

LS1: Ecology, Evolution, and Biodiversity Spring 2007

Instructor: Dr. Peter J. Adam

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Phone: (310) 825-4669

Office Hours: Wed. 4:00-6:00 PM; Room TBA

Lecture: Mon./Tues. 11:00 – 11:50 AM in LaKretz 110

TAs: • Chris Crowley (ccrowley@ucla.edu)

Office Hours: Wed. 12:00-2:00 PM, in Boyer Hall 269

• Rana Khankan (khankan@ucla.edu)

Office Hours: Mon. 12:00-1:00 and Wed. 12:00-1:00, location TBA

• Yonghong Ren (yren@ucla.edu)

Office Hours: Tue. 4:00-5:00 PM and Thu. 3:00-4:00 PM, location TBA

• Colin Rundel (crundel@ucla.edu)

Office Hours: Thu. 1:00-3:00 PM, in Math Sciences 8209

Course Web Page Link: <http://www.lsic.ucla.edu/classes/spring07/>

Life Sciences Core Office: Inquiries regarding administrative aspects of LS1 (enrollment issues, switching demonstration sections, review of exams) should be directed to Lily Yanez or Mark Katayama in the LS Core Office (LS 2305; 310-825-6614).

Course Description: LS1 is an introductory course on ecology (the study of organisms and their environments), evolution (the study of organisms and how/why they change with time), and biodiversity (the study of organismic variation, interrelationships, and adaptation). These subjects are fascinating to many people – scientists and laymen alike. We hope that you find similar enjoyment in subjects we will explore. Unfortunately, as an introductory course we can only “scratch the surface” for many topics (a source of frustration for many students – and for us). However, many subjects are covered in greater detail in other EEB courses for which LS1 is a prerequisite. If you find any topic(s) to be particularly interesting, please let us know – we can guide you to other, more senior, courses you might also enjoy!

General Course Overview:

LS1 serves to introduce basic concepts in the following areas:

1. Origins of Life
2. Processes of Evolution
3. Processes of Speciation and Extinction
4. Phylogeny and Systematics
5. Diversity and Classification of All Kingdoms of Life
6. How Organisms interact with Each Other and Their Environment
7. How Humans are Affecting Life on Earth and Why We Need to Conserve Diversity of Organisms and Ecological Land- and Seascapes

Required Texts:

- 1) Sadava, D., H.C. Heller, G.H. Orians, W.K. Purves, and D.M. Hillis. 2008. Life: the Science of Biology (8th edition). Co-published by Sinauer Associates and W.H. Freeman and Co. ISBN: 978-0-7167-7671-0. (7th edition will suffice, but in some cases references made to specific page or figure numbers in lecture may not coincide).
- 2) Pfluegl, G.M.U. 2007. Life Sciences 1: Evolution, Ecology, and Biodiversity Demonstration Manual (7th edition). Hayden-McNeil Publishing, Inc. ISBN: 978-0-7380-2130-0. (Earlier editions will not suffice)

Grading: Grades will be assigned based on the tentative straight curve shown below. The scale may be shifted down to accommodate clear breaks in the distribution of overall class grades, but the scale will *not* be shifted up (therefore, you always know your current minimum grade); however, the minimum passing grade (50% or 450 points) will not be shifted under any circumstance (i.e., you *need >49%* to pass LS1!). Grades are determined from a combination of lecture, reading, and discussion material (see breakdown, descriptions below). Please note that requests for “special consideration” by graduating seniors enrolled in LS1 will not be entertained. There will be no opportunity for extra credit.

Grading Scheme:

<i>Letter grade</i>	<i>Percentage score</i>	<i>Point score</i>
A- to A+	91 – 100%	811 – 900
B- to B+	76 – 90%	676 – 810
C- to C+	61 – 75%	541 – 675
D to D+	50 – 60%	450 – 540
F	0 – 49%	0 – 449

Grade Breakdown:

<i>Component</i>	<i>Percentage value</i>	<i>Point value</i>
Lecture Exam I (Thursday, April 19, 17:00-19:00)	20%	180
Lecture Exam II (Thursday, May 10, 17:00-19:00)	25%	225
Lecture Exam III (Thursday, June 14, 18:30-21:30)	35%	315
Demonstration Quizzes	20%	180
Total	100%	900

Lecture Exams:

1) Format: lecture exam format will be a mixture of multiple choice (5 choices each; ca. 50% of each exam) and short answer (ca. 50% of each exam) questions. The short answer section will *always* include definitions (selected at random from lists of important words provided on the course website) and true/false questions (where false phrases must be corrected to make them true). Other short answer questions may include short essay, fill-in-the-blank, table fill-in, matching, or crossword type questions.

