

BSC 2010 – Integrated Principles of Biology I

Syllabus for 0485, 0486, 0487

Summer 2015

I. Class Meetings

Tuesday, Wednesday, Thursday, & Friday

Section 7252

Period 1

8:00 AM–9:15 AM

NPB 1001

Online Exercises and Tutorials are continuously available; particular assignments will be posted regularly.

II. BSC Laboratory Courses

The BSC laboratory courses (BSC 2010L and BSC 2011L) are managed separately from the BSC lecture courses. Please read the information available at the BSC Website (<http://www.bsc.ufl.edu>) for more information on the laboratory courses.

III. Instructors

Dr. Stuart McDaniel, PhD

Department of Biology

Office: 213 Carr

Office Hours: After class or by appointment

E-mail: stuartmcdaniel@ufl.edu

Dr. Norman A. Douglas, PhD

Department of Biology

Office: 417 Carr Hall

Office Hours: After class or by appointment

E-mail: nadouglas@ufl.edu

Luciano Soares (Discussion Leader and Online Instructor)

Graduate Teaching Assistant

Department of Biology

Office: 417 Bartram

Office Hours: Wed 2:00-3:00 (in 310 Bartram) or by appointment

E-mail: lsoares@ufl.edu

IV. Course Goals and Objectives

The primary goal of this course is to establish a coherent foundation of knowledge in biology and to prepare students for comprehension in advanced biology courses and science in general. Fundamental concepts discussed include the scientific methods by which we come to know things in science, the chemical composition and processes that make up all life, genetic processes and the means of inheritance of traits, the mechanisms and processes of natural selection, and adaptation and evolution of life on Earth. An additional course goal is to develop critical thinking skills for development of reasoned thought and for evaluation of life experiences.

Objectives of the course will be achieved if, by its conclusion, students can:

- Describe a scientific hypothesis and identify testable predictions that logically follow
- Compare and contrast the components of prokaryotic and eukaryotic cells and the molecular processes driving cellular structure and functions
- Outline the process and molecular components of key metabolic pathways
- Describe the relationship between genotype and phenotype
- Predict the RNA and protein sequences that will be transcribed and translated from a given gene
- Predict the immediate and long term effects of specific gene mutations
- Discuss the evidence that all living things are descended from a common ancestor
- Describe the driving forces of evolutionary change
- Identify sources of genetic variation in populations and explain how this can be shaped in the presence of natural selection
- Read and evaluate a phylogenetic tree
- Compare and contrast the components of prokaryotic and eukaryotic cells and the molecular processes driving cellular structure and functions

V. General Education Objectives for Biological Sciences

Biological science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the life sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern biological systems. Students will formulate empirically testable hypotheses derived from the study of living things, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

The General Education objectives and the associated Student Learning Outcomes for Biological Sciences are achieved through lectures, in class discussion, interactive “clicker” response systems, and online activities and exercises. The learning objectives and SLOs are further reinforced by inquiry-based and active-learning exercises in the companion laboratory course, BSC 2011L. In particular, the companion lab expands upon development and testing of specific hypotheses.

VI. General Education Student Learning Outcomes

The general education student learning outcomes (SLOs) describe the knowledge, skills and attitudes that students are expected to acquire while completing a general education course at the University of Florida. The SLOs fall into three categories: **content**, **communication** and **critical thinking**.

Every general education course must address all three SLOs. Note that the subject area objectives (detailed above) describe the context within which the SLOs are achieved

Category	Institutional Definition	Institutional SLO
CONTENT	Content is knowledge of the concepts, principles, terminology and methodologies used within the discipline.	Students demonstrate competence in the terminology, concepts, methodologies and theories used within the discipline.
COMMUNICATION	Communication is the development and expression of ideas in written and oral forms.	Students communicate knowledge, ideas, and reasoning clearly and effectively in written or oral forms appropriate to the discipline.
CRITICAL THINKING	Critical thinking is characterized by the comprehensive analysis of issues, ideas, and evidence before accepting or formulating an opinion or conclusion.	Students analyze information carefully and logically from multiple perspectives, using discipline specific methods, and develop reasoned solutions to problems.

To assess student performance in meeting these student learning outcomes for this course, students are evaluated by a variety of instruments throughout the course: three exams during the semester, daily graded "clicker" questions used to assess comprehension and reasoning, and graded on-line activities, exercises and assessments. Student Learning Outcomes are further assessed in BSC 2010L, the companion lab course. For example, the Communication SLO is assessed in graded written assessments and in oral presentations in the lab. In combination, BSC 2010 and BSC 2010L provide assessments of all categories of the General Education Student Learning Outcomes.

