

Arizona State University
BIO 187 – GENERAL BIOLOGY I
Fall Semester 2009

Welcome to the inaugural semester of General Biology at Arizona State University's Downtown Phoenix Campus! This course is the first of an integrated two-semester series that is designed to provide students with a rigorous and in-depth understanding of biological concepts and principles. BIO 187 is "big" biology in that we'll tackle the large-scale processes that drive evolution, organismal diversity, and the interactions of these organisms with each other and their environment. The second course in the series, BIO 188, addresses the "small" biology concepts of biological chemistry and how it pertains to the molecular and cellular bases of life. The General Biology curriculum at the Downtown Phoenix Campus is comparable to that of the same courses at other ASU campuses.

BIO 187 provides four units of credit that satisfy the SG general studies requirement, as well as a portion of the requirements for many life and health-related science degrees. The course is intended for students majoring in life science disciplines, though it may be of value to well-prepared individuals interested in a thorough treatment of the science of biology.

INSTRUCTOR INFORMATION

Lecturer:	Dr. Cayle Lisenbee	Telephone:	(602) 496-0641
Office:	UCENT 355	E-mail:	lisenbee.cayle@asu.edu
Office Hours:	Mon 3:00–5:00 pm, Tue 11:30 am–1:00 pm, Wed 1:00–2:30 pm, Thu 11:30 am–1:00 pm (or by appointment)		
Instructional Aide:	Ms. Neda Javidan	Telephone:	(602) 496-0658
Office:	UCENT 360BC	E-mail:	njavidan@asu.edu
Office Hours:	TBA (or by appointment)		

CLASS MEETING TIMES & LOCATIONS

Lecture:	Mon/Wed/Fri 9:40–10:30 am, UCENT 286
Labs:	Wed 3:05–5:55 pm in UCENT 371 Fri 11:50 am–2:40 pm in UCENT 371

COURSE MATERIALS

Textbook

Biological Science 3rd ed. by Scott Freeman (2008). Pearson Benjamin Cummings, San Francisco, CA.

Online Resource

<http://www.masteringbiology.com>

Supplement

Reading Primary Literature by Christopher Gillen (2007). Pearson Benjamin Cummings, San Francisco, CA.

Lab Manual

Investigating Biology 6th ed. by Judith Morgan and Eloise Carter (2008). Pearson Benjamin Cummings, San Francisco, CA.

Blackboard

Course information and grades will be posted throughout the semester on Blackboard. To access the site, log in at <http://my.asu.edu> with your ASURITE ID and password and then click on the course name ("General Biology I") or the Blackboard link within the "My Classes" section. Please check the site regularly for class announcements, lecture notes, assignments, and study materials.

ASSIGNMENTS, EXAMS, & GRADING

Lecture		Lab	
Reading Quizzes	see below	Quizzes	50
Homework	150	Lab Exercises	100
Unit Exams (3)	300	Drawings	50
Final Exam	150	Lab Reports	100
Total	<hr/> 600	Practicals (2)	<hr/> 200
		Total	<hr/> 500

Assignments

Lecture – Two types of projects are associated with the lecture portion of the course. Reading quizzes will be assigned on a weekly basis to encourage your regular study and review of the text. The quizzes do not contribute to the total number of points available in the course, but they may be submitted for extra credit to increase the total number of points you accumulate. The quizzes will be due every Monday morning at 9:00 am and together will constitute no more than 30 extra credit points (5% of the lecture total). Homework will be assigned periodically throughout the semester to allow you to practice your biological problem-solving skills and thus ensure difficult concepts have been cemented prior to the exams. All reading quizzes and homework assignments will be administered through the MasteringBiology web site, so please be certain that you register at <http://www.masteringbiology.com> during the first week of classes!

Lab – Four types of assignments will be utilized in the laboratory. Brief quizzes will be administered at the start of each lab period to encourage on-time attendance and pre-reading of the lab exercises. Each quiz will cover material from the previous and current week's exercises, so please be sure to arrive prepared for class! This includes bringing your lab manual to every lab meeting, because this is where you will record your data and observations. These entries will constitute weekly lab exercise assignments that typically will be reviewed and scored by your lab instructor at the end of each lab period. Several lab exercises also will require you to produce high-quality biological drawings. Your drawings will be scored separately according to their ability to convey accurately the structural aspects of the biological specimens that you observe. Finally, your data collection and interpretation activities will be chronicled in lab reports that exhibit the essential elements of standard scientific papers. These important assignments will consist of a progressive series of smaller writing tasks that will culminate in the writing of a complete paper. Further details will be discussed in lab.

Exams & Practicals

Lecture – Four lecture exams will be administered at regular intervals throughout the semester. Each exam will consist of multiple choice questions on topics covered in the assigned reading and lecture, *with a focus on the latter*. All four exams will count towards the final grade. The first three exams will be unit exams, and the lowest of these three scores may be replaced by a comparable percentage achieved on the final exam. In order for the final exam to successfully "resurrect" a unit exam score, the final exam percentage must be higher than the unit exam percentage and the score to be replaced must be greater than zero (the final exam cannot replace a score of zero that was received due to an absence). The final exam will be a mandatory two-hour cumulative measure that will be held on the date specified by the university's final exam schedule.

