

BIOLOGY 1108: Principles of Biology II, Fall 2012

BIOL 1108 is for science majors. BIOL 1107 and BIOL 1107L are a prerequisite for this course. You have to be co-enrolled in BIOL 1108L. The course syllabus is a general plan for this course; deviations announced to the class by the instructor may be necessary.

COURSE OBJECTIVES: Helping you master the facts, principles and scientific thinking skills for organismal biology. Critical thinking and step-by-step working through complex processes are key elements in this class. Memorization of factual knowledge is a necessary prerequisite, but **to do well you will also have to master higher-level learning skills** such as application, analysis, synthesis, and evaluation. These skills are life-long learning skills that will serve you beyond this class, in other college courses, and in your professional career (science or not). Please see the “Learning tips & tools” folder on eLC for more information & resources.

EXPECTED LEARNING OUTCOMES: A demonstrated understanding of (1) how the interactions between organisms and their physical environments will modify their structures over evolutionary time (by natural selection), leading to the organismal diversity we see today, (2) how living organisms create and maintain a functioning internal environment even when the external environment undergoes dramatic changes, (3) how different organisms faced with the same problem may have evolved quite different solutions (function depends on structure), (4) that all these different solutions are often based on common principles, and (5) how the survival and reproduction of individual organisms is affected not only by their interaction with their physical (e.g. habitat, climate), but also with their biological (e.g. mates, competitors, predators) environment, and (6) how these interactions shape the earth’s ecosystems.

INSTRUCTORS: Dr. Trish Moore, 453A Biol. Sci. Bldg; please use instructor e-mail on eLC; 542-0169; Office hours: MONDAY & WEDNESDAY 1:15-2:10pm (or by appointment).
Dr. Kathrin Stanger-Hall, 503 Biol. Sci. Bldg; please use instructor e-mail on eLC; 542-1689. Office hours: MONDAY & WEDNESDAY 1:15-2:10pm (or by appointment).

TEACHING ASSISTANTS: Kenasia Brown and Kim Sonderman (please use TA e-mail on eLC).

DATA SPECIALIST (scantrons): Ms. Yulonda Davis, 403 Biol. Sci. Bldg; ydavis1@uga.edu; 542-1684.

MATERIALS REQUIRED FOR THE COURSE: (1) BIOLOGY 9th ed. (Campbell, Reece), (2) CARBONFREE PAPER NOTEBOOK for in-class work and homework assignments (available in the bookstore), (3) COURSE PACKET. A course packet including the learning objectives for each class topic, selected notes and outlines, sample exam questions, and most of the graphs/diagrams used in lecture is available for **\$10 Bulldog Bucks (only)** in the BLC. This is an aid to facilitate note-taking during class, and allows you to focus on the discussion and understanding of these graphs and illustrations (rather than on copying them down).

eLC: Class information is available on-line under BIOL1108. Use your myID name and password to login. Please check the website frequently. It is used for announcements, online-assignments, exam info, and as a resource for class & studying. You will also find animations, and a discussion board on this site. Please be considerate when posting to the discussion board (e.g. think about how a future employer would perceive the tone of your message).

BIOSCIENCE LEARNING CENTER (BLC) in 406 Biol. Sci. Bldg. The BLC is a computer lab with reserved copies of the textbook and lab manual, biological literature, videos and other resources (printers, copy machines). See (<http://www.biosci.uga.edu/blc/>) for a complete list of resources.

LECTURES. MWF 12:20-1:10pm or 2:30-3:20pm in Room 404E. Regular attendance at all class meetings is expected (and highly correlated with grades). You are responsible for all class material (whether or not it is covered in the text), and you are responsible for the assigned material in the text that is relevant for topics covered in class. Pre-view the text before class. After lecture please read in detail the text sections directly related to lecture, complement your notes, and **study before the next class.**

LABORATORY. Participation in BIOL1108 requires concurrent enrollment in both 1108 (lecture) and 1108L (lab) classes. Students who do not enroll in both the lecture and the lab classes or who drop either the lecture or the lab during the drop/add period without permission from the Instructor or the Biology Division will be administratively dropped from the other course as well. Students who withdraw from the course after the drop/add period will be assigned a WP or WF based on completed assignments and class participation up to the time of withdrawal.

CLASS ETIQUETTE. Please be on time for class and switch your cell phone off. A few minutes late? Please take a seat quietly close to the door without disturbing your classmates. Please do not talk to each other during class unless instructed to do so (disturbance of class mates is academic misconduct). If you have any class-related questions please ask at any time: we will be happy to clarify. Please do not leave class early (this is very disruptive for everyone), and treat each other with respect. Please keep the lecture hall clean and use the trashcans and recycling bins outside the lecture hall. Thank you!

