

# CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

**BIO 110: Life Science**

**Summer Quarter, 2001**

## Course Information Sheet (Syllabus)

CRN#	Subj	Crse	Sect	Course title	Units	Days	Time	Bldg	Rm	Instructor
30163	BIO	110	03	Life Science	3.0	MW	12:00-1:15	3	215	Dr. G. Kageyama

Professor: Dr. Glenn H. Kageyama  
8-129, (909) 869-5305 (leave voice mail message)  
e-mail: ghkageyama@csupomona.edu **and** ghkageyama@excite.com

Office hours: MTWR 11:00-11:50 a.m.

Prerequisites: None

Required texts: David Krogh, Biology: A Guide to the Natural World, 2000, Prentice-Hall. All reading assignments are from this text. Although not all material in the assigned readings will necessarily be covered during lecture, this material is still considered part of the course and will be covered on the tests.

Course Objectives: To give students an exposure to basic principles of the biological sciences, accomplished via classroom lecture-discussions and assigned readings. Hopefully, students will develop an appreciation for a basic understanding of the biological sciences. Through a review of the history of biology, the student may learn the philosophy of science. Hopefully, the student will use the knowledge in a constructive way to advance humanity.

General Requirements and Policies: Read text assignments before lectures so that you may better understand lectures and participate in class discussions. Questions and curiosity are important aspects of learning. Classroom attendance is important because quizzes and other assignments will be given during class time and points awarded which will count toward your final grade.

Schedule of Exams: Unannounced quizzes and three scheduled examinations: two midterms and one final. The general nature of the exams will be announced. Exams and quizzes will include multiple choice, matching and/or true-false questions on lecture material and readings. Quizzes may be given either at the beginning or the end of the regular class period. You must have Scantron Quizstrip (Form 815) to take the quizzes. All scheduled examinations will be **comprehensive**. Course grades will be based on a curve made after the final exam, using the total number of points accumulated from all tests, quizzes and other assignments. **There will be no make up for missed quizzes.** The three scheduled exams must be taken at the scheduled time and place. Only notification before the test of a documented emergency, acceptable to the University, will be considered as a valid excuse for missing an exam. Outside work, field trips, sports, other classes and other obligations are not acceptable excuses. If you miss a scheduled exam with an acceptable excuse, and have notified the instructor **before the time of the test**, arrangements *may* be made for you to make up for the missed test at the Learning Resource Center in the bottom floor of the library (x3503). A 100 question Scantron (Form 882) and a #2 lead pencil are required for each exam. The distribution of scores and test key, will be posted after each exam on the board outside of room 3-215.

Grading: Quizzes (5) will be worth 10 points ea; Biweekly projects (5) will be worth 10 points ea; Midterm I & II will be worth 50 points each; the final will be worth 100 points.

Quizzes (5)	50 points	16.7%
Biweekly projects (5)	50 points	16.7%
Midterm I	50 points	16.7%
Midterm II	50 points	16.7%
Final Examination	100 points	33.3%
Total	300 points	100%

Classroom Manners: The class is large, and it is important that each person treat all others with respect. Entering the classroom late, leaving before class ends, and talking while other things are going on are disruptive. **Please turn off all electronic communication devices prior to entering the classroom.** Anyone failing to exercise common courtesy will be asked to leave the class, and given the opportunity to repeat the course some other quarter. This policy is directed toward individuals, who through lack of manners can make things difficult for everyone else.

Cheating: Cheating and plagiarism are violations of University policy and are considered serious offenses. The Department of Biological Sciences takes all incidences of academic dishonesty quite seriously, and acts accordingly.