Lab – Two lab practicals will be administered during the second half of the term. Each will include short answer questions that assess your ability to identify biological specimens and/or techniques and principles learned in the lab. Further details will be discussed in lab.

The following guidelines will be enforced to encourage fair and honest testing:

- No materials of any kind are to be visible at your desk during testing. Please place all book bags, purses, textbooks, and notes under your desk and out of sight.

- Turn off or mute and stow all cell phones and other electronic devices, including iPods and iPhones, prior to the start of an exam or practical. These devices may not be used for any reason during the testing period. You may forfeit your right to finish an exam if you fail to abide by this policy.
- No student will be permitted to start an exam late after the first person finished has left the testing room. Please arrive on time for your exams and practicals!
- You will not be allowed to leave the testing room if you intend to return during the testing period. Be sure to grab a snack and visit the restroom before you arrive.
- Bring your ASU ID card to each exam – you'll be asked to enter your ASU ID number on your test papers until we get to know you individually.

Grading

Your letter grade will be determined entirely by the number of points you earn. Point totals may be tallied periodically throughout the semester, but these totals will not be converted to letter grades until all points have been distributed in the course. I will perform these conversions very carefully according to the following grading scale, but please note that this scale provides a reference only and may be adjusted at my discretion if aggregate scores suggest it to be inadequate:

Content	Course %	Grade %	Letter
Lecture	60	90-100	A
Lab	40	80-90	B
		70-80	C
		60-70	D
		below 60	E

ATTENDANCE & MAKE-UP POLICIES

Lecture Attendance

Attending lecture is an important component of successfully mastering the content presented in a majors-level science course. My presentations frequently will include material that you may not be able to locate readily in the assigned reading, and they always provide clear indications of the material that I feel is most important for learning key concepts. My lectures also incorporate a great deal of discussion-based learning, but this is effective only when students are present in the classroom! Please let me know if you need to miss a lecture so that I can help you stay current with missed material.

Lab Attendance

Completing all of the lab exercises is essential to performing well in this course. Please arrive for lab on time, and plan on remaining in the lab for the entire lab period. Students that arrive late may forfeit the opportunity to complete the lab quiz that will be administered at the start of the lab session. Your lab instructor may provide you with additional information on attendance policies and make-up assignments (if available). I will defer to Ms. Javidan's decisions on all aspects of the lab, so please treat her with the same respect that you extend to me!

Absence & Make-up Policies

The lecture portion of the course includes multiple opportunities for acquiring points such that missed assignments rarely require special accommodations. Reading quizzes, in particular, will not be eligible for make-up extra credit; no exceptions to this rule will be offered. All MasteringBiology assignments (reading quizzes and homework) will be available for study purposes beyond their due dates. The "resurrection" policy that may improve your lowest unit exam score in most cases prevents the need for make-up exams. Likewise, make-up opportunities for labs typically are not available because most exercises include group activities, complicated materials, and/or extensive setups that can't be replicated for individual students.

You will receive a score of zero if an unexcused absence forces you to miss a graded assignment, exam, lab exercise, or practical. Missing more than one exam or practical, or more than three lab exercises will result in a failing grade (not an incomplete) for the course. Excused absences include only documented illnesses and ASU sponsored events, the latter of which must be cleared with me in advance. It is your responsibility to

consult with me, your lab instructor, the Blackboard site, and/or your peers to obtain missed lecture and lab materials. *I can't stress enough the importance of following up on missed material!*

MISCELLANEOUS INFORMATION

Course Withdrawal

Please note that unless you withdraw from the course, a letter grade will be reported at the end of the semester, even if you stop attending class without initiating a proper withdrawal. The last day to withdraw from the course and receive a letter grade of W on your transcript is November 6th (in person) or November 8th (online). The deadline for complete withdrawal from all fall semester courses is December 8th.

Academic Honesty

Arizona State University maintains strict standards of academic integrity. All forms of subtle or overt dishonesty will not be tolerated, including but not limited to copying another student's work, plagiarism of published literature (including Internet content), and using notes or other aides during an exam. All instances will result in the student *failing the entire course* and will be reported to the School of Letters and Sciences, the student's degree-granting college/school/department, and the Dean's Office for the Downtown Phoenix Campus. Please strive to utilize your own creativity in all of your academic endeavors.

Student Resources

If you would like additional assistance with course material, I encourage you to visit, call (602-496-4ASU), or email (askdpc@asu.edu) the Student Success Center on the first floor of the University Center building to schedule an appointment with a subject area tutor. These friendly folks are ready to help and are a highly-trained, very valuable resource!

If you have a disability that requires assistance in lectures, labs, or during exams and practicals, please see me during the first week of classes so that appropriate accommodations may be arranged.

