BIOLOGY 1A: COURSE SYLLABUS **Fall 2014**

Faculty: Dr. Pauly and Dr. Fischer are from the Department of Plant and Microbial Biology. Dr. Welch is from the Department of Molecular Cell Biology. The faculty will hold office hours (while they are lecturing) as follows:

Markus Pauly	MW 9-10 (56 Hildebrand) Th 2-3 (2066 VLSB)	2-1722, Calvin Lab, mpauly69@berkeley.edu http://pmb.berkeley.edu/profile/mpauly#a2
Robert Fischer	MW 9-10 (56 Hildebrand) Th 2-3 (2066 VLSB)	2-1314, 231A Koshland, rfischer@ berkeley.edu. http://epmb.berkeley.edu:8080/facPage/dispFP.php?I=8.
Matthew Welch	MW 9-10 (56 Hildebrand) Th 2-3 (2066 VLSB)	3-9019, 305 LSA, welch@berkeley.edu http://mcb.berkeley.edu/index.php?option=com_mcbfaculty&name=welchm

Course Coordinator: Mike Meighan. 2-4110, 2088 VLSB, e-mail is **mmeighan@berkeley.edu**. Office hours are Monday 11-12, Wednesday 11:30-12:30 (and by appointment). Any administrative or grading issues should be addressed to the course coordinator.

Graduate Student Instructors: The GSI's will instruct the discussion sections. A GSI will be available in the GSI office, 2084 VLSB, between 10-2, M, T, Th, F and 11-2 W. Messages may be left in your GSI's mailbox in 2084 VLSB.

Please turn off cell phones prior to the start of lecture.

TIME TABLE

The drop deadline is Sept. 5th. Deadline to change grading option from P/NP to letter grade is September 26th. Deadline to change letter grading to P/NP is Oct. 31st.

1. **Lectures:** Begin Friday August 29th and end on Friday December 5th . Lectures are held in 1 Pimentel from 8-9 AM. Lectures may be available on the web (**http://webcast.berkeley.edu/courses/**). **They are also simulcast in 10.** Lecture handouts are posted on bSpace. No note taking service is authorized.
2. **Email address:** We will routinely email the students about once a week. We will use the email address you have listed in the CalNet Directory. If it isn't the one you check, then you need to change it in the CalNet directory. If you have not received any emails yet, there is a problem with your listed email address. bSpace will be used frequently, check it!
3. **ADDING: Use Tele-BEARS. To add Bio 1A, you must be enrolled in Bio 1AL or be exempt** from simultaneous enrollment. For more information click under enrollment information on our url: http://mcb.berkeley.edu/courses/bio1a/.
4. **SWITCHING DISCUSSION/LAB** (Permanent Switch): On bSpace click on "Click Here to Switch Discussion Sections" for a link to a page with instructions on how to switch sections via TeleBears. You need to do your best to work out your discussion assignment by the first week.
5. **DISCUSSION:** Begins Tuesday, 9/2. (No discussion on Monday 9/1.) Attendance will be taken starting Monday September 8th. You must attend your assigned discussion section.
6. **LABORATORY:** Lab lecture begins Monday September 1st (you must watch webcast link on bSpace) and **labs begin Tuesday September 2nd.** The first lab covers Safety, and Equipment. The lab exercise (lab manual) is available on bSpace and at Replica Copy. Lab will be held Tuesday through Friday. The lab lecture on September 9th will cover the second

lab, Cells and Seawater plating. Note that there is a Learn Smart module required before the Monday 9/1 (5 PM deadline) and there is a quiz for each lab. See the 1AL syllabus.

