BIOLOGY 1A: COURSE SYLLABUS **Spring 2003**

Faculty: The faculty are from the Department of Molecular and Cell Biology. The faculty will hold office hours on Monday and Wednesday from 9-10 AM in 210 Hildebrand. Each professor will hold an additional Friday office hour as listed below. Note both the time and location.

		Phone, office, email.
Barbara Bowman	F 3-4, 2084 VLSB.	3-2042, 4074 VLSB, bowmanb@uclink.berkeley.edu
Tracey Handel	F 3-4, 210 Hildebrand.	3-9313, 201A Hildebrand, handel@paradise1.berkeley.edu
Gary Firestone	F 2-3 PM, 2084 VLSB.	2-8319, 591A LSA, glfire@uclink4.berkeley.edu

Course Coordinator: Mike Meighan. 2-4110, 2088 VLSB, mailbox in 2084 VLSB, e-mail is {**mmeighan@uclink4.berkeley.edu**}. Scheduled Office hours are M 9-10, W 10-11, Th. 2-3, and by appointment. I am available for advice on study habits, techniques, lecture material and on matters of scheduling, laboratory operations, exams, etc.. **As you can tell, you have no valid excuse for not getting in touch with either the Course Coordinator, or the Faculty**.

Graduate Student Instructors: The GSI's will instruct the laboratory and discussion sections. GSI office hours will be held in 2084 VLSB. A schedule of office hours will be posted on the door of 2084 VLSB. Messages may be left in your GSI's mailbox in 2084 VLSB.

Schedule and Rooms See page 4.

TIME TABLE

1. Lectures begin Jan. 22nd and end May 12th. Lectures are held in 1 Pimentel from 8-9 AM. It is NOT on the web and there is no simulcast. Occasionally, handouts will be given and they will be available at the entrance, and at the front of the room. A lecture handout is available for purchase at Replica Copy, 2140 Oxford (near Ben & Jerry's). No note taking services are authorized.
2. **ADDING:** To add Bio 1A, an "**ADDING**" form (page 7) must be filled out and turned into the mailbox outside of 2088 VLSB today, by **4:00 PM (Wed. January 22nd)**. A list of students and assigned sections will be posted outside of 2084 VLSB by **8:00 AM on Friday January 24th.** If you want the class, check the case. Some of you will get your third or fourth choice for lab and discussion times, but you will be in the class.
3. **CHANGING SECTIONS:** To change sections, a "**SECTION CHANGE**" form (page 8) must be filled out and turned into the mailbox outside of 2088 VLSB by **4:00 PM on Friday, January 24th.** Very, very few section changes will be permitted. Section assignments will be posted by **10:00 AM on Sunday, January 26th. Check** the display case over the weekend as you may have been assigned a Monday discussion. **Check**!!
4. **DISCUSSION begins Monday, January 27th. You must show up to your assigned section or you will be dropped.** Check the display case on Sunday if you requested a change.
5. **LABORATORY** begins Tuesday January 28th. Refer to the lecture handout for a listing of the material to be covered in a given lab. The first lab will focus on safety and the proper use of laboratory equipment. Refer to the first lab handout in your course reader. Bring your course reader **and** your lab manual to the first lab. Read the material before coming to lab. Refer to TEXTBOOKS AND LAB MANUAL. If you can not attend, contact Mike Meighan **beforehand.**

6. **Lecture examinations** are scheduled for Friday February 28th and Wednesday April 9th at 8 AM. There are no make-up exams. If you miss an exam due to illness, you must present a written, verifiable medical excuse to Mike Meighan, and your grade for that exam will be pro-rated. A handout will be given in lecture concerning each exam.
7. In the case of disruption of an exam (fire alarm, bomb threat, etc.) alternative arrangements have been made. Usually the exam will be moved to another location (announced at the start of the exam), and/or extending the time, and/or arranging an alternative exam date or format (possibly essay). **False alarms are a misdemeanor**.
8. Lab exams are scheduled as follows: First lab exam, **Tuesday night, March 18th.** Room(s) to be arranged. Your second Lab Exam will be held on your assigned lab day, within your three hour period (**May 6th - 9th**). There are no make-up lab exams, nor may you switch from your assigned section. Exam handouts will be given.
8. **Final Examination:** Friday May 16th at 8 - 11 AM. 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.).
9. **Attendance**: You are required to attend your normally scheduled lab AND discussion. However, if an exam directly conflicts with your lab it will be possible to reschedule lab during the same week EXCEPT THE week of May 6th to 9th. TO DO THIS you must see or e-mail Mike Meighan, the Academic Coordinator, the week before your exam conflict (such as Organic Chemistry). You know well in advance when your exams are, therefore, schedule lab changes one week ahead of the conflicting exam. See page 1 for my phone # and e-mail.