Hints for Success

University lab science courses can be a bit daunting for the unsuspecting and unprepared. If you find yourself falling behind, try one or more of the following:

- Browse the appropriate chapters of the textbook and lab manual *before* coming to class. You'll find it much easier to follow and participate in the lecture or lab when you've taken as little as 15 minutes to briefly familiarize yourself with the terms, pictures, and overall topic outlines of the material. The reading and lab quiz assignments are designed to encourage this type of preparatory activity.
- Though it can help visual learners with memorization tasks, it's typically not productive to copy the information on my slides word-for-word during lecture (I'll post my notes on Blackboard as the semester progresses). Instead, take general notes digitally or on paper as lectures and labs proceed. Keywords are better than full sentences, especially if you are having trouble keeping up. Remember that it's perfectly acceptable to avoid note-taking completely, too!
- Review your notes or my lectures (available progressively on Blackboard) and fill in important details *in your own words* that highlight important concepts in the material. Use these reviews as guides for more in-depth reading of the pertinent sections of the textbook and lab manual.

And last, but certainly not least . . .

- I'm known for focusing on conceptualization and application in my courses. Try to incorporate the following ordered routine into your study sessions: familiarize, organize, and conceptualize. Note that simple memorization will take you through only the first of these three steps to success!

Disclaimer

The contents of this syllabus, particularly the lecture and lab schedules, may require revision during the semester due to unforeseen circumstances. If updates are necessary, they will be announced in class and posted to the course Blackboard site. Please note that the date for the final exam is set by the University to avoid scheduling conflicts during final exam week and thus cannot be changed.

LECTURE & LABORATORY SCHEDULE (TENTATIVE)

Week	Date	Lecture Topic	Ch.	Lab Topic	Ex.
1	Aug 24	Introduction			
	Aug 26	Biology and the Tree of Life	1	Scientific Investigation	1
	Aug 28	Biology and the Tree of Life	1	Scientific Investigation	1
2	Aug 31	Mendel and the Gene	13		
	Sep 2	Mendel and the Gene	13	Animal Behavior	26
	Sep 4	Mendel and the Gene	13	Animal Behavior	26
3	Sep 7	<i>Labor Day Holiday</i>			
	Sep 9	How Genes Work	15	Population Genetics I: H-W Theorem	11
	Sep 11	Evolution by Natural Selection	24	Population Genetics I: H-W Theorem	11
4	Sep 14	Evolution by Natural Selection	24		
	Sep 16	Exam 1		Population Genetics II: Variation	12
	Sep 18	Evolutionary Processes	25	Population Genetics II: Variation	12
5	Sep 21	Evolutionary Processes	25		
	Sep 23	Speciation	26	Microscopes & Cells, Bacteriology	2, 13
	Sep 25	Speciation	26	Microscopes & Cells, Bacteriology	2, 13
6	Sep 28	Phylogenetic Trees	27		
	Sep 30	The History of Life	27	Protists & Fungi	14
	Oct 2	The History of Life	27	Protists & Fungi	14
7	Oct 5	Inside the Cell	7		
	Oct 7	Bacteria	28	Plant Diversity I: Mosses & Ferns	15
	Oct 9	Bacteria	28	Plant Diversity I: Mosses & Ferns	15
8	Oct 12	Viruses	35		
	Oct 14	Exam 2		Plant Diversity II: Seed Plants	16
	Oct 16	Protists	29	Plant Diversity II: Seed Plants	16
9	Oct 19	Green Plants	30		
	Oct 21	Green Plants	30	Practical 1	
	Oct 23	Green Plants	30	Practical 1	
10	Oct 26	Fungi	31		
	Oct 28	Fungi	31	Animal Diversity I: Sponges, etc.	18
	Oct 30	An Introduction to Animals	32	Animal Diversity I: Sponges, etc.	18
11	Nov 2	Protostome Animals	33		
	Nov 4	Protostome Animals	33	Animal Diversity II: Insects, etc.	19
	Nov 6	Deuterostome Animals	34	Animal Diversity II: Insects, etc.	19
12	Nov 9	Deuterostome Animals	34		
	Nov 11	<i>Veterans Day Holiday</i>		<i>No Lab</i>	
	Nov 13	Exam 3		Vertebrate Anatomy	22-24
13	Nov 16	Animal Form and Function	41		
	Nov 18	An Introduction to Ecology	50	Vertebrate Anatomy	22-24
	Nov 20	An Introduction to Ecology	50	Practical 2	
14	Nov 23	Population Ecology	52		
	Nov 25	Population Ecology	52	Practical 2	
	Nov 27	<i>Thanksgiving Holiday</i>			
15	Nov 30	Community Ecology	53		
	Dec 2	Community Ecology	53	Ecology I: Terrestrial Ecology	27
	Dec 4	Ecosystems	54	Ecology I: Terrestrial Ecology	27
16	Dec 7	Conservation Biology	55		
	Dec 9	<i>Reading Day</i>		<i>No Lab</i>	
	Dec 11	Final Exam (7:30-9:20 am)		<i>No Lab</i>	