2) Content: lecture exams are *cumulative*. Approximately 10% of lecture exam II will be devoted to material from the first unit, and ca. 15% of lecture exam III will be devoted to material from the first two units. 90% of exam content will be based on lectures and textbook readings, and another 10% will be based on material covered in demonstrations. Lectures are meant to complement the textbook, and students are expected to read and study material covered in assigned readings. Approximately 30% of each exam will be based on material strictly from the textbook (and not covered in lectures).

Demonstration Quizzes: There will be nine quizzes worth 20% (180 points) of your final grade in demonstration sections (weeks 2-10). Quizzes are worth 20 points each – 10 points are devoted to the demonstration of the previous week, and 10 points are devoted to the demonstration of the week in which the quiz is administered (e.g., your first quiz, in week 2, will have 10 points from week 1's demonstration and 10 points from the (pre-)reading of week 2's demonstration. Quizzes will be administered (in sections) at times determined by your TA.

Make-up and Regrade Policies: Make-up exams will only be given for students who notify Dr. Adam or the LS Core office *prior* to the missed exam *and* who provide appropriate documentation for *legitimate* absence (such as a doctor's note or certificate of death for a close relation). All make-up exams will be written, long essay questions (i.e., no multiple choice section). Typed requests for exam regrades need to be submitted to the LS core office (LS 2305) within one week of exams being returned, and must: 1) identify the question(s) for which a regrade is requested; and 2) include clear and detailed explanation(s) for why you feel a regrade is warranted (with appropriate reference to textbook pages or lectures). Dr. Adam will regrade the *entire exam* (which may result in a *loss* of points) and consider your appeal in the process. Regrades will only be considered at the end of the quarter after all other grades are calculated, and only if the additional points requested would cause a change in your final grade (you should thus make a copy of your exam for your reference). Please note that we randomly select 10% of exams and make photocopies of the written part prior to returning them to students – attempts to change answers on an exam prior to submission for a regrade will be considered an act of academic dishonesty, with results detailed below. No make-up quizzes will be given to students for illegitimate absence from, or tardiness to, a discussion session. Documentation for legitimate absence from a discussion must be submitted to Dr. Adam via the LS core office (LS 2305) within one week of the missed session; legitimately missed quizzes will be prorated. No regrades of quizzes will be considered.

Web Page Postings: The course webpage will serve as a repository for all lecture and some demonstration materials. *Outline "bouncing ball" notes* will be posted 1-2 days before each lecture, and are intended to provide a convenient method for students to take notes during lectures. Outlines will contain text from most powerpoint slides, selected figures, and blank spaces where students can fill in information that is presented orally. It is the responsibility of the student to print these outlines and bring them to lecture. *Powerpoint lecture slides* will be posted as color PDF files (4 slides/page), but some slides will be omitted if they contain figures that are redundant with either the textbook or outline notes, or if they only provide illustrative material that is not essential for understanding of a particular topic (i.e., if they are just "pretty pictures"). Biology is a word-heavy subject, and beginning students often get lost in a quagmire of terminology without grasping basic, important, and interesting biological topics to which terms are applied. *Lists of important terms* from lecture and assigned readings will be posted for each topic, and will form the basis for numerous exam questions. It is the responsibility of the student to find and learn definitions for these words, and to learn how they apply to broader concepts (working in groups will help you). Additional required readings and sample questions may also be posted on the course web page.

Attendance Policy: Due to the large number of students, LS1 staff simply cannot monitor individual students, nor correct their behavior when they stray and display substandard study skills. We do not take attendance or award "participation" points. You are expected to be an adult in your approach to LS1 – your grade is *your* responsibility, and you have to *earn* a good grade if that is what you want. Absenteeism and procrastination are *not* ways to succeed in

this class. Material covered is comprehensive, and you are expected to be present at all lectures and demonstration sections. You must play an active roll in learning; studying well ahead of exam dates and questioning the material and learning as you proceed. If you miss a demonstration section for which you are scheduled, you may **not** attend another section unless an agreement is made ahead of time and is confirmed by both your TA and the TA whose section you intend to attend.

Succeeding in LS1: As with any university course, students who procrastinate tend to get lower grades and learn less. We **strongly** suggest that you:

- Do not skip lectures or discussions
- Work and study in groups
- Read the assigned chapters of the textbook in advance of lectures
- Compile your glossary of terms as you read, and take notes on major topics
- Download, print, and orient yourselves with outlines before lecture
- Review your lecture notes immediately after each lecture and fill in additional information or identify problem areas that you need to clear up
- Attend office hours of Dr. Adam and your TAs – try to come with an organized list of questions for which you need clarification
- Do not disregard the importance of discussion sessions – they are meant to compliment major lecture topics. The value of quizzes also adds up – 20% is the difference between a C and an A! Read demonstrations ahead!

