

Course Code & No. - Section:	BIOL 102 section 1	BIOL 106 - Sections 1 and 2
Course Title (Credits):	Biology II (3 credits)	Biology II Lab (1 credit)
Term & Year:	Spring 2015	
Course Ref. No. (CRN):	10026 (BIOL 102)	10028 (106-1) or 10030 (106-2)
Instructors:	Dr. Suzanne Gollery (102) and	Gigi Giles (106)
Phone(s):	Office: 775-831-1314 ext7456 Cell: 775-813-4215 (8 a.m. – 9 p.m.)	Cell: 775-544-9052 (8 am – 9 pm)
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Office:	TCES, room 223	TCES, room 214
Office Hours:	M 10:00 – 11:15 a.m. W 2:30 – 3:45 p.m. R 1:00 – 2:15 p.m. or by appointment	By appointment
Class Meeting Time:	MW 4:00 – 5:15 p.m. (lecture)	R 10 a.m. – 12:45 p.m. (lab sec 1) R 2:30 – 5:15 p.m. (lab section 2)
Location:	TCES 215 (BIOL 102)	TCES 204 (BIOL 106)
Prerequisites:	BIOL 101 and BIOL 105	
Corequisites:	BIOL 102 and BIOL 106 are co-requisites	

Course Descriptions

BIOL 102: Biology II (3) Prerequisite: BIOL 101. Corequisite: BIOL 106. A study of the diversity of life, including topics on bacteria, protists, fungi, plants, and animals. An emphasis is placed on ecological and evolutionary processes that have given rise to the immense diversity of organisms. Topics on vertebrate body structure and function are also covered.

BIOL 106: Biology Lab II (1) Prerequisites: BIOL 101, BIOL 105. Corequisite: BIOL 102. Laboratory and field exercises to accompany BIOL 102.

Student Outcomes for BIOL 102/106: Upon completion of Biology II and Lab,

1. Students mastering the material of Biology II will have sufficient understanding and recall of facts and concepts of evolution, systematics, the diversity of living organisms, plant anatomy and physiology, vertebrate anatomy and physiology, and population ecology to be successful in upper division biology and environmental science courses.
2. Students will demonstrate ability to answer questions about biology like those on standardized exams (such as the GRE, MCAT, or senior exit exams).
3. Students will communicate about and critique scientific concepts in paragraph and essay form.
4. Students will demonstrate skill at critical analysis, logic, and problem solving involving facts and concepts of evolution, systematics, diversity of living organisms, plant anatomy and physiology, vertebrate anatomy and physiology, and population ecology.
5. Students will demonstrate competence in basic compound (brightfield) microscopy techniques.

Methods of Assessing Student Outcomes

Student outcomes will be assessed using the following:

1. Individual class preparation assignments based on assigned reading or video lectures
2. In-class activities such as case studies, individual or team problem solving, discussions...
3. One-minute essays on the murkiest or most significant points at the close of each class
4. Laboratory assignments
5. Two individual scholarly essays on biology topics
6. Two group oral presentations on biology topics
7. Four written in-class, closed-book exams
8. Written in-class, closed-book, comprehensive final examination

Instructional Strategies

Biology II and Lab is a foundational science course, which means that you will learn facts and concepts about a wide range of biology subjects to gain a basic overview of our current understanding of how living organisms “work”. There is a lot of content to remember, including a large amount of discipline-specific vocabulary. This class will use the flipped classroom approach. This means that I will ask you to learn much of the easier content outside of class by reading the text or other articles posted on Moodle, viewing mini-lectures, or accessing assigned websites for information, and completing or reviewing in-class work after class. Class preparation assignments (CPAs) will prompt you to make time for learning easy material before class, preparing you to apply the concepts and learn the most difficult information with the help of your instructor in class. Most important, if you understand what parts of the CPA are confusing for you, you will be able to direct class discussions toward topics that you most need help with. If you make a good faith effort to prepare for class, then you will have no trouble learning enough content to pass the class, but if you ignore the responsibility to prepare for class, you will find that you cannot understand the in-class activities or get enough from class alone to be successful on in-class exams. You will get a lot out of this class if you work on the assignments that I have prepared to help you learn. I will not just lecture, in other words, tell you everything you need to know in class.