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BIO 110: Life Science, Section 03  
Summer Quarter, 2001

## Lecture Schedule

Dr. Glenn H. Kageyama  
Office: 8-129; 869-5305

Date	D	#	Topic	Ch.	Main concepts:
Week 1: Cell Chemistry					<u>Unit I: The Molecular Organization of Life</u>
6/18	M	1	Science as a way of learning	1	Levels of organization; Scientific Method
6/20	W	2	Chemistry of Life	2	Building blocks of living matter
Week 2: Macromolecules, Cells & Organelles.					<u>Cell Structure and Function</u>
6/25	M	3	Water, Macromolecules, etc.	3	Macromolecules
6/27	W	4	Cells, Organelles & Membranes ( <b>proj. 1 due</b> )	4,5	Cell Structure and Function
Week 3: Bioenergetics					<u>Unit II: Bioenergetics</u>
7/2	M	5	Bioenergetics (handouts; no class today)	6	Energy & Matter; Bioenergetic; Flow of Energy
7/4	W		<b>Independence Day Holiday</b>		
Week 4: Photosynthesis, Glycolysis & Respiration					<u>Cellular Metabolism</u>
7/9	M	6	Glycolysis & Respiration	7	Cellular Metabolism
7/11	W	7	Photosynthesis. ( <b>project 2 due</b> )	8	Photosynthesis
Week 5: Plant Form and Function					<u>Unit III: Organismic Biology</u>
7/16	M		<b>Midterm I: Cell &amp; Molecular Biology</b>		
7/18	W	8	Plant Structure & Function	21	Plant Structure & Function
Week 6: Animal Form and Function					<u>Animal Physiology</u>
7/23	M	9	Animal Form & Function	23	Skin, Skeleton & Muscle
7/25	W	10	Endocrine & Nervous Systems ( <b>project 3 due</b> )	24	Control & Regulation
Week 7: Communication Systems					<u>Chemical and Electrical Control Systems</u>
7/30	M	11	Nutrition, Digestion, Circulation & Excretion	25	Organ System Physiology
8/1	W		<b>Midterm II: Organismic Biology</b>		
Week 8: The Flow of Biological Information					<u>Unit IV: Flow of Biological Information</u>
8/6	M	12	Cell Cycle: Mitosis and Meiosis	9-12	Cellular Reproduction
8/8	W	13	DNA: The Molecule of Heredity ( <b>proj. 4 due</b> )	13	The Structural Basis of Biological Information
			Transcription, Translation & Regulation	14	Transcription and Translation
Week 9: Evolution & Diversity					<u>Unit V: Evolution &amp; Diversity</u>
8/13	M	14	Principles of Evolution	16-18	Evolution of Life
8/15	W	15	History & Diversity of Life	19-20	History of Life on Earth & Diversity of Life
Week 10: Populations, Communities & Ecosystems					<u>Populations, Communities &amp; Ecosystems</u>
8/20	M	16	Population Growth and Regulation	28	Population Dynamics
8/22	W	17	Community & Ecosystems ( <b>project 5 due</b> )	29	How Ecosystems work
Week 11: Final Exams Week					
8/27	M		<b>Cumulative Final Exam</b> (100 pts; Rm 3-215; 11:30 - 1:30 p.m.)		

## Biweekly Projects

**Project Topics 1:** Scientist, **2:** Cell type(s), **3:** Organism(s), **4:** Disease, **5:** Community of organisms

Prepare a **1-page** document featuring an example of one of the project topics listed above. The page requires the following: **(1)** your full name & ID#, **(2)** class (BIO 110, Sect. 03); project topic # **(3)** digital image(s), **(4)** brief text or annotations, **(5)** complete citation (e.g. URL#) for each image and for documenting any facts that you used. [Items 1,2 & 5 may be placed on the back of the page]. Maintain a digital copy of the 5 pages on a single floppy disk and turn it in on the last day of class (Wed., August 22). Keep both digital and paper copies of this assignment for yourself. The floppy disks and hard copies that you turn in will not be returned unless a specific request is made. Be creative and have fun with this project. The material that you submit may be used for this or other classes in the future unless otherwise specified by you in writing. If any of your material is used, your name will accompany any work that is presented.

**Topic 1:** Pick a scientist and describe his/her contributions and/or important experiment(s).

**Topic 2:** Feature a cell type(s) and describe its normal function(s), usefulness or pathology, or label its parts.

**Topic 3:** Feature a particular organism or group of organisms, describe its life or phylogenetic traits.

**Topic 4:** Describe the epidemiology, pathology, and cellular and molecular basis of a particular disease.

**Topic 5:** Describe the interrelationships between various members of a community of organisms.