COMMUNICATION WITH INSTRUCTORS. When you are sending e-mails to professors you *must* use eLC e-mail (to instructor). Professional communications is an important transferrable skill. To help you develop this skill, we will require proper format (e.g. address as Dr. ____, use full sentences and sign your name), other e-mails will not be answered. Also please check the syllabus and eLC before asking about class logistics (there are ~400 students in this class). You will be treated as responsible adults in this class, therefore we will not answer questions whose answers can be found on eLC or in the syllabus. We will answer e-mails within 24-48 hours.

EXAMINATIONS. All exams are a mix of multiple-choice and constructed response questions. MC scores will be posted within 2 days of the exam, written answer scores will be posted ~1 week after the exam. There will be four lecture exams and one cumulative Final. Attendance at all exams is required, but we will drop the lowest of your four lecture exam scores when calculating your final grade. You must bring a #2 pencil and a **photo-ID** to ALL exams. There are NO MAKE-UP exams. Question & Answer sessions will be held before each exam. Please come prepared and bring your questions. Written regrade requests (a brief but thorough explanation why a specific question should be regraded) have to be submitted within one week of posting the answer key. If you feel there was an error in scoring your exam, **please get a photocopy of your scantron sheet from Ms. Davis (in 403) and check it against the answer key before requesting a regrade.** Please note that Ms. Davis is working with ~2000 students every semester so please be polite, patient, and considerate.

CLICKERS, IN-CLASS WORK AND HOMEWORK. We will be using *Turning Point* wireless response pads to answer questions during lecture in this class. They are used to promote student participation but also to provide you with immediate feedback on your knowledge and understanding of the material and concepts during lectures. You must bring your clicker with you to every lecture as clicker activities will not be announced ahead of schedule. In class activities may also involve written work. You will use your carbonfree paper notebook for in-class and homework assignments. You will hand in one copy at the end of class (in-class work) or at the beginning of the next class (homework). You can earn up to 60 points on clicker questions, in-class work and homework (full credit for 80% of possible score).

PROJECTS. You will do two projects as extended HW assignments this semester: the Phylogenetics project and the semester-long PeTS (biodiversity) project. For the PeTS project you will work in groups to research a species of your choice (choices will be available on eLC) and will publish your findings (in several stages) on a species webpage. You will also peer-review the projects of other groups and

incorporate feedback from peer reviews into your project. You will present part of your work in a poster session on the last class day.

FINAL COURSE GRADE. You can earn a total of **700 points** (100%) this semester:

Four lecture exams (100 pts each)	300 pts (the three highest exam scores will be counted)
Cumulative Final Exam	200 pts
Clickers, In-class, HW	60 pts
Phylogenetics project	40 pts
PeTS Biodiversity project	100 pts

Grade	% points	Total points	Grade	% points	Total points
A	93-100%	652-700	C+	77-80 %	540-560
A-	90-93 %	631-651	C	73-77 %	512-539
B+	87-90 %	610-630	C-	70-73 %	491-511
B	83-87 %	582-609	D	60-70 %	421-490
B-	80-83 %	561-581	F	< 60 %	< 421

Wondering how you are doing? A ‘current grade calculator’ is available on the website. Please follow instructions. If the unlikely case that the final class average (after all grades are in) is <75% the grade average will be curved up to 75% (C=average).

INCOMPLETE. The grade of incomplete is given to students who for documented reason of illness or accident were unable to complete the course. Incompletes are not given to avoid a failing grade.

LEARNING AIDS. Lecture, in-class questions, learning objectives, and posted resources on the class website will aid you to grasp the knowledge in this class and will guide you in practicing your **higher level learning skills**. Please note that these are ACTIVE learning skills and you have to PRACTICE in order to master them. Please come prepared (having worked through, practiced, and then tested yourself on the previous material) to class. If you have any questions that you didn’t get to ask in class please come see us right after class, during office hours, or send an e-mail. We are also available to privately discuss any needs, including disability accommodations. If you encounter any non-academic problems during the semester that will affect your study abilities, please make sure to get help right away (e.g. by seeing a counselor: <http://www.uhs.uga.edu/CAPS/>) and notify us. Don’t wait!

STRUGGLING? You should be **studying at least 2 hours per lecture hour** (in addition to class and reading) to do well. If you need help or study more than 8 hours/week, and are still struggling, please **make sure** to see us. You may be more efficient by changing your study method. We will be glad to work with you on that. In addition, tutors (and general advice) are available through the Milledge Academic Center: <http://www.uga.edu/dae/index.html>. Additional resources are listed on the class website.