VII. Expectations

Each student is solely responsible for reading and following the instructions, guidelines and schedules in this syllabus and on the course webpage, or announced in class. Not having read the information in this syllabus or in instructor announcements will not constitute an excuse for missing an assignment, exam, or other assessment. Please set your preferences in Canvas so that you receive timely notifications of course announcements and other information.

VIII. E-mail Communication

All e-mail correspondence to course instructors must **originate from your ufl.edu account, have your full name in the body of the e-mail, and contain your course and section number in the subject line.** E-mails not meeting these requirements may not be recognized by our e-mail filters, and thus may not be answered.

All correspondence regarding the online assignments (LaunchPad) must be sent to the Online Instructor (Mr. Luciano Soares) through Canvas email.

IX. Course Resources

A. Textbook

Principles of Life, 2nd Edition, by Hillis, Sadava, Heller, & Price, Sinauer Associates and W.H. Freeman (publisher)

There are current versions of the textbook on reserve at the Marston Science Library. Visit the Reserve Materials area to check out these copies.

B. Online Resources and Electronic Textbook

Launchpad is an online assignments and tutorial system from the textbook publisher. It is required for this course and includes an e-book with purchase. Each new copy of the *Principles of Life* textbook comes automatically packaged with *Launchpad* and an e-book. Alternatively, you may access *Launchpad* and the e-book by making a standalone purchase either online at

<http://www.macmillanhighered.com/launchpad/hillis2e/1715594>. If you purchase a used textbook you will still need to purchase access to *Launchpad*.

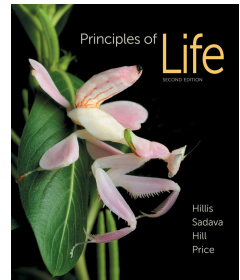
The *Launchpad* website is

<http://www.macmillanhighered.com/launchpad/hillis2e/1715594>

When setting up your account, you should use your UFID number as your username.

When you are asked for your email address, you must use your Gatorlink (@ufl.edu)

e-mail address. Using an e-mail address other than your UFL e-mail address will result in you receiving **NO CREDIT** for all assignments administered through *Launchpad*. This cannot be changed after registration; be sure to register correctly. **NOTE:** if you already purchased *Launchpad* access in a different semester, you can log in using your existing username, which should be your Gatorlink email address. You will then be asked to provide your UFID number.



Follow these steps to get started.

- Go to <http://www.macmillanhighered.com/launchpad/hillis2e/1715594>
- Bookmark the page to make it easy to return to.
- If you have an access code, click the button "Enter Your Student Access Code" in the upper right corner and follow the instructions.
- If you don't have an access code, click the "Purchase Access" button.
- If you have any questions or problems logging in, please contact Technical Support. Technical support will need a technical support incident ID if you continue to have trouble, so be sure to save that ID when you report your issue.

For help with *LaunchPad*, contact *LaunchPad* Technical Support: 1 (877) 587-6534 (phone) or their online support form at <http://support.bfwpub.com/supportform/form.php?View=contact>

Tech Support Hours (all times EST)

Monday – Thursday, 9:00 AM – 3:00 AM

Friday, 9:00 AM – 11:00 PM

Saturday, 11:30 AM – 8:00 PM

Sunday, 11:30 AM – 11:30 PM

C. Classroom Response System (Clicker)

We will use the Top Hat Monocle (THM) Classroom Response System (CRS) for quiz questions during class. THM allows students to use a cell phone (text messaging), laptop, tablet, smartphone, or an iPod touch to participate in class. Students who are enrolled in this course prior to the first day of class will receive an automated e-mail from the Top Hat system with registration links. For students that enroll in this class late, follow the instructions in the "Top Hat Detailed Slides" PowerPoint presentation found in the Files section on the course's Canvas website. For additional information on Top Hat, see the "Student Quick Start Guide" found in the Files section on the course's Canvas website. There is also a "Top Hat Student Manual" available (see Files section on Canvas) that contains additional information. If you have problems with Top Hat, email support@tophat.com or click the Support button from their Top Hat account.