7. **Attendance**: You are required to attend the lab AND discussion sections in which you are enrolled (not waitlisted). For further lab information, see the lab syllabus.
8. **Lecture examinations are: Thursday Oct. 2nd from 7:30 - 8:30 PM (evening exam). Monday Nov. 3rd from 8-9 AM (morning exam).** There are no make-up exams. A handout will be given in lecture concerning each exam.
9. **Final Examination: Monday Dec. 15th at 7-10 PM.** Room(s) to be arranged. The final exam will be comprehensive and will cover all lectures. You will receive a handout in lecture regarding specific details about the final (point distribution, weighting, etc.).
10. In the case of disruption of an exam (fire alarm, bomb threat, etc.) alternative arrangements have been made. These may include moving the exam to another location, and/or extending the time, and/or arranging an alternative exam date or format (possibly essay).
11. Lab exams are scheduled as follows: **First lab exam, Thursday night, October 23rd (7:30 PM)** Room(s) to be arranged. **Your second Lab Exam will be held on Thursday night December 4th (8:30 PM).** There are no make-up lab exams. A handout will be available on-line concerning each exam – room assignments, material covered, etc. There is NO additional final exam for the lab class.
12. Assignments, exams: When papers, etc. are returned it is your responsibility to pick them up. If you do not attend discussion, then you must contact your GSI and get the papers from them, at their convenience. Papers not picked up after 3 weeks may be discarded.

REQUIRED LECTURE MATERIALS:

Textbook: **Raven et al. Biology, 10th edition including Connect and Learn Smart.** You will need the 10th edition and the electronic resources for the graded assignments.

iClicker transmitter or iClicker GO. You must have your own individual iClicker.

The url for the online homework system (McGraw Hill Connect & Learn Smart is http://connect.mheducation.com/class/bio1a_fall2014). You will need to have a "Purchase Code" which is available in the book purchased from Cal Student Store or The Student Store. Learn Smart assignments are typically due before lecture and the Connect assignments are due by the following lecture.

Course Reader(s): Required course readers will be available on bSpace and most likely also available at Replica Copy.

Exam Reader: An exam reader with exams from past semesters is available at Replica Copy. The cost is about $4.00.

GRADING PROCEDURE: Grades will be determined numerically as follows:

Midterm Examinations (2 x 100)	200 points
Final Exam	300 points
iClicker (3 X 12), LearnSmart (3 X 12), Connect (3 X 24)	144 points
Total:	644 points

Changes affecting the point distribution, the reading schedule, or other aspects of the syllabus may occur during the semester. We will inform you of any changes. Letter grades are based upon EARNED points (not based upon needs or wants). They are guaranteed as follows.

A (some form of an A)	100-90%	D (some form of a D)	69-60%
B (some form of a B)	89-80%	F	59-00%
C (some form of a C)	79-70%		

However, in the event that some examinations have been unusually difficult, the cut offs for letter grades may be lowered (but only by a few percentage points, and as deemed necessary). Historically around 40-50% of the class **EARN** A's and B's.

iClicker points – Each question is worth ½ pt for participation and an additional ½ pt for the correct answer. You can earn up to a MAXIMUM of 12 points per lecturer. Each lecturer will attempt to have at least 14 iClicker questions for their section. If for some reason, there aren't enough iClicker points then any remaining points will be added to the final. **It is your responsibility to register your iClicker and provide a functional iClicker or use IClicker GO.**

Electronic Assignments.

LearnSmart Points. A distribution of scores will be generated and a grade scale from 0 to 14 points will be assigned. The maximum possible number of points will be 14. A distribution of scores will be generated and a grade scale from 0 to 14 points will be assigned. The maximum possible number of points will be 12 (thus if you have 11.5/14 of the total points you will get 11.5 points. If you had 13.2/14 of the total points you will get 12 points (the maximum). Thus it is possible to miss one or two assignments and still end up with the maximum. No extensions of deadlines. Each assignment is typically **due by 8 AM of the start of the lecture**. Extensions may be made as deemed necessary but the extension will be for the entire class, not just a few individuals. Each professor will have their own **LearnSmart** assignments.

Connect Points. A distribution of scores will be generated and a grade scale from 0 to 26 points will be assigned. The maximum possible number of points will be 24. A distribution of scores will be generated and a grade scale from 0 to 26 points will be assigned. The maximum possible number of points will be 26 (thus if you have 18.5/26 of the total points you will get 18.5 points. If you had 25.2/26 of the total points you will get 24 points (the maximum). Thus it is possible to miss one or two assignments and still end up with the maximum. No extensions of deadlines. Each assignment is typically due by **8 AM of the start of the next lecture**. Extensions may be made as deemed necessary but the extension will be for the entire class, not just a few individuals. Each professor will have their own **Connect** assignments.

