

Faculty: The faculty, all from the Department of Molecular and Cell Biology will hold office hours (while they are lecturing) as follows:

	Time and Location	Phone, Office, Email
Mark Schlissel	F 9:30-11:00, 499 LSA*	3-2462,439 LSA, mss@berkeley.edu
Jasper Rine	M12-1, F 1:15-2:15 in 2084 VLSB*	2-7047, 374A Stanley, jrine@berkeley.edu
Gary Firestone	MTh 2-3 in 2084 VLSB*	2-8319, 591A LSA, glfire@berkeley.edu

* Office hours and location may be revised.

Course Coordinator: Mike Meighan. 2-4110, 2088 VLSB, mailbox in 2084 VLSB, e-mail {Bio1ACoordinator@berkeley.edu}. Office hours are M 11-12, W 10-11, 2-3, and by appointment*. I am available for advice on study habits, techniques, lab and lecture material, exams and grading issues. I effectively will handle all administrative and grading logistics.

Graduate Student Instructors: The GSI's will teach discussion. A discussion GSI will be in the GSI office, 2084 VLSB, between 10-2, M-F. Messages may be left in your GSI's mailbox in 2084 VLSB.

TIME TABLE

The deadlines for adding, dropping, and changing your grading option are shown in the reading list. If you drop after 2/8 you will have low priority for future enrollment.

1. Lectures begin January 23rd and end on May 12th. Lectures are held in 1 Pimentel from 8-9 AM. Simulcast will be held in 10 Evans. Lectures will also be available on the web (<http://webcast.berkeley.edu/courses/>). Occasionally, handouts will be given and they will be available at the entrance, and at the front of the room. Dr. Schlissel's lecture slides will be available on bSpace in PDF format before each lecture. Some handouts are available only online, others are only available for purchase at Replica Copy, 2140 Oxford. 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: You must already be waitlisted.** To add Bio 1A, you must be enrolled in Bio 1AL or be exempt from concurrent enrollment. See our website for more information. You cannot be exempt if you are undeclared or your major requires both classes. To request to enroll, an " **Enroll from Waitlist**" form must be filled out and submitted on-line. It is available on-line at our website (<http://mcb.berkeley.edu/courses/bio1a>) or through bSpace. It is due by **8 AM on January 25th**. You must first be added to the lab course (unless exempt) – Bio 1AL. The "Enroll from Waitlist" form allows you to request enrollment in either or both courses. Section assignments will be done directly online by **10 AM on Monday (January 28th) and can be seen on Tele-BEARS (immediately) or Bear Facts (updates at 7:00 AM Mon-Fri)**. Check! Your chance of adding will be higher if you select several "low demand" times as indicated on the request form. Students already on the waitlist (lab) have highest priority.
4. **CHANGING DISCUSSION/LAB:** Submit a "DISCUSSION CHANGE" form available at our website (<http://mcb.berkeley.edu/courses/bio1a>) and bSpace. The deadline is **8 AM Friday January 25th**. Section changes will be made directly online and can be seen on Tele-BEARS or Bear Facts (updated at 7:00 AM Mon-Fri) by **on January 28th**. Requests to change sections will be accepted after January 25th, but earlier applications have priority.

5. DISCUSSION begins Monday, January 28th. You must go to the section in which you are enrolled or you will be dropped. Some of you may have requested switches or to add. You must attend your assigned discussion – even if we were unable to switch you. You are NOT allowed to attend another discussion section—only your assigned discussion. You should only attend discussion if you are enrolled in the lecture (not waitlisted).
7. **Lab: The first lab lecture is Monday, 5-6:30 PM in 1 Pimentel** (and simulcast in 10 Evans) **on January 28th. It will cover pages 1-10, 15-28, 57-73 of your lab manual.** You must read the manual before the lab lecture. Actual labs are held Tuesday through Friday as assigned.
8. **Lecture examinations are scheduled for February 27th and 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 available on-line concerning each exam – room assignments, material covered, etc.
9. 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.
10. Lab exams are scheduled as follows: Your first Lab Exam will be held on Wednesday March 19th from 6:30-8:30 PM. Your second lab exam will held within your three hour period during the week of May 5th (May 5-9). There are no make-up lab exams, nor may you switch from your assigned section. 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.