D. Course Website (e-Learning)

Class material including the syllabus, exam results, some lecture slides, and other information related to the course will be posted on the course e-Learning website (<http://lss.at.ufl.edu>). The course is found under "e-Learning in Canvas". You are responsible for **all** announcements made in lecture and/or posted on the course website for this class. For help with e-Learning, call the UF Computing Help Desk at 352-392-4357, or visit the e-Learning support website: <https://lss.at.ufl.edu/help.shtml>.

X. Online Instruction Information

Online Instructor: **Luciano Soares**

E-mail address: lsoares@ufl.edu

Please send an e-mail if you plan to come to office hours

As part of BSC 2010, you are required to complete online assignments that will account for 12% of your overall grade. If at any time you have questions about these assignments, please contact the Online Instructor (Mr. Luciano Soares). **DO NOT contact the Lecturer for questions about online homework completed through LaunchPad.** Online assignments will be completed online at the LaunchPad website: <http://www.macmillanhighered.com/launchpad/hillis2e/1715594>

See instructions above (B. Online Resources and Electronic Textbook) on how to access the LaunchPad website. A schedule will be posted on e-Learning with the due dates for each assignment. **All assignments must be completed by the stated due date and time for credit. Extensions will NOT be given because of technical or personal issues that occur within 24 hours of the assignment deadline.** Most assignments will also have a set time limit, so make sure you have time to devote to that assignment before you begin. You are expected to work by yourself on the assignments and cheating will not be tolerated.

Note that all due dates for assignments are clearly posted on the LaunchPad Assignments tab and reflect the most up-to-date information. On this page you can also see your grade on an assignment and its status (e.g., complete, or due in x days). Also, there are many other resources available on LaunchPad to help you study material from your textbook, such as Diagnostic quizzes, Flashcards, Interactive chapter summaries, etc. Items that are NOT on the assignments page will not be graded, but we still strongly encourage you to use them to help you study.

If you have technical difficulties, please contact LaunchPad Technical Support: 1-(877) 587-6534 (phone) or visit <http://support.bfwpub.com/supportform/form.php?View=contact>.

To facilitate actual discussion, a discussion forum will set up in e-Learning in Canvas. Any questions regarding the lecture material or the online assignments should be posted there, so that your instructors, Mr. Soares, or your fellow students will be able to provide answers. Don't be shy about asking questions; after all, if you are confused about the material there will almost certainly be other students with the same questions.

Communication with Your Online Instructor

When you have a question about the *LaunchPad* assignments, check the following sources first to see if it is already answered, **before** e-mailing your Online Instructor:

- o Course Syllabus
- o e-Learning announcements (this is the primary means that your Online Instructor has to communicate with you in a timely manner)
- o e-Learning Discussion FAQ
- o e-Learning Discussion General Posts

If you still cannot find the answer to your questions:

- o If it is a question that others might find useful to know the answer to as well, post it in the e-Learning Discussion section.
- o If it is a question specific to you (e.g. account or grade specific), e-mail Mr. Soares. Barring unusual circumstances, expect a reply with 24 hours. E-mails and e-Learning Discussion posts are checked at least once per day, but sometimes not more than that.

If there is a technical problem with accessing *LaunchPad* or a particular assignment within *LaunchPad*, you must contact *LaunchPad* technical support FIRST. *LaunchPad* tech support is the only one who can fix technical issues with the site. Then, contact the Online Instructor at least 48 hours prior to the deadline, so appropriate steps can be taken to fix the issue and appropriate extensions can be given if necessary.

Grading of Online Exercises:

The online exercises account for nearly 12% of the total course points. There are several different types of assignments that students will have to complete. For any quizzes, you will be graded based on the number of questions answered correctly out of the total number of questions on your FIRST quiz submission! For all other assignment types (activities, tutorials, etc.) you will receive full credit upon completion. There are no make-ups available for *LaunchPad* assignments. Once assigned, assignments are available online at all times up until the deadlines. ALL *LaunchPad* assignments for a section of the class (i.e., all the lectures given by a particular instructor) are due at 5:00 pm the DAY BEFORE the exam covering that section (for example, if the exam is on the 4th, *LaunchPad* assignments are due by 5:00 pm on the 3rd). Because they are assigned far in advance of the due date, *LaunchPad* assignments that are not completed by the due date CANNOT BE MADE UP, with one exception: If there is a technical problem with accessing *LaunchPad* or a particular assignment within *LaunchPad*, you must contact *LaunchPad* technical support AND the online instructor at least 48 hours prior to the deadline, so appropriate steps can be taken to fix the issue and appropriate extensions can be given if necessary. Thus, check early that you can access the assignments. You will not be granted an extension for technical problems, if you do not contact the online instructor at least 48 hours before the deadline.