I GRADES: An "incomplete" can only be given if (1) the student has completed at least one-half of the material with a passing grade of C or better and (2) the student presents documented medical evidence of an inability to complete the course on schedule. The student assigned an I grade in Biology 1A must complete the work before the first day of classes in the Fall Semester of 2015, without including the course for units on the study list, or the I lapses to an F.

CHEATING: UC Berkeley has adopted the following Honor Code: "As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others". As a UCB student you pledge to adhere to this code. The rare student found cheating in the course will be reported to the University. The student will be given an F course grade. Cheating is not tolerated. This includes **ALL** work—iClicker, homework assignments, pre-labs, worksheets, quizzes, and exams!

HOW TO DO WELL

1. Come to lectures and take notes. Make sure you review them.
2. Keep up with the material. It is essential that you do not fall behind. Seek help if needed.
3. Clarify topics you do not understand by

a. Coming to faculty office hours and ask questions.
b. Coming to GSI office hours and ask questions.
c. Getting into a study group.
d. Reading the book.
e. Using email to ask the faculty questions.

4. Use the exam reader, making sure you understand the reasoning behind the answers.
5. Come to the exam review sessions and ask questions.
6. Come to discussion with questions.

BIOLOGY 1A STUDY RESOURCES

The following is a partial list. Please take advantage of these resources. Additional opportunities such as faculty & graduate student reviews may also occur during the semester. Further information is available in the lab manual and in the exam reader.

Faculty Office Hr's: Office hours are M/W 9-10 in 56 Hildebrand and Th 2-3 in 2066 VLSB unless otherwise noted.

Academic Coordinator Office Hr's (2088 VLSB)**:** M 11-12, W 11:30-12:30.

Graduate Student Instructors Office Hr's (2084 VLSB): Usually M- F, 10 - 2. Refer to bSpace for up to date hours.

Student Learning Center (SLC, 189 Chavez Student Center): The SLC offers student-led study groups and tutoring. Study groups require registration that can be done on SLC's webpage **(slc.berkeley.edu**). See the SLC's webpage for more information. **Note:** None of the SLC's services are a substitute for lecture, discussion, reading the text, or attending Bio 1A office hours. However, they are another way to get additional assistance and feedback from trained undergraduate tutors who want to assist you in meeting your academic goals.

STUDY GROUPS: These are a great way to learn the material. Form your own study group.

Tutor Services (fee): Formal tutoring (variable fees) from individuals may be available as the semester progresses. Contact Mike.

Biology 1A Web Sites: mostly bSPace and http://mcb.berkeley.edu/courses/bio1a.

Schedule of Classes

Section	Disc. Time	Disc. Room		Section	Disc. Time	Disc. Room	
101	M 11-12 PM	130 Wheeler		115	M 3- 4 PM	2032 VLSB	
102	M 11-12 PM	123 Wheeler		117	M 4- 5 PM	2032 VLSB	
103	M 11-12 PM	106 Wheeler		118	M 4- 5 PM	2038 VLSB	
104	M 11-12 PM	101 Wheeler		119	M 4- 5 PM	229 Dwinelle	
105	M 12- 1 PM	130 Wheeler		201	T 11-12 PM	3109 Etcheverry	
106	M 12- 1 PM	122 Wheeler		203	T 9-10 AM	2066 VLSB	
107	M 12- 1 PM	103 GPB		204	T 1- 2 PM	2062 VLSB	
108	M 1- 2 PM	2030 VLSB		205	T 1- 2 PM	2011 VLSB	
109	M 1- 2 PM	2011 VLSB		206	T 1- 2 PM	2038 VLSB	
110	M 1- 2 PM	2032 VLSB		207	T 2- 3 PM	2062 VLSB	
111	M 2- 3 PM	2062 VLSB		208	T 2- 3 PM	2038 VLSB	
112	M 2- 3 PM	2032 VLSB		210	T 3- 4 PM	2038 VLSB	
113	M 2- 3 PM	2038 VLSB		211	T 4- 5 PM	2062 VLSB	
114	M 3- 4 PM	2062 VLSB					

Biology 1A Calendar, Fall 2014

Lectures 1-13 Professor Pauley, Lectures 14-26 Professor Fischer, Lectures 27-39 Professor Matthew Welch.
All readings are from the **10th edition of Biology by Raven et al**.

