Syllabus
BIBC 103: BIOCHEMICAL TECHNIQUES
Section A00
Winter Quarter 2012

Instructor:
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(Please include "BIBC 103" in your subject line.)
Office Hours: Anytime I'm around the labs, or Mondays 11:30-12:30 in HSS 1145-I

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Lecture: Tues/Thurs 8:00 AM – 9:20 AM in Peterson 104
Lab: Tu/Th 9:30 AM-1:30 PM; BH 1309 (A01), 1329 (A02), 1413 (A03)

What to bring to lab each day:

1. Lab Manual
2. Lab Research Notebook with 100 numbered duplicate pages
3. pen (lab notes must be in ink)
4. calculator
5. lab coat
6. UV safety glasses
7. proper attire and shoes

Course Web Site:

Additional course materials will be on our web site, including supplemental material, lab report guidelines and exam keys. The site is available to everyone who is registered for the class. The address is:

http://ted.ucsd.edu

Please be sure that you are able to access this web site. Be sure to check it often. Lab report and homework guidelines will be posted here. Notes about exams and practice exam questions will also be posted here.

We will be using the discussion board of the web site to address general questions about the course. If you have a question that might be of relevance to others in the class (about course content, lecture information, lab reports, etc.) please use the discussion board instead of emailing the professor. Feel free to use email to address any personal issues that might come up.

Grading:

Your final grade will be calculated using the following criteria:

1. 320 points – lab reports (2 lab reports, 160 pts each)
2. 450 points – 3 exams, 150 pts each
3. 110 points – quizzes, notebook, TA evaluation
4. 120 points – homeworks (1. bioinformatics, 2. FPs, 3. protein crystallization)

If your overall grade is above 970, you will receive an A+. 930-969 = A; 900-929 = A-; 870-899 = B+; 830-869 = B; 800-829 = B-; 770-799 = C+; 730-769 = C; 700-729 = C-; 600-699 = D, <600 = F.
The curve might be lowered (you might be given a higher grade than listed above) if it is warranted based on the performance of the entire class.

Course Outline:

	Dates	Experiment/Activity	Chapter
Wk 1	1/10	Organization/Safety; Introduction to Micropipettes	Lab 1
	1/12	Making a pH buffer; Quantitative Measurements	Lab 2
Wk 2	1/17	LDH 1: Initial purification of LDH from crude homogenate	Lab 3
	1/19	LDH 2: Affinity chromatography purification of LDH	Lab 4
Wk 3	1/24	LDH 3: Size exclusion chromatography purification of LDH	Lab 5
	1/26	LDH 4: Activity assays; Bradford protein assays	Lab 6
Wk 4	1/31	LDH 5: Native gel electrophoresis of LDH with activity stain	Lab 7
	2/2	MAP kinase Western blot (MAPK): Sea urchin fertilization **Exam 1 in lecture**	Lab 8
Wk 5	2/7	MAPK: SDS-PAGE and electroblotting **Lab report 1 due**	Lab 9
	2/9	MAPK: Immunodetection	Lab 10
Wk 6	2/14	MAPK: IP_1 ELISA to detect PLC activation; Examine Western blot films	Lab 11
	2/16	Bioinformatics: LDH and Fluorescent Proteins **Complete and turn in bioinformatics worksheets as HW1**	Lab 18
Wk 7	2/21	Fluorescent proteins (FP) 1: Plasmid preps	Lab 12
	2/23	FP 2: Restriction enzyme digest; agarose gel electrophoresis **Exam 2 in lecture**	Lab 13
Wk 8	2/28	FP 3: Make competent cells and transform with plasmid; Set up lysozyme crystallization	Lab 14 Lab 19
	3/1	FP 4: Purification and analysis of fluorescent proteins	Lab 15
Wk 9	3/6	FP 5: SDS-PAGE of fluorescent proteins **Lab report 2 due**	Lab 16
	3/8	FP 6: Examine SDS-PAGE gels	Lab 17
Wk 10	3/13	Examine lysozyme crystals	Lab 19
	3/15	**Exam 3 in lab**	
Finals	3/20	**Turn in HW2/3 before noon**	

Attendance Policies
Details on each day's lab experiments will be available in the lab manual. You are required to read the manual BEFORE coming to lab. There will be a brief (5 minute) quiz at the beginning of some lab sessions. There will not be a quiz at each lab session, but it will not be announced ahead of time whether or not there is a quiz, so read the lab manual each day to be prepared. The quizzes will only cover the material in the manual for that day's experiment. If you are late to lab, you will not be permitted to make up the quiz. If you arrive late to lab during the quiz, you will only have until the five minutes of quiz time are over.