Important information about pace:

We are giving you all of the assignments for each third of the course at once, and giving you at least three weeks to complete them. You have the freedom to go at a pace of your choosing, but you should not leave yourself too much work at the deadline. The assignments have been listed in an order that complements the lecture. You may go over the material for a given chapter before the lecture to better understand the lecture, or just after each lecture to help reinforce the material and prepare for the exam.

The only thing we do not recommend is to leave all the assignments until right before the deadline! You can always go back and re-do the assignments after you have submitted them for a grade, as a study aid.

To reiterate, deadlines are at 5:00 pm on specified dates, which will be the day before each exam.

LaunchPad grades will be transferred to the UF E-learning website after each exam, but will also be viewable at any time on the LaunchPad website.

XI. Supplemental Instruction

In Supplemental Instruction (SI), a trained student peer attends the class and then leads group sessions to focus on the challenging concepts and problems in the course. **SI is purely voluntary**; you can attend as often as you like, provided there is space (this is a first-come, first-served program). The sessions are collaborative, in that you will be working with classmates to better understand the material. The SI leaders will show you effective strategies for studying the course material, which you will have a chance to practice together, and the SI leaders will give you a chance to ask questions or pose your own concerns.

Refer to the SI e-Learning site for the locations and schedules of the SI sessions. More information is available at the UF Supplemental Instruction Home Page:
https://teachingcenter.ufl.edu/supplemental_instruction.html.

XII. Assessments and Grading

A. Exams

There will be three "midterm" exams, but no cumulative "final" exam. The midterm exams will be administered during the normal semester and during the normal class meeting times. Each exam will cover material from lecture, the online discussions, and the assigned reading in the textbook. The exams will **not** be cumulative. Each exam will be worth approximately 28% of the course grade.

All exams will be multiple-choice and machine graded. Answer sheets will be provided and must be filled in using a #2 or softer pencil. **Each student must take the exam during her/his registered section time. Each student must bring her/his Gator ID to class on exam days.** No student will be allowed to start an exam after the first student to complete an exam leaves the classroom. All exams and answer sheets will be collected at the end of the exam period. No additional time will be given to complete an exam if you arrive late. Please be aware that filling in the scantron sheets is part of the exam; no extra time at the end of the class period will be given for filling out the scantron sheets.

Each exam may be curved using the following approach: The top 3% of the scores in the class will be averaged, and the difference from 100 points will be added to each individual exam score.

Exams will be available for review by appointment for one week after the exam date; specific times for exam review will be announced following each exam. Exams will **not** be available for review after the semester has ended.

Make-up Exams: No make-up exams will be given without prior permission or documentation of illness. Students that will be missing an exam due to a pre-arranged university-approved excused absence (sports, etc.) should let the instructor know **a minimum of two weeks in advance**. These students may be required to take the make-up exam *before* the scheduled in-class exam.

In case of illness on exam day, a letter from the student's primary care provider is required. This letter must state that the student was unable to complete the exam on the scheduled date (i.e., a letter stating only that the student was seen in a clinic is not sufficient). A personal matter requires a note from the Dean of Students (P202 Peabody Hall). These notes must be received within five business days after the exam. Make up exams may be short-answer or essay format.

B. Online Assignments

Students will receive up to 12% of the total course points for participation in the online exercises, and for performance on online assessments. Additional information about the *LaunchPad* exercises and assessments will be provided by the Online Instructor (see also Section VII, above).

There are **NO** make-ups available for *LaunchPad* assignments. Once assigned, assignments are available online at all times until the deadlines. Because a full week (or more) is dedicated to the completion of each *LaunchPad* assignment, documentation of illness or a personal matter must be provided for at least five of the seven days of the week of the assignment's deadline for accommodations to be made. It is especially important to not wait until just before the deadlines to complete *LaunchPad* assignments.

C. In-Class Quiz "Clicker" Questions

Students will receive 5% of the total course points for participation in the in-class quizzes that are to be answered using the classroom response system (Top Hat Monocle, see above). Specifically, 18 points total will be awarded for Top Hat Monocle (THM) quizzes; 6 points from each lecture unit of the course. The points earned will reflect the proportion of THM questions answered correctly in class. Each question posed will be scored as 0.75 THM points for participation with an additional 0.25 THM points for a correct answer. For each course lecture unit, full in-class quiz credit (6 course points) will be awarded to all students achieving 75% of the total possible THM points from that unit; those achieving less than 75% will receive course points in proportion to their achieved THM points (e.g. 50% of THM points earned = 3 course points for one lecture unit).