Required Texts and Materials:

1. Choose either the Hillis text or Thinkwell videos, or both. You only need to purchase one of these, but you can get both if you have the money and want to have more resources to help you learn.
 - a. Text option: Hillis DM, Sadava D, Hill RW, and Price MV. (2014) *Principles of Life, 2nd edition*, Sunderland, MA: MacMillan/WHFreeman/Sinauer Associates. ISBN-13: 9781464189838. This is a hardbound text; new copies have access to online materials that can help students learn the content. You may also purchase the loose-leaf version (so you can bring only chapters that you need to class) or the eText version (which will give you the online materials, but only lasts for two years). Online access is recommended, but not required
 - b. Video option: Purchase the Thinkwell Biology video lectures at <http://www.thinkwell.com/> then enroll yourself in the SNC Biology II course. This series of mini lectures has very similar content to a general biology text. **If you know you won't read the text, but you do like to watch tv or movies, this may be the right text for you, however, it will take many more hours to view all the videos than to read the Hillis text.** Professor George Wolfe gives amusing mini-lectures and explains important biology concepts in simple language with understandable and accurate analogies.
2. 3-ring binder (available at the bookstore) to hold notes, handouts and work returned with feedback plus paper for in-class activities.
3. A set of colored pencils, 8 or more colors.
4. Access to a computer (one that meets the published SNC Computer Requirements) and internet.

Attendance

Success in Biology II and Lab is significantly influenced by participation in class and lab activities. Although I will not take attendance, **YOU MUST BE IN CLASS TO TURN IN CPAs**. Grades will be calculated based on the 16 best CPA scores and 12 best lab assignments, so missing two labs (or the Monterey trip) or three CPAs will not negatively impact your grade. If you are ill for more than a week, are competing with an SNC sport team, or have a family emergency or military duty that takes you away from campus, I may elect to excuse your absence and allow you to turn in work. However, I will not excuse absences because you overslept, had to work, gave someone a ride, went on an SNC-sponsored extracurricular trip, or missed less than a week because of illness.

Course policies:**1) Food and drinks:**

Food and beverages, even drinking water, are FORBIDDEN by state and federal safety regulations in TCES 204, the biology lab. You must leave open food and beverages outside of the lab room or leave them inside your bags. You may discretely consume food or beverages in TCES 215. Please clean up after yourself!

2) Electronic devices:

You are never permitted to use MP3 players in class at any time, including during exams. Cell phones, tablets, and laptops may be used to access online resources or take notes in class. I may confiscate phones, MP3 players, tablets, or laptops that are used for non-class purposes until the end of class. If you must text or call someone during class time in an emergency, please leave the room.

3) Late work will not be accepted:

Late CPAs, lab assignments and extra credit will not be accepted. Work is due at the beginning of the class period on the due date unless state otherwise in the syllabus and will not be accepted more than 10 minutes after the start of class. You are welcome to turn in work early by email, in person, or slipping it under my office door.

4) E-mailed work:

All work may be submitted by e-mail OR in hard copy. You may e-mail digital work or work scanned to pdf files. Please include your name in the file name, as many students could send a file named "CPA 1". I will reply to verify that e-mailed work was received. It is your responsibility to follow up if I do not reply about e-mailed work. If you suspect an emailing problem, please ask to submit work late.

Citing sources:

Cite sources using the CSE citation sequence (number) system. Scientists routinely cite original sources for factual information that is not widely known. For example, one would not have to cite a source when one states that mutations introduce new genetic variability into the human genome, but one would cite a source when stating that mutations accumulate in human DNA at an average rate of 175 mutations per diploid genome per generation¹. When you are writing a scientific argument in response to a CPA question or as part of a lab or class assignment, get in the habit of citing facts when you find them in a source. This web site has information about citing sources using CSE (Council of Science Educators) style, which is similar to that used by most scientific journals:

http://bcs.bedfordstmartins.com/resdoc5e/RES5e_ch11_s1-0003.html. You can find out about on-line citation tools that set up your bibliography using a given citation style on the "Citation Guides" tab at the Prim Library website.