Policy on Academic Dishonesty (Cheating): If you are not prone to cheating, then take the following lightly. If you are prone to cheating, then take the following very seriously. Cheating will **not be tolerated** in any form (e.g., copying from a classmate, use of cheatsheets, plagiarism, changing answers on graded material submitted for a regrade, etc.). Any cases of cheating will: 1) result in a summary grade of **F** for the **entire course** (with no opportunity to drop); and 2) be immediately turned over to the Dean of Students for additional disciplinary action. Additional information on UCLA's policies on cheating can be found in the 2005-2007 UCLA General Catalogue (pp. 593-595). In order to deter academic dishonesty, the following rules (and perhaps others) will be enforced during lecture exams (failure to comply with any of these rules may result in expulsion from the exam, regardless of whether or not the student is finished):

- 1) all cell phones must be turned OFF and placed out of reach in your book bag
- 2) no use of headphones, calculators, or other electronic devices is allowed during the exam
- 3) only pens, pencils, erasers, colored pencils, and highlighters may be used during the exam (pencil cases are not allowed)
- 4) no food is allowed; drinks are allowed if and only if they are in clear plastic bottles with the labels completely removed
- 5) no hats or sunglasses may be worn during the exam
- 6) any books, notes, or papers must be stowed securely in a book bag or left at the front of the room with exam proctors
- 7) photo IDs will be checked at random
- 8) we reserve the right to move students that are disruptive or suspected of cheating
- 9) we reserve the right to ask students to show the contents of their pockets or expose their arms for inspection

TENTATIVE LECTURE SCHEDULE

<i>Date</i>	<i>Topic</i>	<i>Assigned reading</i>
UNIT 1		
Mon. Apr. 2	LS1 Overview (guest lecturer: Dr. D. Pires)	-
Wed. Apr. 4	The Science of Biology (guest lecturer: Dr. D. Pires)	Ch. 1
Fri. Apr. 6	Molecules and the Origins of Life	Ch. 3-4; 9-12
Mon. Apr. 9	Heredity and Mendelian Genetics	Ch. 9-10
Wed. Apr. 11	Population Genetics I	Ch. 22-24
Fri. Apr. 13	Population Genetics II	Ch. 22-24
Mon. Apr. 16	Speciation	Ch. 22-24
UNIT 2		
Wed. Apr. 18	Taxonomy, Classification, and Phylogenetics	Ch. 25
Thu. Apr. 19	Exam I – 17:00-19:00	N/A
Fri. Apr. 20	History of Life	Ch. 21
Mon. Apr. 23	Prokaryotic Life: Bacteria	Ch. 26
Wed. Apr. 25	Eukaryotic Life: Protista	Ch. 27
Fri. Apr. 27	Eukaryotic Life: Fungi	Ch. 30
Mon. Apr. 30	Eukaryotic Life: Plantae I	Ch. 8; 28-29; 34-39
Wed. May 2	Eukaryotic Life: Plantae II	Ch. 8; 28-29; 34-39
Fri. May 4	Eukaryotic Life: Plantae III	Ch. 8; 28-29; 34-39
Mon. May 7	Eukaryotic Life: Plantae IV	Ch. 8; 28-29; 34-39
UNIT 3		
Wed. May 9	Eukaryotic Life: Animalia I	Ch. 31-33; 40; 42-51
Thu. May 10	Exam II – 17:00-19:00	N/A
Fri. May 11	Eukaryotic Life: Animalia II	Ch. 31-33; 40; 42-51
Mon. May 14	Eukaryotic Life: Animalia III	Ch. 31-33; 40; 42-51
Wed. May 16	Eukaryotic Life: Animalia IV	Ch. 31-33; 40; 42-51
Fri. May 18	Eukaryotic Life: Animalia V	Ch. 31-33; 40; 42-51
Mon. May 21	Eukaryotic Life: Animalia VI	Ch. 31-33; 40; 42-51
Wed. May 23	Populations	Ch. 52
Fri. May 25	Population Ecology	Ch. 52
Mon. May 28	No Lecture - Memorial Day Holiday	N/A
Wed. May 30	Behavior I	Ch. 53
Fri. Jun. 1	Behavior II	Ch. 53
Mon. Jun. 4	Community Ecology	Ch. 54-55
Wed. Jun. 6	Energy and Ecosystems	Ch. 54-55
Fri. Jun. 8	Conservation	Ch. 56-59
Thu. Jun. 14	Exam III – 18:30-21:30	N/A