Students may not make up THM questions, regardless of the reason (e.g., absence, malfunctioning cell phone, forgot to register, etc.). It is the student's responsibility to regularly check (i.e., daily or weekly) their gradebook in THM to ensure that their submissions were correctly received, and to contact THM support to resolve any issues with submissions not being properly recorded in the THM gradebook in a timely manner.

D. Extra Credit

No mechanisms for extra credit are available. So don't ask!

E. Grading

Assessment	Points per Unit	Total Point	% of Total Points
Exams	100	300	83.3
<i>BioPortal</i>	14	42	11.7
THM	6	18	5.0
TOTAL	120	360	100.0

All grades will be posted on e-Learning (in terms of course points, i.e., the point scheme above), and it is the responsibility of the student to check their grades on e-Learning and make sure they match their grades on LaunchPad and THM. If there is a discrepancy you must let us know within ONE week of the grade being posted on eLearning.

Minimum grade cutoffs are listed below. Because each exam is curved individually (see section IX-A, above), the scores for the course as a whole will not be curved (i.e. these grade cutoffs will not be lowered) except under extremely rare circumstances (i.e., unless we tell you otherwise these cutoffs will not be lowered, so do not ask). However, these cutoffs will not be raised; in other words, if you receive 90% of the possible points, you are guaranteed to earn an A grade. Final scores will NOT be rounded (i.e., 89.99% is not 90%).

Point Range (%)	Letter Grade
≥ 90.00	A
≥ 86.66	A–
≥ 83.33	B+
≥ 80.00	B
≥ 76.66	B–
≥ 73.33	C+
≥ 70	C
≥ 66.66	C–
≥ 63.33	D+
≥ 60	D
≥ 56.66	D–
< 56.66	E

Note that the current UF policy for assigning grade points is available at the following undergraduate catalog web page: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

F. Special Treatment

Please do not request individual special treatment regarding grading at the end of the semester; **we do not adjust grades for individuals for any reason**. Plan to do well on all exams and other assessments from the beginning of the semester; if you are having difficulty in the class, please let your instructors know *before* the exams rather than after.

XIII. Academic Honesty

All students registered at the University of Florida have agreed to comply with the following statement:

"I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University."

In addition, on all work submitted for credit the following pledge is either required or implied:

"On my honor I have neither given nor received unauthorized aid in doing this assignment."

If you witness any instances of academic dishonesty in this class, please notify the instructor or contact the Student Honor Court (392-1631) or Cheating Hotline (392-6999). For additional information on Academic Honesty, please refer to the University of Florida Academic Honesty Guidelines at: <https://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx#honesty>.

XIV. Attendance

Attendance is not required, but students are expected to attend all classes and are responsible for all material covered during the lecture, including announcements. **In addition, your attendance is necessary to earn points for "clicker" (THM) quizzes; such points cannot be made up.** Students are strongly encouraged to read the assigned chapters before coming to class as this will make it easier to comprehend the lecture material. If you miss class, visit the e-Learning site for any lecture notes and course announcements.

XV. Time Commitment

The UF College of Liberal Arts and Sciences expects that each student will devote 3-4 hours per week per credit-hour to each course, including time in lectures and labs. Because BSC 2010 is 3 credits, each student should therefore expect to devote 9-12 hours per week to this course. A recommended time allocation is below.

Activity	Hours per Week
Lectures	3
Online Exercises	1-2
Textbook Readings	2-3
Review and Study	2-4

If you find yourself spending more than 12 hours per week on average on these activities, discuss this with your course instructor to see if you can refine your study habits. If you find yourself spending less than 9 hours per week on average, you should recognize that you may have difficulty learning and comprehending the material in this time, and this will probably be reflected in poor performance on the various assessments, causing you to receive a lower overall course grade.

XVI. Conduct in Class

Please be courteous and do not talk during lecture. This can be distracting to other students and the instructor.

Use of electronic devices in class to take notes or otherwise participate in classroom activities is approved. Approved electronic devices are laptop computers, cell phones, smart phones, tablets, iPod touch, and voice recording devices. Other uses of these devices or the use of unapproved devices will be considered disruptive. Unapproved electronic devices include video recorders, digital cameras and MP3 players.