1. Nachman M W, Crowell S L. Estimate of the mutation rate per nucleotide in humans. Genetics 2000; 156: 297-304

5) Extra credit:

I will offer extra credit for additional work with instructional value regularly throughout the semester. You may earn up to 60 extra credit points, 5% of the total number of points possible for the class. Students who have read this syllabus may send me an email in which you summarize the Biology II late work policy prior to the second class meeting on Monday, January 26, to receive 3 points extra credit as a reward for doing this important reading assignment. The last date to submit extra credit without specific due dates is Monday, April 27, 2015.

6) Modifications to the BIOL 102/106 course syllabus:

This syllabus and schedule is intended to provide students with a clear and accurate outline of course content, student outcomes, class topics, assignments and due dates, and exam dates. You should keep and refer to the syllabus regularly, and learn how to access it on the course Moodle page. The instructors reserves the right to make announced changes to the syllabus and class schedule if it is in the best interest of the students to do so. Major changes, such as changes to exam dates, exam content, and permanent changes to the schedule, will be posted on the Moodle site and students will be e-mailed about such postings.

7) How to learn the most and feel the best about this class:

Biology II is a challenging class and there will be times that you wish it was easier. However, if you focus on how much you are learning and how it will help you succeed in future biology and environmental science courses, you will find it easier to do the work. I have carefully selected reading or viewing assignments and class activities to teach you content and skills that you will need for a career in science, environmental policy, or a health field. I am glad to give you extra help if you need it, so please take advantage of office hours or ask for another time to meet with me if the office hours don't work in your schedule. I am better at paying attention to email than to my phone, but you will usually get a response from me by text.

Please treat me, your classmates, and yourself with respect. We are all working toward the same goal, helping everyone in the class learn enough biology to be successful. You will learn more if you help each other out. You will learn the most if you are a leader, more if you are a contributor, and enough if you are a participant. **Observers will probably not learn enough to pass with a C grade.** I will ask detractors to leave the class that day and may drop students who detract repeatedly.

Leader –

does all that is asked
plus extra
plus helps someone else

Contributor –

does all that is asked
plus extra

Participant –

does all that is asked
nothing more

Observer –

does something,
but less than is asked

Detractor –

does less than is asked
keeps someone else from doing what they are supposed to do

Prim Library Resources

Using the library's resources effectively (not just internet resources) contributes to developing each of SNC's core themes by exposing students to high quality academic resources, diverse opinions, new ideas, and a future that includes building on a liberal arts education. In this course, you will be expected to utilize the library's resources (either on-site or remotely) as you complete your assignments.

Prim Library Resources for BIOL 102 and BIOL 106: Biology II and Lab include, but are not limited to:

1. **Books** (can be checked out):
 - a. In general, books related to biology have Library of Congress Classification numbers ranging from QH through RC. Books about biotechnology have LCC numbers beginning with TP. However, you will find books related to our course with other LCC numbers, so search the Prim Library Catalog using key words related to the topic that you are researching.
 - b. Pechenik JA. A short guide to writing about biology. 7th ed. New York: Longman; 2010. LCC number QH 304. P43 2010
 - c. Lipson C. Cite Right: a Quick Guide to Citation Styles. Chicago: University of Chicago Press; 2006. LCC number PN171. F56L55 2006. Includes a section on CSE style.
2. **Electronic databases** (for peer-reviewed primary source research articles, secondary source reviews, newspaper magazine articles, and online books): Electronic databases most likely to include articles on biology topics are EBSCO: Academic Search Premier, Environment Complete, General Science Collection, GreenFILE, Health Source, Newspaper Source, and TOPICsearch; BioOne; and GREENR.
3. **Hardcopy periodicals**: Prim Library has current subscriptions for Science, New Scientist, Science News, Scientific American, and National Geographic Magazine. Any of these are likely to have secondary source articles about biology topics written for educated people who are not necessarily scientists. You will find these easy to read and articles will include references to primary source articles. Full-text articles from many more periodicals are available through the electronic databases.
4. **Lib Guides**: <http://Libguides.sierranevada.edu> These web pages contain instructions about how to use resources available at Prim Library, Prim Library resources for biology topics, how to evaluation the appropriateness of information from the internet for a research paper, how to cite sources, and other topics related to finding and using information.

ADA Accommodations

In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, students with a documented disability are eligible for support services and accommodations. If a student wishes to request an accommodation, please contact the Director of Academic Support Services, Henry Conover, at (775) 831-1314 x7534, hconover@sierranevada.edu, office in Prim Library: PL-304.