11. **Final Examination: Thursday May 15th 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.).
12. **Attendance:** You are required to attend the lab AND discussion sections in which you are enrolled (not waitlisted). You may request one time switches for lab in the case of unavoidable direct conflicts. For further information, see the lab syllabus (#5, Temporary Lab Switch). You cannot switch the week of **May 5th-9th**.
13. **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.**

TEXTBOOKS AND LAB MANUAL

Required textbook: Campbell, **Biology**, 7th edition, Benjamin-Cummings 2005. The combined textbook and lab manual package is cheaper than the new 7th edition textbook by itself. If you are going to buy a new textbook then buy the 8th edition (it isn't much more and will have resale value). Try Amazon.com for the 8th edition as the surrounding bookstores are not selling the 8th edition.

Required Lab Manual: The required lab manual (2007/2008) is available at ASUC and Ned's. This is a new edition and you cannot use previous editions. Required pre-labs and worksheets are available as a packet at Replica Copy located near Ben & Jerry's, on the west side of campus at 2140 Oxford. It is about 70 pages. In addition these handouts will be available on our website. A Lab Exam Reader is also available at Replica Copy.

Lecture Exam Reader: An exam reader with exams from past semesters is available at Replica Copy (2140 Oxford).

Lecture Handouts: Dr. Schlissel will post his lecture images, lecture outline and worksheets as pdf files the day prior to his lecture on bSpace. You can find the link on our website. Dr. Rine will have a limited number of handouts which will be available on bSpace and at our website. Dr. Firestone will have a lecture handout available at Replica Copy when he begins lecturing.

Replica Copy: The pre-labs, worksheets, and exam readers (Bio 1A and Bio 1AL) are available at Replica Copy.

GRADING PROCEDURE: Grades will be determined numerically as follows:

Midterm Examinations (2 x 100)	200 pt's.
Final Exam	300 pt's.
Total:	500 pt's.

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 the points that you **EARN** (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 the cut offs for letter grades may be lowered (but only by a few percentage points, and as deemed necessary). Historically around 50% of the class **EARN** A's and B's . We will consider bumping students to the next higher grade if they are within 3 points of that grade cut-off. The decision to bump is based upon: 1) improvement on the final, 2) the quality of your lecture assignments (worksheets, etc.) and 3) attendance and participation at discussion and office hours.

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 2009, without including the course for units on the study list, or the I lapses to an F. Don't even bother emailing us to request an incomplete because you aren't doing well.

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!

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

HOW TO DO WELL

1. Come to lecture and take notes. Make sure you review them. Do the reading before lecture.
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 office hours (faculty and/or GSIs) and ask questions.
 - b. Getting into a study group.
 - c. Reading the book.
 - d. Using email to ask 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. Additional opportunities such as reviews (faculty & GSI) may also be given. Further information is available in the lab manual and the Exam Reader.

Faculty Office Hr's: See the first page.

Academic Coordinator Office Hr's (2088 VLSB): M 11-12, W 10-11, 2-3 and by appointment*.

Graduate Student Instructors Office Hr's (2084 VLSB): M- F, 10 - 2.

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). 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.