Students who use unapproved devices in class will be considered disruptive. Multiple disruptions will be considered grounds for the assignment of a failing grade.

XVII. Accommodations for Students with Disabilities

Students who will require a classroom accommodation for a disability must contact the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). Please see the University of Florida Disability Resources website for more information at: <http://www.dso.ufl.edu/drc/>. Note that the student should provide documentation of a requirement for accommodation **by the second week of classes**. No accommodations are available to students who lack this documentation. It is the policy of the University of Florida that the student, not the instructor, is responsible for arranging accommodations when needed. Once notification is complete, the Dean of Students Office of Disability Resources will work with the instructor to accommodate the student.

XVIII. Counseling Center

Many students experience test anxiety and other stress related problems. “[A Self Help Guide for Students](#)” as well as a diverse array of support systems are available through the UF Counseling and Wellness Center (3190 Radio Road, 392-1575, <http://www.counsel.ufl.edu/>).

XIX. Lecture Schedule

Lecture topics for this course are listed below. This is a tentative schedule; the dates and coverage of specific topics are subject to change.

	Date	Lecture #	Topic	Chapter
			Cells and Biochemistry Lectures	
Tues.	12 May	1	Introduction	1
Wed.	13 May	2	Principles of Life	1
Thurs.	14 May	3	Atoms and Molecules	2
Fri.	15 May	4	Carbohydrates and Lipids; Biochemical Changes Involve Energy	2
Tues.	19 May	5	Nucleic Acids and Proteins	3
Wed.	20 May	6	Proteins (cont.) and Enzymes	3
Thurs.	21 May	7	Cells, Prokaryotic Cells, and Eukaryotic Cells	4
Fri.	22 May	8	Eukaryotic Cells (cont.), Cytoskeleton, and Extracellular Structures	4
Tues.	26 May	9	Cell Membranes	5
Wed.	27 May	10	Cell Membranes (cont.) and Signaling	5
Thurs.	28 May	11	Metabolism	6
Fri.	29 May	12	Cellular Respiration	6
Tues.	2 Jun	13	Photosynthesis	6
Wed.	3 Jun	14	Synthesis and Review	

Thurs.	4 Jun		EXAM 1 - In Class	
			Genetics Lectures	
Fri.	5 Jun	1	Cell cycle, Mitosis	7
Tues.	9 Jun	2	Meiosis	7
Wed.	10 Jun	3	Mendelian Genetics	8
Thurs.	11 Jun	4	Extensions of Mendelian Genetics	8
Fri.	12 Jun	5	Chromosomes and Linkage	8
Tues.	16 Jun	6	Search for DNA, Replication, Central Dogma	9
Wed.	17 Jun	7	Transcription	10
Thurs.	18 Jun	8	Translation	10
Fri.	19 Jun	9	Mutations	7,9
Tues.	30 Jun	10	Gene Expression	11
Wed.	1 Jul		Genomes and Genomics	
Thurs.	2 Jul	11	DNA Technology	12
Fri.	3 Jul	12	FOURTH OF JULY – NO CLASS	13, 9
Tues.	7 Jul	13	Genetic testing and Association studies	
Wed.	8 Jul	14	Special Topics / Synthesis and Review	
Thurs.	9 Jul		EXAM 2 - In Class	
			Evolution Lectures	
Fri.	10 Jul	1	What is evolution? A History of Evolutionary Thought	15
Tues.	14 Jul	2	Natural Selection	15
Wed.	15 Jul	3	Frequency dependent and sexual selection	15
Thurs.	16 Jul	4	Hardy-Weinberg Eq. and population genetics	15
Fri.	17 Jul	5	Molecular Evolution	15
Tues.	21 Jul	6	Evolution of Sex and Recombination	15
Wed.	22 Jul	7	Species and Speciation	17
Thurs.	23 Jul	8	Modes of Speciation	17
Fri.	24 Jul	9	Introduction to Phylogenies	16
Tues.	28 Jul	10	Building Phylogenies	16

Wed.	29 Jul	11	Using phylogenies to ask evolutionary questions	16
Thurs.	30 Jul	12	History of the Earth	18
Fri.	31 Aug	13	Origins and Early Diversity of Life	19
Tues.	4 Aug	14	Special Topics / Synthesis and Review	15-20
Wed.	5 Aug		EXAM 3 - In Class	15-20
Thurs.	6 Aug		NO CLASS	
Fri.	7 Aug		NO CLASS	