The SNC Email System

The SNC email system is the official communication vehicle among students, faculty members and administrative staff and is designed to protect the confidentiality of student information as required by the Family Educational Rights and Privacy Act of 1974 Act (FERPA). Students should check their college email accounts daily during the school year.

Students have a right to forward their SNC e-mail to another e-mail account (for example, @hotmail or @gmail). However, confidentiality of student information protected by FERPA cannot be guaranteed for SNC e-mail forwarded to an outside vendor. Having email redirected does not absolve a student from the responsibilities associated with official communication sent to his or her SNC email account.

The Sierra Nevada College Mission Statement:

Sierra Nevada College graduates will be educated to be scholars of and contributors to a sustainable world. Sierra Nevada College combines the liberal arts and professional preparedness through an interdisciplinary curriculum that emphasizes entrepreneurial thinking and environmental, social, economic and educational sustainability.

The Core Themes: Four core themes from the SNC mission are woven through all courses and the life of the community at SNC.

Liberal Arts

Professional Preparedness

Entrepreneurial Thinking

Sustainability

Sanctions for Cheating and/or Plagiarism**The Honor Code**

The faculty of SNC believes students must be held to high standards of integrity in all aspects of college life in order to promote the educational mission of the College and to encourage respect for the rights of others. Each student brings to the SNC community unique skills, talents, values and experiences which, when expressed within the community, contribute to the quality of the educational environment and the growth and development of the individual. Students share with members of the faculty, administration and staff the responsibility for creating and maintaining an environment conducive to learning and personal development, where actions are guided by mutual respect, integrity, responsibility and trust. The faculty and students alike must make diligent efforts to ensure high standards are upheld by their colleagues and peers as well as themselves. Therefore faculty and students accept responsibility for maintaining these standards at Sierra Nevada College and are obligated to comply with its regulations and procedures, which they are expected to read and understand.

Consequences of Violating the Student Honor Code

SNC students and faculty share the responsibility for maintaining an environment of academic honesty. Thus, all are responsible for knowing and abiding by the SNC Faculty/Student Honor Code published in the current SNC Catalog. Faculty are responsible for presenting the Honor Code and the consequences of violating it to students at the start of their classes AND for reporting all incidences of academic dishonesty to the Provost. Students are responsible for knowing

what constitutes CHEATING, PLAGIARISM and FABRICATION and for refraining from these and other forms of academic dishonesty. Violations of the Honor Code become part of a student's academic record.

- 1st Offense: Student receives a zero for assignment/exam and counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.
- 2nd Offense: Student fails course and receives counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.
- 3rd Offense: Student is expelled.

Cutting and pasting or copying phrases or sentences from internet sources, books, articles, or other students is a violation of the student honor code. If you consistently write using your own words, you will avoid plagiarizing or cheating.

Grading Policy

Since BIOL 102 and 106 are corequisites, and the material of each is so integral to the other, assignments from each will contribute to an overall point total and the same letter grade will be awarded to both courses. The grading curve is based on a 1200-point scale, with 75% of points from BIOL 102 and 25% from BIOL 106. Sierra Nevada College awards half grades (e.g., A- or B+), so a student with a point total within 1.5% of the cutoff for the letter grade will earn the appropriate half grade.

Grading Curve

Students may earn points in the following ways:

A	90 – 100%	1080 – 1200 points
B	80 – 89.9 %	960 – 1079 points
C	68 – 79.9%	816 – 959 points
D	58 – 67.9%	696 – 815 points
F	<58%	<696 points

BIOL 102 (75%):

CPAs – 16 best at 15 points each	240 points
2 essays – 30 or 40 points each	70 points
2 oral presentations – 30 or 40 points each	70 points
Exams – 4 at 80 points each	320 points
Comprehensive Final Exam	200 points

BIOL 106 (25%):

Lab assignments – 12 best at 20 points each	240 points
(Monterey field trip assignment counts as 2 labs)	
1 written lab report –	<u>60 points</u>
Total	1200 points

Assignment details:

Class preparation assignment:

Short description of the assignment: Students will complete a written assignment while reading or viewing assigned material prior to its being discussed in class, in order to prepare to USE the content during class activities.