TEXTBOOKS AND LAB MANUAL

Required textbook: Campbell, **Biology,** 6th edition, Benjamin-Cummings 2002.

Required Lab Manual: The required lab manual (2002/2003) is available at ASUC and other bookstores. This is a new edition and you can not use previous editions.

Recommended Lab Manual: A Guide to Biology Lab., 3rd ed. T. G. Rust. Southwest Education Enterprise. It is fairly inexpensive for a used copy.

Exam Reader: An exam reader which contains exams from past semesters will be available at Replica Copy, located near Ben & Jerry's on the west side of campus at 2140 Oxford, on February 10th.

Lecture Handouts: There is one packet of figures, etc. for the lectures. It is available at Replica Copy (2140 Oxford). You will need this for lecture and for the first lab.

GRADING PROCEDURE: Grades will be determined numerically as follows:

Midterm Examinations (2 x 100)	200 pt's.
Laboratory & Discussion as follows:	
Lab Exam 1, 3/18 (covering lab material (1-7)	90 pt's.
Lab Exam 2, 5/6-9 (covering lab material (8-12)	75 pt's.
Quizzes - 3 points each given at the start of each lab (12 labs x 3 pts) but the lowest score will be dropped, hence 11 X 3.	33 pt's.
Final Exam	300 pt's.
Total:	698 pt's.

Letter grades are based upon the points that you **EARN** in the class (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.

I GRADES: In keeping with University regulations, the grade of "incomplete" is assigned to a student only 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 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 Spring Semester of 2004, without including the course for units on the study list, or the I lapses to an F.

CHEATING: The rare student found cheating in the course will be reported to the University for review for dismissal. An automatic 0 will be given on that assignment. Cheating is not tolerated. This includes ALL work including pre-labs and worksheets!

RECOMMENDATIONS: It is probably better for you to obtain letters from upper division classes, in the future, but we are willing to write letters. Your GSI will write an initial draft of the letter (they know you the best). The course coordinator will edit the letter and a faculty member will sign the edited letter. The course coordinator will then forward your letter to the Placement center. This takes time--at least two weeks. <u>It is essential that you request this letter from your GSI **before** the end of this semester.</u>

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 the Exam Reader.

Faculty Office Hr's: See the front page.

Academic Coordinator Office Hr's (2088 VLSB)**:** M 9-10, W 10-11, Th. 2-3.

Graduate Student Instructors Office Hr's (2084 VLSB): Hours are posted on the door.

Student Learning Center (SLC, 141 Chavez Student Center): The SLC offers student-led study groups and tutoring for Bio 1A. Study groups require signing-up in advance which can be done through the SLC's webpage (slc.berkeley.edu), or in the Chavez computer lab. Tutoring is generally available MTWTh 9-4 and F 9-12 in the Science Tutoring Area of the Chavez Center. 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 an excellent 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. I encourage you to form study groups, either within your lab or with other students. The Student Learning Center has study groups (see above). They fill quickly; usually within two days.

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

There may be changes made in the syllabus. Changes will be announced in lecture and they will be posted on our **Biology 1A Web Site: http://mcb.berkeley.edu/courses/bio1a**

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HOW TO DO WELL IN BIOLOGY 1A

1. Come to lectures (yes, I know they are at 8 A.M.) and take your own notes.
2. Review your notes after each lecture
3. Keep up with the material--a major problem for students in this course is the rapid pace and the large amount of subject matter that is covered. It is essential that you do not fall behind.
4. 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
5. Use the exam reader, making sure you understand the reasoning behind the answers.
6. Come to the exam review sessions and ask questions
7. Seek help, if needed. Do it sooner than later.

