

SYLLABUS

BIOL 152: Intro To Biological Sciences II Spring 2017 MW 4-5:15 PM, MCALC 1201

Instructor: Rachel Hill
Office hours: [removed] Or by appointment
Room 118a of LFSCB
komosinskira@vcu.edu

Supplemental Instruction: [removed]
Weekly review sessions: [removed]
Office hours: [removed]
Marathon sessions:[removed]
Preceptors: [removed]

NOTE: This syllabus may be subject to change at the instructor's discretion at any time.

SUPER IMPORTANT:

You cannot receive points for any assignment, exam, or presentation without first completing the Academic Integrity Module and receiving full points. The module can be found in Blackboard. You can repeat it as many times as it takes you to get a perfect score.

Course Description

Semester course; 3 lecture hours. 3 credits. Prerequisites: BIOL 151 and CHEM 101. Focuses on evolutionary principles, the role of natural selection in the evolution of life forms, taxonomy and phylogenies, and biological diversity in the context of form and function of organisms. Designed for biology majors.

Course Overview

This course will focus on biological diversity from an evolutionary perspective. Along with basic principles and mechanisms of evolution, the role of natural selection in the evolution of life forms, taxonomy and phylogenies, and the introduction/learning of specific vocabulary, details, and concepts, emphasis will be placed on the development of critical thinking skills including the application of the material to novel scenarios and the analysis of novel information. This course is intended to help cultivate a passion for the biological sciences and facilitate synthesis of existing student knowledge with new topics for a more comprehensive understanding of biological concepts, thereby preparing students for more advanced courses in biology.

Learning Objectives

By the end of this course students should be able to:

- 1) Explain the basic principles and mechanisms of evolution
- 2) Distinguish evolutionary relationships between organisms on phylogenetic trees
- 3) Assess the connections between organisms, adaptations and evolutionary trends
- 4) Explain the evolution and diversity of plants and describe some key systems in plants
- 5) Explain the evolution and diversity of animals and describe some key systems in animals
- 6) Analyze new information related to the subject matter and apply course materials to novel situations
- 7) Given the content and rigor of the course, the student will evaluate current study and time management skills and devise new methods for learning the material.

Textbook (required)

Biology: How Life Works 1st edition by Morris, J et al. or

Biology: How Life Works 2nd edition by Morris, J et al.

(Electronic version is okay – there will also be copies at the library to check out for limited use)

Textbook (required – and free)

OpenStax Biology

<https://openstax.org/details/books/biology>

Top Hat (required)

Our Top Hat course page will become available Saturday, January 21 (unless you hear earlier).

We will be using the Top Hat (www.tophat.com) classroom response system in class. You will be able to submit answers to in-class questions, discussions, group work, etc. using Apple or Android smartphones and tablets, laptops, or through text message. You will also be able to view powerpoints in class and after class using TopHat.

You can visit tinyurl.com/TopHatStudentGuide for the Student Quick Start Guide which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system.

By Saturday, January 21, an email invitation will also be sent to your school email account (if you don't receive this email, you can register by visiting our course website [removed]).

Top Hat will require a paid subscription, and the standard pricing for the cheapest option is \$24 for 4- months of unlimited access. For a full breakdown of all subscription options available please visit <https://tophat.com/pricing/>. There are several professors in Biology using TopHat, so if you foresee continuing to take upper level Biology, I would consider the expanded pricing options. Top Hat will not count towards assignment points until January 25th. This means you can delay purchasing a subscription in case you decide to drop the course. Top Hat has a 7-day free trial period as well, which gives you a whole extra week before you need to officially purchase.

Classroom Conduct & Computer Use Policy:

Any behavior which is distracting or disruptive to fellow students or to me will not be tolerated – you will be asked to leave. If you bring a computer to lecture it must be used solely for that class. If you are caught doing something other than class work, you will lose your privilege to bring a computer to class for the rest of the semester. Disruptive behavior may include talking during lecture, surfing the internet, texting, or a cell phone ringing/buzzing during class.

Lecture Exams

There will be four lecture exams and a final/5th exam. Each exam can and will build on information from previous classes and courses, to include BIOL 151, and so will likely have questions about previous material. Exams will consist of multiple choice and short answer questions (short answer questions may involve drawings or charts). The short answer portion will also have fill-in-the-blank and matching questions. For exams 1-4, each multiple choice portion will consist of 25 questions and be done on gradeIT sheets that I will provide. Each MC question will be worth 2 pts – 50 pts total. The Short Answer section will be worth 50 pts overall (or 50 % of the test score). Each exam – except for the final exam – will be the same length and worth the same number of points. The final/5th exam will have an extra section composed of multiple choice and short answer questions that are very much comprehensive in nature. The final/5th exam will total 160 pts. I foresee 80 pts being from “new” material and 80 pts being from cumulative material. The format will still be similar to the other exams though – 50% from MC and 50% from short answer.