Learning goals for the assignment: Scientific studies on how people learn have shown repeatedly that we learn and remember more when we are active learners. This means that you will remember and be able to apply more facts and concepts about biology for a much longer time if you learn them by reading and writing about them, communicating about them with other people, and applying them to solve problems in different contexts, than if you

come to class and passively listen to me lecture about the facts and concepts while taking notes. The class preparation assignments give you a chance to learn actively by reading a text or viewing video lectures and summarizing or answering questions related to the reading/viewing assignment. You are encouraged to write questions asking for clarification of confusing material from the reading assignment and submit them to the instructor by noon on class days. Class activities will provide time to address your questions and murkiest points (see one-minute essays, below), work in pairs or small groups to communicate about course content, and apply challenging and important concepts and facts to new situations. You will gain much more from class activities if you come to class prepared, having completed the reading/viewing assignment and struggled with CPA questions. You will be confused about what you need to know if you do not complete the CPAs, because I will not tell you everything that you need to learn to pass the exams in class.

How to do the assignment: Because people learn in different ways, there are a few options for the class preparation assignment. You may do any of the options for any CPAs. For example, you may outline the Thinkwell videos for CPA 1, answer my CPA questions for CPA 2, and write your own questions and research their answers for CPA 3. However, all Biology II students are responsible for being able to answer the CPA and CHECKpoint questions by exam time. If you turn in your CPA as a hard copy, you should have a second copy (file or hard copy) on which to take additional notes during class and study sessions with classmates. You should expect to spend up to twice as much time outside of class on reading or viewing assignments and CPAs as you spend in class. Due dates are given on the schedule of classes (right hand column) and CPA assignment handouts.

Option 1: Answer Suzanne's CPA Questions – read the assigned Hillis pages or view the assigned Thinkwell video lectures and then answer Suzanne's CPA questions in your own words. The CPA questions are in a separate handout posted on Moodle.

Option 2: Answer CHECKpoint questions at the end of Hillis Concepts assigned for that date. You can only use the option when Hillis pages are assigned for the date that the CPA is due. Suzanne will post the CHECKpoint questions on Moodle, so this option is also available for students viewing Thinkwell lectures. Occasionally CHECKpoint questions are about specific examples used in Hillis, so would be hard for Thinkwell viewers to answer, but they should work for Thinkwell viewers for most CPAs.

Option 3: Do the Hillis Launchpad LearningCurve assignment for the chapter from which reading is assigned. The LearningCurve assignment covers the whole chapter, whereas some reading assignments only cover part of a chapter. Thus, this option may not work for some CPA due dates. CPAs with LearningCurve options are listed on the Launchpad calendar for our course at <http://www.macmillanhighered.com/launchpad/hillis2e/1265117>. This option is only available to students who purchased Hillis Principles of Life, 2e, with Launchpad.

Option 4: Outline the Hillis reading assignment or Thinkwell video lecture IN YOUR OWN WORDS. No credit will be given for outlines that plagiarize the notes that you can download from Thinkwell or just restate subtopic headings in the Hillis reading assignment.

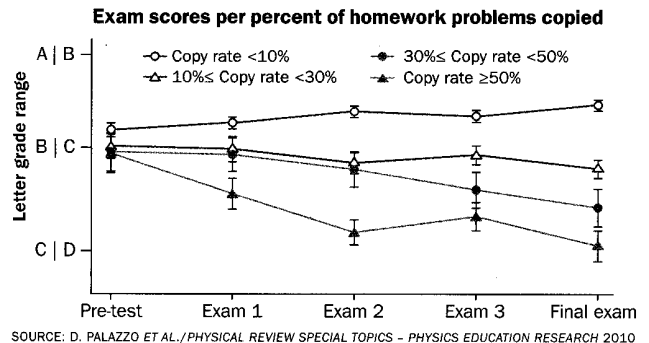
Option 5: Write down questions that you have about the Hillis reading assignment or Thinkwell lectures. Then do some research to try to answer your questions and record where you looked for information. Answer your questions if possible. If you are still confused after trying to learn more, this is ok, just try to explain what part of the material you don't understand.