Attendance will be taken at each lab session. If you are more than 10 minutes late to lab, or you leave lab before your group is done, you will be counted as absent for that day. Your attendance will be factored into your final grade. An unexcused absence will result in 15 points off of your attendance grade. If you know that you need to miss a lab session, discuss this with the instructor (not the TA, they are not authorized to give you permission) to see if it will be possible to make up the lab session or excuse you from the lab with no consequences. Please bring this to the instructor's attention as soon as you know that it will be an issue. **Only the instructor can excuse an absence. Two unexcused absences will result in the student failing the course. Athletic competitions are not excused absences.**

Turning in Lab Reports
We will be using Turnitin.com for all of our lab reports in addition to turning in hard copies to your TA. There will be a link on our Ted page. On or before the start of the lab period on the day that lab reports are due, you must turn in <u>all</u> of your text (no graphs or tables or attachments are necessary, but you may include them if it is easier) on Turnitin.com. You must also turn in a complete hard copy (all text, plus all tables, graphs, attachments, or anything else called for in the lab report guidelines) to your TA no later than 10 minutes after the start of your lab period. Any report turned in more than 10 minutes after your lab period has started will be considered one day late. All late reports will be deducted 16 points (10%) per 24-hour period, including weekends. This penalty will also be applied if you are late turning in your text on the website, even if your hard copy is turned in on time. Each additional day that your report is late will result in an additional 16-point penalty. You must make arrangements to turn your late lab report in to your TA. If you want to use the slot in the central corridor on the 1st floor of Bonner Hall, you must let your TA know, since this drop box is not regularly checked.

Students agree that by taking this course all required papers will be subject to submission for textual similarity review to 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.

Academic Integrity
Cheating will not be tolerated. The administrative policy on Academic Dishonesty outlined by this institution will be followed. Students caught cheating during an exam or quiz will be removed and given a "zero" for that exam or quiz. A report will also be filed with the Academic Integrity Coordinator. Cheating includes, but is not limited to, plagiarism, talking during tests, tampering with graded tests, or making use of forbidden materials during tests. Students will be permitted to bring only non-programmable calculators and writing implements to exams.

During laboratory sessions, student cooperation and collaboration is highly encouraged. This includes discussion of experimental data with fellow students during lab hours. After the laboratory session is over, however, you are required to work on your own. ***Each student must hand in an independently written and independently thought-out data analysis for each lab***. If you are caught working with another student on your lab report, both of you will receive a "zero" for that lab report, and you might be reported to the Academic Integrity Coordinator.

It is NOT acceptable to use any old lab reports to assist you in any way. If you happen to be in possession of old copies of lab reports for this class, it is best that you do not even look at them, since they could unintentionally influence the way that you write your own report. If we discover that you have used an old lab report in any way, you will automatically receive a "zero" for that lab report, and you might be reported to the Academic Integrity Coordinator.

While your lab reports will be returned to you, you are NOT permitted to share them with anyone for any reason. If we find that you have shared your lab report with anyone, you will be reported to the Academic Integrity Coordinator, even if you have already completed the class.

Make-up Exams

If a student is unable to take an exam, he/she must contact the instructor *as soon as humanly possible*, and with as much advance notice as possible. If there is a valid reason, and solely at the discretion of the instructor, an oral exam or an alternate written exam will be administered within one week of the regularly scheduled exam.

Re-grading Exams

Exams will be available for you to review as soon as they are graded. You may NOT take the exams with you. Any exam that is not returned will receive a grade of zero. Exam keys will be available in lab on the day that exams are returned. Please review the key and check over your answers. If you feel that an error has been made in the grading of your exam, please write a note (on the exam or on an attached piece of paper) stating the discrepancy and it will be reviewed by the professor and/or the TA who graded that question. Exam three will be available for review during finals week at a time and place to be announced.

Re-grading Lab Reports

All requests for re-grades of lab reports must be in writing. Attach a note or write directly on your lab report, and return it to your TA. The option of re-grades is solely at the discretion of the TA, and all re-grade decisions are final. The request must be received by the next lab period after the lab report has been returned.

Note that the TA will have the discretion to re-grade your entire lab report, not just the section that you feel is in error.

Course Requirements

In order to pass this course, you must successfully complete the following:

Turn in all assignments, even if they are late.

Take all exams, or get instructor's approval on alternates.