Exam Rebuttals

There will be options for rebuttals for the short answer section. Because I am aware that grading short answers is very different from multiple choice questions I am giving everyone the opportunity to petition for more points based on the answers they give on the short answer section. However, to be eligible for consideration you must do the following:

1. Take your short answer test and compare it carefully with the keys that are available in the main biology office (LFSCB 126)
Please keep in mind that you cannot copy or photograph the keys in anyway. Doing so is a course policy violation and can impact your grade in the course.
2. Once you have made a careful comparison, type up a rebuttal to the grading that clearly indicates areas in which you potentially are eligible for more points.
Rebuttals that fail to provide a reasonable explanation or include "my answer matches the key" or "I meant to say..." will not be considered.
If your answer is wrong, it is simply wrong. I'm looking for you to legitimately show that your answer is valid. In some cases, citing page numbers from the textbook may be helpful. Maintaining ignorance on a question makes it worse for all of us.
3. Type up your rebuttal in a way that clearly indicates which questions you would like to have re-evaluated. Print the petition out; no handwritten petitions will be considered.
4. Turn in your petition and your original short answer test sheet (stapled together!) to the main biology office by 5pm one week after your test was made available (dates will be announced in Blackboard).

Please be advised that all tests will be scanned. DO NOT ALTER YOUR ORIGINAL TEST. THIS IS AN ACADEMIC HONESTY VIOLATION!!!!!!!

Last, you cannot come and ask me to go over the test with you prior to turning in a petition. If you go over the test with me prior to turning in a rebuttal, you are ineligible to turn in a rebuttal.

I will try to return the rebuttals prior to the next test grades being returned. If you do not pick up your rebuttal within a week of it being returned, you are ineligible to submit further rebuttals.

If you have any question about the instructions, please post them under General Course Questions in the Discussion Board. Make sure to look to see if someone else has already posted the question before you post yours.

Lecture Exam policies:

Failure to comply with any of these policies may result in the forfeit (0%) of the exam or the involvement of the honor system – this depends on the infraction

- Memorize your V# prior to your first exam.
- Bring a photo ID for each exam.
- No cell phones during the exam... for any reason.
- No hats
- No ear devices or any other electronic devices
- No bags/purses at your feet - they should be at the front of the room or along the walls
- No clipboards
- You may leave the class during an exam with permission from the instructor
- Do not look at any exam but your own
- Do not speak to your classmates once the exam has commenced
- Turn in all exam materials to the Instructor (this includes extra exams)
- No duplication of exams or exam questions in any way (prior to, during, or after the exam)

Participation:

Participation will be measured daily via Top Hat. We will often be doing work during class in the form of top hat questions, group work, or individual work. This work will allow both of us to assess your mastery of the material, and make adjustments accordingly. Sometimes there will be two different, separate assignments in class – Top Hat questions or discussions. You must come to class prepared, failure to complete work before due date or coming to class will result in a zero for any in class assignments done that day. Should you miss more than four consecutive online assignments or four consecutive classes you may be administratively withdrawn from the class. **See below

Online Work:

Each week you could have several online assignments that must be completed. It is your responsibility to check the course blackboard site for any assignments and to make sure that assignments are completed before due dates. No make-ups for missed work will be given nor will late assignments be accepted. My goal is to make assignments due on Fridays and Tuesdays – but this could change depending on the week. I will try to email when I post the assignment – you also must check Blackboard regularly. Loss of internet access, computer issues, browser issues or other technology related problems are not legitimate excuses for failure to complete assignments before due dates. Assignments outside of class must be done independently unless explicitly noted in the assignment. **See below

Attendance & Missed Work Policy:

Missed Work - It is the student's responsibility to get notes from a classmate due to an absence. It is the student's responsibility to find out from a classmate what was missed, so be kind and courteous to your colleagues! There is no "make-up" for in class work. For an "excused" absence, your work may be exempted.