Scoring and feedback from the assignment: CPAs will be scored for completeness (effort), that is, students will receive full credit for making a good attempt to answer all questions, regardless of whether or not they are ideal answers. The instructor will give students written feedback on some answers, but not all. Students are responsible for working with their teams to make sure that all team members eventually have complete answers that can be effective resources for class activities, lab exercises, and study for exams. Students should keep their evolving CPA answers in their class binders.

Collaboration and individual work: You are encouraged to work with your learning teams or other classmates on CPAs and other class assignments. **However, each student must write answers to questions in his/her own words. If your prose on biology assignments is identical to or paraphrased from other students work, the text, Wikipedia, or other published or internet sources, you will receive a ZERO GRADE for the assignment and consequences for violating the academic honesty policy may apply. If two students turn in identical or closely paraphrased work, both will receive zero grades. Cheaters never learn!**

Science Stats | CHEATERS NEVER LEARN

A study of MIT students found that those who copied others' homework more frequently did worse on exams over the course of a semester.



4 | SCIENCE NEWS | May 8, 2010

Student questions:

While completing assigned reading, CPAs, or other assignments, you are encouraged to write questions for clarification of confusing or difficult concepts or facts and e-mail these questions to Suzanne by noon on the day of class. Please use a subject heading for your e-mail that states it is a question for class. Questions may be submitted prior to any class, not just classes with CPA or other assignment due dates. Questions and murkiest points will be addressed in class. Your questions will also help direct the class activities to help you understand what you find most difficult.

One-minute essays: In the last couple of minutes of each class, you will have time to write one-minute essays in which you briefly state, in a complete sentence or two, either:

1. The murkiest point, that is, one concept or bit of content information that you found the least understandable (most confusing) during that class period.
2. Or, if you understood everything clearly, the most important concept or bit of content information covered in that class period.

I will read the one-minute essays carefully prior to the next class period and structure the class activities to clear up the murkiest points. One-minute essays will also be used to take attendance; students who are present, but do not turn in one-minute essays, may be counted as absent.

Essays: You will be asked to write two concise essays on biology topics, including sources for facts that are not widely known. Excellent writing skills, especially the ability to write concisely, are essential for professional success, no matter what your career. Being able to find sources for factual information and document them to support your logical reasoning is also an important professional skill. The essay assignments are designed to let you practice these skills. You should expect similar assignments for many of your SNC courses, as we faculty intend that SNC graduates be successful writers.

Oral presentations: You will be asked to work with a team to design and deliver two oral presentations on biology topics, including sources for facts that are not widely known. Knowing how to give effective oral presentations is also essential for professional success, no matter what your career. Being able to find sources for factual information and document them to support your logical reasoning is also an important professional skill. Finally, few professionals work alone and scientists hardly ever do, so practice working effectively in a team is critical to your future success. The oral presentation assignments are designed to let you practice these three skills. You should expect similar assignments for many of your SNC courses, as we faculty intend that SNC graduates be effective speakers and know how to work in teams.

Exams: Four exams worth 80 points each will cover material from the previous exam, although many biology concepts build, so you are responsible for remembering and using content from previous exams throughout the course. Exams include multiple choice questions, since this format is used on standardized exams, such the GRE and MCAT. Other questions may include short answer, essay, or true-false formats. Exam questions will ask you to apply concepts and

facts, so you will see questions with new detailed information given in the question and will be expected to use these details plus concepts you did learn in class to figure out an answer. You will have hard copy, closed book exams.

Final Exam: A comprehensive final exam with a format similar to the four exams will be given at the end of the semester. The Biology II final exam is scheduled for Friday, May 8, 6:30-9:30 p.m.

Lab Assignments: All lab activities will have associated assignments. Lab assignments will vary significantly in format, so individual instructions will be given for each assignment and can be downloaded from Moodle. Some lab assignments will be turned in at the end of the lab period. Others will require additional time and will be due at the beginning of lab class on the due date listed on the schedule of classes. Lab assignment due dates are given on the schedule of classes. All students will turn separate lab assignments written in their own words, even when lab work is done as a team.

Lab Report: You are responsible for writing one lab report about the antiseptic/disinfectant experiment that is part of the prokaryotic diversity lab. Instructions are the same as for BIOL 101 lab reports and are posted on Moodle. Students who are not happy with their lab report scores may rewrite the lab report for up to 90% credit.