Schedule of Classes

Section	Discussion Time	Discussion	Lab Time	Lab Room	Code
101	M 11:00-12:00 PM	105 Dwinelle	T 9:30-12:30 PM	2095 VLSB	A
102	M 11:00-12:00 PM	109 Dwinelle	T 9:30-12:30 PM	2097 VLSB	A
103	M 12:00- 1:00 PM	105 Dwinelle	T 2:00- 5:00 PM	2095 VLSB	B
104	M 12:00- 1:00 PM	209 Dwinelle	T 2:00- 5:00 PM	2097 VLSB	B
105	T 3:00- 4:00 PM	B51 Hildebrand	W 9:00-12:00 PM	2095 VLSB	C
106	T 3:00- 4:00 PM	**2062 VLSB**	W 9:00-12:00 PM	2097 VLSB	C
107	M 3:00- 4:00 PM	242 Dwinelle	W 2:00- 5:00 PM	2095 VLSB	D
108	M 3:00- 4:00 PM	223 Dwinelle	W 2:00- 5:00 PM	2097 VLSB	D
109	T 12:00- 1:00 PM	340 Moffitt	Th 9:30-12:30 PM	2095 VLSB	E
110	T 12:00- 1:00 PM	103 Moffitt	Th 9:30-12:30 PM	2097 VLSB	E
111	T 2:00 - 3:00 PM	209 Dwinelle	Th 2:00- 5:00 PM	2095 VLSB	F
112	T 2:00 - 3:00 PM	223 Dwinelle	Th 2:00- 5:00 PM	2097 VLSB	F
113	M 3:00- 4:00 PM	105 Dwinelle	F 9:00-12:00 PM	2095 VLSB	G
114	M 3:00- 4:00 PM	340 Moffitt	F 9:00-12:00 PM	2097 VLSB	G
115	M 3:00- 4:00 PM	229 Dwinelle	F 2:00- 5:00 PM	2095 VLSB	H
116	M 3:00- 4:00 PM	24 Wheeler	F 2:00- 5:00 PM	2097 VLSB	H

There may be changes made in the syllabus. Changes will be announced in lecture. The readings correspond to the 6th edition.

Biology 1A Calendar, Spring, 2003

Lectures 1-14: Professor Bowman, 15-28: Professor Handel, 29-42: Professor Firestone

Date	*Lect #*	*Lecture Topic*	*Reading*	*Lab, Discussion*
Jan. 22	1	Biology at the molecular level. Life and the stuff of life.	Ch. 1-4	No labs or discussion
Jan. 24	2	Carbohydrates and lipids.	Ch 5	
Jan. 27	3	Proteins and Nucleic Acids	Ch 5	Lab 1: Safety & Microscope use (p. 3-21 in the lab manual). Lab tutorials: micropippettor & spectrophotometer in the lecture handout (p. XX-YY)
Jan. 29	4	Cell Theory, organization and structure of cells.	Ch. 7	
Jan. 31	5	Eukaryotic cells.	Ch. 7	
Feb. 3	6	Eurakyotic cells, evolution.	Ch 7	Lab 2: Cells.
Feb. 5	7	Introduction to metabolism (energetics).	Ch 6	
Feb. 7	8	Metabolism: ATP and enzymes.	Ch 6	
Feb. 10	9	Metabolism: enzymes.	Ch 6	Lab 3: Enzymes
Feb. 12	10	Membranes and transport.	Ch 8	
Feb .14	11	Catabolic processes I: Glycolysis, aerobic and anaerobic.	Ch 9	
Feb. 17		**HOLIDAY**		Lab 4: Photosynthesis
Feb. 19	12	Catabolic processes II: PyrdH, Krebs, ET.	Ch 9	
Feb. 21	13	Photosynthesis I: Photosynthetic ET.	Ch 10	
Feb. 24	14	Photosynthesis II: Carbon fixation.	Ch 10	Lab 5: Genetics & Mol. Biol. I
Feb. 26	15	Cell Cycle, Mitosis and Reproduction of Cells	Ch. 12	
Feb. 28		MIDTERM 1: Lectures 1-14	Handout	
Mar. 3	16	Regulation of the Cell Cycle/Cancer	Ch. 12	Lab 6: Genetics & Mol. Biol. II
Mar. 5	17	Meiosis and the Sexual Life Cycle	Ch. 13	
Mar. 7	18	Mendelian Genetics Genetic Mapping	Ch. 14	
Mar. 10	19	Human Genetics	Ch. 15	Lab 7: Genetics & Mol. Biol. III
Mar. 12	20	Genes and DNA	Ch. 16	
Mar. 14	21	Ttranscription	Ch. 17	
Mar. 17	22	Translation	Ch. 17	**Lab Exam 1. 6:30-8:00 PM on Tuesday March 18th.**
Mar. 19	23	Prokaryotes & Gene regulation	Ch. 18	**No labs held this week.**
Mar. 21	24	Eukaryotes and Gene regulation	Ch. 19	
		Spring Break March 24-28		

