETY TRAINING – Enrolled and waitlisted students MUST successfully complete the Biology Lab Safety Training and Assessment before the first lab session: https://dbsportal3.ucsd.edu:3443/safety-training/. Please note that courses offered by other departments (Chemistry, for example) may have additional safety training requirements.

ATTENDANCE – Enrolled and waitlisted students MUST attend the first lab session. Additional details: http://biology.ucsd.edu/go/ug-labs.

ADD/DROP DEADLINES are different for lab courses than lecture courses. Students who drop a Biology lab class after the end of the second class meeting will be assigned a "W". Additional details: http://biology.ucsd.edu/go/ug-labs.

REQUIRED TEXTS:

- Lab manual "Winter 2018 BIMM 101 Recombinant DNA Lab Manual", sold at UCSD Bookstore

ATTENDANCE:

Remember that lab attendance is required – if you miss two labs, you will be dropped from the course. Missing one lab without a documented emergency will result in 3% reduction of your final grade. What are documented emergencies? These are serious illnesses or family emergencies that require you to be away from the lab. In both cases, in order to be fair to other students, you must bring a doctor's note or another official means to verify your emergency. In case of such an emergency, you must leave a message with me, not your IA, and make up the lab in a way that I will determine. If you have graduate schools interviews during lab times that cannot be rescheduled, talk to me about the possibilities to make up the lab. More then one unexcused absence will result in you failing the course. You must be on time for lab: the IAs go over the experiments and safety considerations at the beginning of lab. Lateness for labs

GRADING:

35% Final exam (completely comprehensive, covers everything we did). If the Final exam grade is higher than the Midterm, it replaces the Midterm grade
20% Experimental summaries (one worst dropped, except for mini-lab reports: RFP and RNAi experiments)
15% Midterm
10% online pre-lab quizzes (one worst dropped)
10% Written assignments other than experimental summaries (bioinformatics, data analysis, etc.)
5% lab skills, attendance, performance (this grade is determined by the IA's)
3% In-class participation (iClickers)
2% In-class group work (grade assigned to the group as a whole)

1. Final exam: The cumulative final exam will take place on **Thursday, June 7th (**week 10, during the lab), in the lab. Midterm: **May 1st, in class**. All students are expected to take their exam at the scheduled time. The only valid excuses for missing an exam are documented 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. Pre-lab quizzes: due before each lab. Will become available at least 24 hrs before the lab.

3. Written assignments other than experimental summaries: there will be several bioinformatics labs and data analysis exercises. These will be submitted on TritonEd, one per group of two students: you and your lab partner will work together on the assignment and will receive the same grade.

4. Experimental summaries

-Brief summary of the experiments from the previous lab/s, with all data labeled and analyzed. This will help you to follow the sequence of the experiments. Most summaries will be graded. The due dates for the summaries will be posted in the course calendar. I strongly recommend starting writing the summaries on the day of, if not during the lab. One worst experimental summary grade will be dropped (or you can

choose not to submit one experimental summary). Please note that this does not apply to two "mini-lab reports": experimental summaries 4 and 5 (RFP and RNAi) - you must submit them and their grades will not be dropped.

5. Lab skills, attendance, performance. This grade will be assigned primarily by the IA's, based on your attendance and performance on the following criteria:

a. Attendance, being on time, and participation: starting and finishing on time, following IA's instructions, participating in discussions.
b. Preparedness: knowing what experiments you are about to perform, being able to answer IA'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
k. Answer the questions posed by the IA and the instructor, participate in the in-lab discussions

6. In-class group work. You will sit together with your lab partner and the group next to you (sharing the same bench). In-class, you will work together to solve problems and answer questions. The instructor will record the quantity and the quality of your group's participation. All members of the group that consistently participate will share the group's grade.

7. iClickers: click in 85% questions to earn an A in this category

LATE POLICY: lab reports and homework assignments are due on TritonEd on the assigned date and time. For each day thereafter (including weekend days), you will lose 10% off the lab report grade. Please talk to the instructor if emergency or illness precludes you from submitting these on time. **Important:** you can use **two days of grace per quarter** on any one of the written assignments: that is, you can turn in one assignment two days late without the penalty. Use those two days wisely!

REGRADE POLICY: All requests for regrades must be submitted in writing first to your TA, then (if problem is not resolved) to me. To submit for a regrade, you must write a cover letter specifying which specific problem should be looked at and fully describing why you think it was wrongly graded. The regrade request must be delivered within 1 week after the assignments are returned.

POLICY ON CHEATING: anyone caught cheating (includes plagiarizing experimental summaries, 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 an A or above in this course. If you think you may want me to write you a letter of recommendation, be sure to not only very actively participate in

the in-class discussions, but also 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, IA'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!

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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 experimental summaries or other assignments 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 experimental summaries 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 summaries and other assignments 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.