Midterm grades: Midterm grades will be calculated using all work due through Wednesday, March 11, 2015. There will not be a midterm exam, per se, although Exam 2 is scheduled for Wednesday, March 11.

Biology II and Lab Schedule – Spring 2015

The schedule of classes, including assigned reading or viewing and due dates begins at the top of the next page. Lab dates, activities, and assignments due are in rust colored type.

Day and Date	Reading assignment	Topic	Work due
Week 1 <i>Monday, Jan 19</i> Wednesday, Jan 21 Thurs, Jan 22 Lab	Syllabus Work thru Lab 8 here – skip “design experiment” and “analyze results”	<i>Martin Luther King Holiday</i> Biology II course structure Inheritance review Selection, genetic drift, and Hardy-Weinberg equilibrium lab	Inheritance review at end of class Address for the hyperlink to the left: http://www.phschool.com/science/biology_place/labbench/lab8/intro.html
Week 2 Monday, Jan 26 Wednesday, Jan 28 Thurs, Jan 29 Lab	Hillis Ch 15 concepts 15.1 through 15.4 OR Thinkwell 10.1, 10.2, 10.3 Hillis concepts 15.5 – 15.7 (these pages are posted on Moodle – no Thinkwell equivalent)	Processes of evolution Assign evolution game design project (extra credit) Evolution at the molecular level Hemoglobin evolution Great Clade Race	CPA 1 CPA 2 Selection, genetic drift, H-W equilibrium lab due
Week 3 Monday, Feb 2 Wednesday, Feb 4 Thurs, Feb 5 Lab	Hillis Ch 16 concepts 16.1 though 16.3 Thinkwell 11.1 (skip 11.1.1) Hillis Ch 16 concept 16.4 Thinkwell Ch 1: 1.11	Evolutionary history and phylogenetics <u>Assign evolutionary history revision essay</u> Classification & evolution, Parts A & B Classification & evolution, Parts C & D	CPA 3 CPA 4 Hemoglobin evolution & Great clade race due
Week 4 Monday, Feb 9 Wed, Feb 11 Thurs, Feb 12 Lab	Hillis Ch 17 Thinkwell 10.4 & 10.5 Hillis Ch 14 (on Moodle - more here than Thinkwell) Thinkwell 11.12, 11.13 Download case study materials	Speciation Genes, development, and evolution <u>Assign virus oral presentations</u> Genetic basis of evolution case studies Make exam 1 review sheet Inoculate bacterial cultures for Feb 19	CPA 5 CPA 6 Classification & evolution lab due <u>Evolutionary history revision essay due</u>
Week 5 <i>Monday, Feb 16</i> Wed, Feb 18 Thurs, Feb 19 Lab	Study for exam 1 Read lab handout and highlight procedures	<i>President's Day Holiday – no class</i> Exam 1: evolution, speciation, and phylogenetics Prokaryotic diversity	Genetic basis of evolution lab due
Week 6 Monday, Feb 23 Wed, Feb 25 Thurs, Feb 26 Lab <i>R&F, Feb 26 & 27</i>	Hillis Chapters 18 & 19 Thinkwell 1.5, 1.10, 11.2, & 11.3 Work on virus presentations Hillis Concept 20.2 Read lab handout and highlight procedures	History of life on earth & prokaryotes <u>Virus presentations (student oral presentations)</u> Eukaryotic diversity Gather data for antiseptic/disinfectant experiment Inoculate fungal growth media <i>Junior English Proficiency Exam</i>	CPA 7 <u>Virus presentation slides due</u> Prokaryotic diversity due at end of lab class