ACADEMIC HONESTY. All academic work must meet the standards contained in “A Culture of Honesty” (http://www.uga.edu/honesty/ahpd/culture_honesty.htm). **You are responsible** for informing yourself about those standards before performing any academic work. **Students who cheat** (e.g. look at, or copy from exams of others, letting others copy, exchange information on exams before both have taken it) **will be reported** to the Office of the Vice President for disciplinary action, and are subject to severe disciplinary penalties including the possible failure of the course and/or dismissal from the University. **Policies regarding academic dishonesty will be strictly enforced. If in doubt ask your instructors or contact Debbie Bell at 542-4336.**

BIOL 1108 - Fall 2012 TIME SCHEDULE (subject to modification)

*Please PRE-VIEW BEFORE class, then READ IN DETAIL [class material only] RIGHT AFTER class

		LECTURE TOPIC	REQUIRED READING* (Campbell 9 th)
AUG	13	Introduction, Class Expectations & Levels of Learning	1-27 & 1078-79 & course packet (CP)
	15	Science as a way of knowing; the scientific method	Note: 8/16 Last day to drop a class
	17	Mechanisms of evolutionary change	501-513 - 8/17 Last day to add a class
	20	Mechanisms of evolutionary change (continued)	501-513
	22	How biological diversity evolves; how to measure genetic variation	515-522
	24	How biological diversity evolves; how gene frequencies change	522-531
	27	How biological diversity evolves; how gene frequencies change, cont...	
	29	Biological diversity and speciation, adaptive radiation & extinction	534-544 & CP unit III, Academic Honesty
	31	How biological diversity is organized: phylogenetics	582-594 & CP unit IV
SEP	03	LABOR DAY	
Wed	05	EXAM 1 (no make-up): includes class material 8/13-8/31	
	07	How biological diversity is organized: phylogenetics & genomics	594-599
	10	Introduction to ecology	1190-1198, 1203-1204, 1209-1213 & CP XXI
	12	Community ecology	1240-1246 & CP unit XXIII
	14	Community ecology (continued)	1246-1252 & CP unit XXIII
	17	Conservation biology	1284-1307
	19	Life cycles & meiosis	646-661 & CP unit VIII
	21	Evolution of plants – adaptation to life on land	646-661 & CP unit VI
	24	Plant primary growth & development	784-796, 801-807
	26	Plant transport & nutrient acquisition	810-828 & CP unit VII
Fri	28	EXAM 2 (no make-up): includes class material 9/07-9/26	
OCT	01	Plant hormones & signal transduction	867-881 & CP unit X
	03	Plant hormones & response to the environment	881-893 & CP unit X
	05	Animal diversity; vertebrates and the transition to life on land	708-710, 743-760 & CP unit XI
	08	How to control the internal environment: Homeostatic regulation and negative feedback circuits	860-862
	10	How to communicate & coordinate (I): Electric Signals Resting potential & Action potential generation	1045-1053
	12	Action potential propagation & Synaptic transmission	1053-1060, 1079-1083
	15	Organization of the vertebrate nervous system	1062-1067
Wed	17	EXAM 3 (no make-up): includes class material 10/01-10/15	
	19	Skeletal muscle structure & function	1103-1110
	22	Skeletal muscle strength and exercise	1103-1110
	24	How to supply all tissues with nutrients and oxygen: Evolution of the human heart: cardiac muscle and blood flow	897-910, 913-915
	26	FALL BREAK	
	29	Control and regulation of blood flow	898-910, 913-915
	31	Gas exchange in fish gills, bird lungs & mammal lungs	915-928
NOV	02	Regulation of gas exchange	915-928
	05	Adaptation to high altitude: Climbing Mt. Kilimanjaro	
	07	Salt & water balance, waste disposal, vertebrate kidney	953-960, 962-263
Fri	09	EXAM 4 (no make-up): includes class material 10/19-11/07	
	12	Mammalian kidney structure & function	962-968
	14	Regulation of kidney function	968-973
	16	How to communicate & coordinate (II): Chemical Signals	974-995
	19-23	THANKSGIVING BREAK	
	26	Blood sugar and blood calcium regulation	982-984, 989-990
	28	Hypothalamus as master gland	984-995
	30	Regulation of male and female reproduction	996-1019
DEC	03	Regulation of female reproduction; evolution of reproductive behavior	996-1019, 1118-19
Tue	04	PeTS poster session	
Mon	10	FINAL EXAM (cumulative, about 50% since last exam; no make-up)	
		12:20 class: 12-3pm 2:30pm class: 3:30-6:30pm	Attend the final of your own class