NOTE: Lecture topics and readings for Dr. Fischer's and Dr. Welch's sections will be posted on bSpace as we get closer to those sections of the course.

Date	*Lect #*	*Lecture Topic*	*Reading*	*Bio 1AL Lab, Discussion*
Aug. 29	1	Atoms and water: key concepts	Ch. 2	
Sept. 1		**HOLIDAY**		Safety, Equipment. **Watch the webcast. Lab held.**
Sept. 3	2	Carbon Chemistry and Macromolecules	Ch. 3: 33-41	
Sept. 5	3	Carbohydrates, Nucleic acids, Proteins, Lipids	Ch. 3: 41-58	
		*Deadline to drop = Sept. 5		
Sept. 8	4	Cell structure, part 1	Ch 4: 59-72	Cells, *Vibrio* isolation
Sept. 10	5	Cell structure, part 2	Ch 4: 74-87	
Sept. 12	6	Membrane structure and function	Ch 5: 88-106	
		*Deadline to add without a fee = Sept. 10.		
Sept. 15	7	Metabolism: energetics	Ch 6: 107-112:	Enzymes, *Vibrio* isolation.
Sept. 17	8	Metabolism: enzymes	Ch 6: 112-121	
Sept. 19	9	Photosynthesis: light	Ch 8: 147-160	
Sept. 22	10	Photosynthesis: C-fixation	Ch 8: 160-167	Photosynthesis, *Vibrio* Isolation.
Sept. 24	11	Cellular respiration: glycolysis, fermentation.	Ch 7: 122-130 139-140	
Sept. 26*	12	Cellular respiration: TCA, oxidative phosphory (Evaluation 15')	Ch 7: 130-138 140-146	
		*Deadline to add, change from P/NP to letter grade.		
Sept. 29	13	Cell cycle	Ch 10: 186-206	Complementation I, PCR & GMB I.
Oct. 1	14			
Oct. 2		**MIDTERM 1: Lectures 1-13. Thursday night exam.**	See handout.	**Th Exam 7:30- 8:30 PM. Lectures 1-13**
Oct. 3	15			
Oct. 6	16			Complementation II, PCR analysis & GMB II.
Oct. 8	17			
Oct. 10	18			
Oct. 13	19			Complementation III & Bioinformatics.
Oct. 15	20			
Oct. 17	21			
Oct. 20	22			Lecture Exam Review
Oct. 22	23			
Oct. 23		**Thursday Lab exam 1: 7:30- 9:20 PM.**		
Oct. 24	24			

Date	*Lect #*	*Lecture Topic*	*Reading*	*Bio 1AL Lab, Discussion*
Oct. 27	25			Rat Anatomy.
Oct. 29	26			
Oct. 31*	27			

		* grading deadline (P/NP). See an adviser.		
Nov. 3		**MIDTERM 2: Lectures 14-26.**	See handout.	Invertebrates .
Nov. 5	28			
Nov. 7	29			
Nov. 10	30			No lab lecture. No lab.
Nov. 12	31			
Nov. 14	32			
Nov. 17	33			Reproduction & development.
Nov. 19	34			
Nov. 21	35			
Nov. 24	36			No lab.
Nov. 26	37			
Nov. 28		HOLIDAY		
Dec. 1	38			Q & A review:
Dec. 3	39			
Dec. 4		**Thursday Lab exam 2: 8:30- 10:00 PM.**	See handout.	
Dec. 5	40			
Dec. 15		**FINAL EXAM 7-10 PM**	Exam Handout	

Note: look at the final exam handout carefully for your assigned seating within a section. It will be critical that you take your place quickly since there is only 30 minutes between exams and there will be assigned seating.