Week 7 Monday, Mar 2	Hillis Ch 20 Thinkwell 11.4	Eukaryotes that aren't fungi, animals, or plants	CPA 8
Wed, Mar 4	Hillis Ch 22 Thinkwell 11.8	Fungi	CPA 9
Thurs, Mar 5 Lab	Read lab handout and highlight procedures	Fungal diversity	Eukaryote diversity lab due
Week 8 Monday, Mar 9	Work on your lab report	Make exam 2 review sheet	Antiseptic/disinfectant lab report due on Monday
Wed, Mar 11	Study for exam 2	Exam 2: Prokaryotes, viruses, protists, and fungi	
Thurs, Mar 12 Lab	Bring your health insurance information to class	Pre-trip meeting for Monterey Bay trip Testing evolution game prototypes (extra credit for all students)	Fungal diversity lab due
March 16 – 20		Spring break	
Week 9 Monday, Mar 23	Hillis Ch 23, concepts 23.1 through 23.4 Thinkwell 11.9 & 11.10	Animal evolution and diversity <u>Assign unlikely animal essay</u>	CPA 10
Wed, Mar 25	Hillis Ch 23, concepts 23.5 through 23.7 Thinkwell 11.11 & 11.12	More animal evolution and diversity	CPA 11
Thurs, Mar 26, Lab	Read lab handout and highlight procedures	Animal tissues lab	Monterey Bay field trip paperwork due
Friday, March 27 – Sunday, March 29		Monterey Bay field trip	Aquarium assignment due (2 labs)
Week 10 Monday, Mar 30	<i>Advising for fall 2015 starts</i> Hillis Ch 29 (on Moodle) Thinkwell 12.1	<i>Last day to withdraw from any course!!!</i> Animal physiology overview	CPA 12
Wed, April 1	Hillis Ch 33 Thinkwell 12.2	Muscle contraction and movement	CPA 13
Thurs, April 2 Lab	Hillis Ch 36 or Thinkwell 12.7; download and read lab handout	Homeostasis: water and solute balance	<u>Unlikely animal essay due</u> Animal tissues lab due
Week 11 Monday, Apr 6	Hillis Ch 34, concepts 34.1 through 34.3 Thinkwell 12.14.1 → 12.14.3	Transfer of information in nervous tissues	CPA 14
Wed, April 8	Hillis Ch 34, concepts 34.4 & 34.5 Thinkwell 12.14.4, 12.13, & 12.16	Sensory and nervous systems	CPA 15
Thurs, April 9 Lab	Download and read lab handout	Exploring action potentials Make exam 3 review sheet	Water and solute balance lab due

Week 12 Monday, Apr 13	Study for exam 3	Exam 3: Animal diversity, structure, & function	
Wed, April 15	Ch 21 Thinkwell 11.5, 11.6, & 11.7	Plant diversity <u>Assign plant adaptation presentations</u>	CPA 16
Thurs, Apr 16 Lab	Read lab handout and highlight procedures	Plant diversity lab	Action potentials lab due
Week 13 Monday, Apr 20	Hillis Ch 24 Thinkwell 13.1	Plant anatomy (body structures)	CPA 17
Wed, April 22	Hillis Ch 25 Thinkwell 13.4	Plant nutrition and transport	CPA 18
Thurs, Apr 23 Lab	Read lab handout and highlight procedures	Plant structures	Plant diversity lab due
Week 14 Monday, Apr 27	Hillis Chapters 27 and 26 Thinkwell 13.3, 13.1, 13.2	Plant reproduction and development	CPA 19
Wed, April 29	Work on plant presentations	<u>Plant adaptation presentations (student oral presentations)</u>	<u>Plant presentation slides due</u>
Thurs, Apr 30 Lab	Hillis Ch 28 (on Moodle); download and read lab handout	Plant responses to the environment Make exam 4 review sheet	Plant structures lab due
Friday, May 1	4:00 – 7:00 p.m.	Science student research and internship presentations	Probably TCES 139/141
Week 15 Monday, May 4	Study for Exam 4	Exam 4: Plant diversity, structure, & function	
Wed and Thurs, May 6 & 7	Reading days	Study for final exams and/or complete final class projects or papers	
Thursday, May 7	5:00-9:00 p.m.	Student Symposium	TCES 139/141
Friday, May 8	6:30 – 9:30 p.m.	Biology II final exam - comprehensive	Plant responses lab due
Mon - Wed	Final exams continue		
Wed, May 13	7 p.m.	SNC Chorus Broadway Concert	Patterson Hall
Thursday, May 14	Starting 4:30 p.m.	SNC Luau	Patterson patio and lawn
Friday, May 15	About 9 a.m.	Award ceremony, graduation rehearsal immediately following	Patterson Hall
	Starting Noon	Graduate picnic	Ski Beach
Saturday, May 16	Starting 10 a.m.	SNC Commencement	Patterson Lawn