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

Biology 1A Web Sites: Primarily **bSpace** but also <http://mcb.berkeley.edu/courses/bio1a>

Discussion Schedule

Section	Discussion Time	Discussion	Section	Discussion Time	Discussion
101	M 11:00-12:00 PM	2304 Tolman	113	M 3:00- 4:00 PM	105 Dwinelle
102	M 11:00-12:00 PM	105 Dwinelle	114	M 3:00- 4:00 PM	234 Dwinelle
103	M 11:00-12:00 PM	116 Haviland	115	M 3:00- 4:00 PM	79 Dwinelle
104	M 11:00-12:00 PM	209 Dwinelle	116	T 11:00-12:00 PM	2038 VLSB
105	M 12:00- 1:00 PM	105 Dwinelle	117	T 11:00-12:00 PM	205 Dwinelle
106	M 12:00- 1:00 PM	243 Dwinelle	118	T 11:00-12:00 PM	2301 Tolman
107	M 12:00- 1:00 PM	79 Dwinelle	119	T 2:00- 3:00 PM	105 Dwinelle
108	M 1:00- 2:00 PM	243 Dwinelle	120	T 2:00- 3:00 PM	79 Dwinelle
109	M 1:00- 2:00 PM	234 Dwinelle	121	T 2:00- 3:00 PM	2304 Tolman
110	M 2:00- 3:00 PM	79 Dwinelle	122	T 3:00- 4:00 PM	2304 Tolman
111	M 2:00- 3:00 PM	243 Dwinelle	123	T 3:00- 4:00 PM	2038 VLSB
112	M 3:00- 4:00 PM	243 Dwinelle	124	T 4:00- 5:00 PM	109 Morgan

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

Biology 1A Calendar, Spring 2008

Lectures 1-14 Professor Mark Schlissel; 15-28 Professor Rine; 29-42, Professor Firestone.

Note: We reserve the right to make changes to the syllabus.

Date	#	Lecture Topic	Reading 7th	8th ed.	Lab, Discussion
Jan. 23	1	Intro; The Cell Theory; Bacteria; Animal cells; Evolution, (Viruses; Mitochondria)	Ch 1.1-4 Ch 22.3	Ch 1.1, 1.2 Ch 20.3	No labs or discussion
Jan. 25	2	The Central Dogma—DNA, RNA, Information Flow- (DNA; mRNA; tRNA).	Ch 16 pp 293-300, Ch 5.5 Ch 17.1	Ch 16 pp 305-312, Ch 5.5, Ch 17.1	
Jan. 28	3	Lipids and Biological Membranes; Carbohydrates (Basic Chemistry Principles)	Ch 2, Ch 5.1-5.3	Ch 2, Ch 5.1-5.3	Lab 1: Safety, Micropipetter, Microscope and Cells.
Jan. 30	4	Amino Acids and Protein Structure	Ch 5.4	Ch 5.4	
Feb. 1*	5	Biological Membranes and Transport	Ch 7	Ch 7	
		*Deadline to drop classes without a fee.			
Feb. 4	6	Cells & Organelles (and translation)	Ch 6.1-6.5; Ch 17.1	Ch 6.1-6.5 Ch 17.4	Lab 2: Chordate Diversity.
Feb. 6	7	Cytoskeleton, Cell Adhesion	Ch. 6.6-6.7	Ch 6.6-6.7	
Feb. 8*	8	Energy, Thermodynamics and Enzymes	Ch. 8.1-8.2	Ch 8.1-8.2	
		*Deadline to add classes without a fee.			
Feb. 11	9	Enzymes (continued)	Ch 8.3-8.5	Ch 8.3-8.5	Lab 3: Transform, Enzymes.
Feb. 13	10	Metabolism I: Glycolysis	Ch 9.1-9.2	Ch 9.1-9.2	
Feb. 15	11	Metabolism II: TCA cycle; Oxid. Phos.	Ch 9.3-9.6	Ch 9.3-9.6	
Feb. 18		HOLIDAY			NO LAB LECTURE & NO LAB.
Feb. 20	12	Photosynthesis: Light and Dark Reactions	Ch 10	Ch 10	
Feb. 22*	13	Signaling Biochemistry	Ch 11	Ch 11	
		* deadline to add/drop and change grading option.			
Feb. 25	14	Techniques in Molecular Biology (Blots, arrays, libraries, plasmid cloning)	Ch 20	Ch 20	Lab 4: Colony Isolation, Complementation I, Photosynthesis.
Feb. 27		MIDTERM I: Lectures 1-14	Handout		
Feb. 29	15	Microbial Genetics and Evolution- Chromosomes, Plasmids, and Phage	Ch. 18; 334-351	Ch 19, Ch 27: 556 - 564	
Mar. 3	16	DNA Replication and the PCR.	Ch. 16	Ch. 16	Lab 5: Plasmid isolation & digestion, Complementation II, Genetics and Molecular Biology (GMB) I.
Mar. 5	17	Cell Cycle, Mitosis and Reproduction of Cells	Ch. 12	Ch. 12	
Mar. 7	18	Chromosomes, Checkpoints, and Cancer	Ch. 15, 370-374	Ch. 15, 373-377	
Mar. 10*	19	Meiosis and Sexual Life Cycle	Ch. 13	Ch. 13	Lab 6 : Electrophoresis, Complementation III, GMB II.
Mar. 12	20	Gregor Mendel and 2 of Biology's 3 Laws	Ch. 14 to 265	Ch. 14 to 2676	
Mar. 14	21	Recombination, Linkage and Mapping	Ch. 15	Ch. 15	