Mar. 31	25	Molecular Biology	Ch. 20	Lab 8: Invert I
April 2	26	Molecular Motors	Ch. 20	
April 4	27	Genomics	Handout	
April 7	28	Catchup and Review		Lab 9: Invert II
April 9	29	**MIDTERM 2: Lectures 15-28**	Handout	
April 11		Multicellularity: Cell Shape and function, Tissue specialization, homeostasis	834-838	
April 14	30	Intercellular & Physiological Communication: Hormones, Receptors, & the Endocrine System-Part I	955-972, 197-204	Lab 10: Rat Anatomy
April 16	31	Intercellular & Physiological Communication: Hormones, Receptors, & the Endocrine System-Part II	955-972, 197-204	
April 18	32	Reproductive system-Part I	975-995	
April 21	33	Reproductive system-Part II	975-995	Lab 11: Repro and Devpt.
April 23	34	Fertilization and embryogenesis	998-1011	
April 25	35	Developmental strategies and mechanisms	1012-1019	
April 28	36	Digestive system	850-855, 857-866	Lab 12: Diversity
April 30	37	Circulatory & Respiratory systems	871-874, 880-884, 893-897	
May 2	38	Immune system	900-921	
May 5	39	Excretory system and kidney function	941, 944-952	**Lab Exam II**
May 7	40	Nervous system	1022-1054	
May 9	41	Cell and Tissue dysfunction, Cancer and Expermimental Strategies to Develop Anti-cancer Therapeutics	368-372	
May 12	42	Bio-engineered Animals and Models of Human Disease	Handout	
May 16		FINAL on Friday 8-11 AM	Handout	

All readings are from Campbell, et al. Biology, 6th edition, Benjamin Cummins, 2002

ADDING

(Section change form on reverse side)

To add Biology 1A fill out this form **completely** and turn it in to mailbox outside of 2088 VLSB by **4:00 P.M., January 23rd.** A list of students, including assigned sections, will be posted in the glass display case outside of 2084 VLSB **early Friday morning (January 25th). Permission is required to post your name and assigned section. Sign the following if you give permission to have your information posted (otherwise you will have to email me and I will return your email).**

Permission to post section and SID. _____

NAME _____ DATE _____
(Last name), (First name) (Middle name)

PHONE # _____ SID# _____ **E-mail** _____

YEAR (circle) Frosh Sophomore Junior Senior Concurrent (via extension)

INTENDED MAJOR _____ DECLARED (circle) YES / NO

Have you had Biology 1B? (circle) YES / NO

What chemistry classes have you taken? Please include your grade.

Look below at the available lab & discussion times--they are linked. Select your **three** top choices using the **letters A-H DO NOT put in section numbers from the schedule of classes.** Look over your choices carefully as it will be exceedingly difficult to make additional changes.
Remember you must include **3 choices**-- not just one or two. All forms with only one or two choices wll be ignored.

1st choice _____ 2nd choice _____ 3rd choice _____

M 11:00-12:00 PM	T 9:30-12:30 PM	A
M 12:00- 1:00 PM	T 2:00- 5:00 PM	B
T 3:00- 4:00 PM	W 9:00-12:00 PM	C
M 3:00- 4:00 PM	W 2:00- 5:00 PM	D

T 12:00- 1:00 PM	Th 9:30-12:30 PM	E
T 2:00- 3:00 PM	Th 2:00- 5:00 PM	F
M 3:00- 4:00 PM	F 9:00-12:00 PM	G
M 3:00- 4:00 PM	F 2:00- 5:00 PM	H

Class or work conflict (list class/work schedule, include employers name/ph. #)

SECTION CHANGE

(Adding form on reverse side)

1. To request a change of section, fill out this form and turn it in to the mailbox outside of 2088 VLSB, by **2:00 P.M. FRIDAY** (January 25th)
2. Check outside of 2084 VLSB for changes which will be posted by 10 AM on Sunday, January 27th. Changes will be made only if sections have room; not all sections have room in them. Be sure you want & need the changes!
3. Attend your newly assigned discussion section and lab the second week, January 28th. **If you miss you will lose your spot in the class**.

Permission is required to post your name and assigned section. Sign the following if you give permission to have your information posted (otherwise you will have to email me and I will return your email).

Permission to post section and SID. _____

NAME _____ DATE _____
(Last name), (First name) (Middle name)

PHONE # _____ SID# _____ E-mail _____

YEAR (circle) Frosh Sophomore Junior Senior Concurrent (via extension)

Currently Assigned Section Number (don't use the letter code, use your actual section number)
_____

Look below at the available lab & discussion times--they are linked. Select your **three** top choices using the **letters A-H** **DO NOT put in section numbers from the schedule of classes.** Look over your choices carefully as it will be exceedingly difficult to make additional changes.
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T 3:00- 4:00 PM	W 9:00-12:00 PM	C
M 3:00- 4:00 PM	W 2:00- 5:00 PM	D

T 12:00- 1:00 PM	Th 9:30-12:30 PM	E
T 2:00- 3:00 PM	Th 2:00- 5:00 PM	F
M 3:00- 4:00 PM	F 9:00-12:00 PM	G
M 3:00- 4:00 PM	F 2:00- 5:00 PM	H

Class or work conflict (list class/work schedule, include employers name/ph. #)