Make-Ups - Lecture exams may be made up at the instructor's discretion, but will require an acceptable reason for missing the exam – along with sufficient documentation. You must submit a written request via email for a make-up within 24 hours of the exam time outlining your reasons for a make-up. I reserve the right to make the exam a full essay/short answer exam or change the exam questions. You must also provide explicit documentation. Doctor/nurse notes must reference that the illness is either debilitating or contagious (the "common cold" does not warrant missing an exam – I'm talking influenza or norovirus here, people).

DSS

If you require accommodations approved by Disability Support Services, you must meet with me to discuss how your accommodations will be met in this class. This may require a "contract" outlining what the expectations are for you and for me. If you require testing accommodations, you must notify me at least a week in advance for testing at the DSS office or testing center. You must take your test on the same day as the rest of the class (given availability with DSS) as close to the class time as possible. You must also send a reminder at least 24 hours in advance of the test.

Blackboard/E-mail

All students are expected to utilize blackboard and e-mail on a daily basis to keep up with required readings, changes to the schedule and other announcements. Blackboard will regularly be updated with reading assignments and other materials relevant to the course. Students may also periodically receive e-mails, but are expected to check both blackboard and e-mail, as information may not always be made available through both platforms. Feel free to email with questions, but I will not guarantee that I will check my mail after 5pm on weekdays or anytime on the weekends (you may get lucky). Otherwise, I am pretty prompt on responding to email (with 24 hours). This could change during busy advising times.

Grades

Tests : 70% of final course grade (560pts) Test 1: 100pts

Test 2: 100pts

Test 3: 100pts

Test 4: 100pts

Test 5/Final: 160pts (~80-100 pts from recent material; ~60-80 pts from cumulative/comprehensive material)

Participation and Homework: 30% of final grade (240pts) Reading Qs/Weekly Qs

Top Hat Participation Qs

Class discussion Qs – also via TopHat but separate from the participation Qs

Each assignment equally weighted as part of the 30% total (unless a particular assignment requires more work than another – this will be noted up front when assigned). However, I will be dropping three days of in class participation/discussion and one of the online assignments, reading question sets or quizzes. This policy takes into consideration missed classes or if you have an un expected Blackboard issue.

Grading Scale & Extra Credit:

89.50-100% = A 79.50-89.49% = B 69.50-79.49% = C

59.50-69.49% = D Below 59.49% = F

No extra credit; however, there will be opportunities on each exam for a few extra points over 100%.

This schedule is not set and will be updated. This is currently based on the 1st Edition of the textbook – I will be addressing difference in 1st and 2nd editions as we go. Students will be notified in advance of any changes.

** Indicate weeks in which there is a test

Week	Dates (M/W)	Topic	Textbook Chapters/Pages
1	Jan 16 Jan 18	Introduction to Evolutionary Theory	Section 1.4, Ch. 21 Open Stax 18.1
2	Jan 23 Jan 25	Evolution of populations	Chapter 21
3	Jan 30 Feb 1	Origin of Species (End of Exam 1 Material)	Chapter 22
4	Feb 6 Feb 8**	Evolution Early Life, Intro to phylogenies Exam 1	Chapter 23.1 and 23.2 Campbell ch and Sci Am
5	Feb 13 Feb 15	Bacteria and Archaea; Form, function and diversity	Chapter 26
6	Feb 20 Feb 22	Evolution of multicellularity (End of Exam 2 Material)	Chapter 27 and 28
7	Feb 27 Mar 1**	Evolution of Plants from Algae Exam 2	Chapter 33
8	Mar 6 Mar 8	SPRING BREAK – No class	
9	Mar 13 Mar 15	Evolution of Plants; Seed Plants	Chapter 33 , 31.1, 29.3, 29.4
10	Mar 20 Mar 22	Fungal Evolution and Diversity (End of Exam 3 Material)	Chapter 34.1-34.3 – through 34-13
	Mar 24	Last Day to Withdraw with grade of “W”	
11	Mar 27 Mar 29**	Introduction to animal diversity Exam 3	Section 44.1, Section 27.1, Section 44.2 Openstax 27.1
12	April 3 April 5	Bilaterian Animals/Nervous system Muscular system/Skeletal system	Sections 44.3, 35.1, 44.3, 37.1, 37.3
13	April 10 April 12	Evolution and Diversity of Vertebrates (End of Exam 4 Material)	Chapter 44.4, 37.4, 39.1, 39.2, 39.4
14	April 17 April 19	Population Ecology Exam 4	Chapter 6.1-46.3
15	April 24 April 26	Species Interactions, Communities and Ecosystems	Chapter 47.1-47.5 Chapter 25.3
16	May 1	Species Interactions, Communities and Ecosystems (cont.)	