<i>Date</i>	<i>#</i>	<i>Lecture Topic</i>	<i>Reading 7th e</i>	<i>8th ed.</i>	<i>Lab, Discussion</i>
Mar. 17	22	Transcription	315-320	331-336	Lab Exam I Wed. March 19th 6:30-8:30 PM.
Mar. 19	23	The Genetic Code and Translation	309-315, 320-333	325-331, 337-350	
Mar. 21	24	Prokaryotic Gene Regulation	352-356	351-366	

Spring Break March 24-28.

Mar. 31	25	Eukaryotic Gene Expression and Regulation	Ch. 19	320-322, 434-442	Lab 7: Bioinformatics
April 2	26	Human Genetics and Epigenetics	265-268	276-279	
April 4	27	GMOs and Organismal Cloning	415-418, 783-786	412-416, 815-819	
April 7	28	Stem Cells and Aging	handout	handout	Lab 8: Anatomy.
April 9		MIDTERM 2: Lectures 15-28	Handout		
April 11	29	Multi-cellularity: Cell Shape and function, Tissue specialization, homeostasis	820-827	852-860	
April 14	30	Intercellular & Physiological Communication: Hormones, Receptors, & the Endocrine System-Part I	Ch. 45, 201-	Ch. 45, 206	Lab 9: Invertebrates I.
April 16	31	Intercellular & Physiological Communication: Hormones, Receptors, & the Endocrine System-Part II	Ch. 45, 201-	Ch. 45, 206	
April 18	32	Reproductive system-Part I	Ch. 46	Ch. 46	
April 21	33	Reproductive system-Part II	Ch. 46	Ch. 46	Lab 10: Invertebrates II.
April 23	34	Fertilization and embryogenesis	987-1001	1021-1035	
April 25	35	Developmental strategies and mechanisms	1001-1008	1035-1044	
April 28	36	Digestive system	Ch. 41	Ch. 41	Lab 11: Reproduction and Development.
April 30	37	Circulatory & Respiratory systems	867-871, 877-882, 891-895	898-903, 909-914, 923-927	
May 2	38	Immune system	Ch. 43	Ch. 43	
May 5	39	Excretory system and kidney function	927-929, 931-938	959-961, 962-968	Lab Exam II. During your 3 hour lab period.
May 7	40	Nervous system	Ch. 38	Ch. 38	
May 9	41	Cell and Tissue dysfunction, Cancer and Experimental Strategies to Develop Anti-cancer Therapeutics	370-374	373-377	
May 12	42	Bio-engineered Animals and Models of Human Disease	Handout	Handout	
May 15		FINAL on Thursday 8-11 AM	Handout		

NOTE THE LAB EXAM ON WEDNESDAY March 19th 6:30-8:30 PM.