

**BIOL 152 – Introduction to Biological Sciences II**  
Virginia Commonwealth University • Summer 2019  
Time: [Removed] • Location: [Removed]

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**Course Description:**

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. **Prerequisites:** BIOL 151 and CHEM 101.

**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 of and rigor of the course, the student will evaluate current study and time management skills and devise new methods for learning the material.

**Required Materials:**

Top Hat

We will be using the Top Hat ([www.tophat.com](http://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 can visit <https://support.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide> 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. 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 code **[Removed]**).

Top Hat will require a paid subscription, and a full breakdown of all subscription options available can be found here: [www.tophat.com/pricing](http://www.tophat.com/pricing).

Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email ([support@tophat.com](mailto:support@tophat.com)), the in-app support button, or by calling 1-888-663-5491.

**Lecture Exams:**

There will be four lecture exams and a final. Each exam can and shall build from previous information, to include BIOL 151, and so will likely have questions about previous material. Ergo, do not forget anything. Exams may consist of a combination of multiple choice, fill-in-the-blank, short answer, drawing, and essay-style questions.

**Lecture Exam policies:**

***Failure to comply with any of these policies may result in the forfeit of the exam or the involvement of the honor system***

- Memorize your V# prior to your first exam.
- Not knowing your V# and/or improperly filling out your number may result in the loss of points on the 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 clipboards.
- You may leave the class during an exam with the permission by 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, to include extra exams.
- No duplication of exams in any way.

**Class Attendance/Participation:**

Attendance will be taken daily via Top Hat following add/drop. 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.

**Online Work:**

Each week you may have online assignments that must be completed primarily through Top Hat. It is your responsibility to make sure that assignments are completed before due dates/times. Loss of internet access, computer issues, browser issues or other technology related problems may not be considered legitimate excuses for failure to complete assignments before due dates.

**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!

Make-Ups - Lecture exams may be made up at the instructor's discretion but will require an acceptable reason for missing the exam.

**Final Grade Calculation:**

Final grades will be calculated in one of two ways. 1) Based on your exam grades alone, meaning that each of your exams is worth 100 points for a total of 500 points. This method will not consider grades associated with class attendance/ participation and any online assignments. 2) Based on both exam grades and other class grades. Exams grades will count for 70% of your overall final grade with point values as listed in option 1. The other 30% will be calculated from your classroom/participation and online work grades. Each method will be calculated and your grade will be the higher of the two calculations. Exams grades will count for 70% of your overall final grade with point values as listed in option 1. The other 30% will be calculated from your classroom/participation and online work grades. At the end of the semester, each method will be calculated and your grade will be the higher of the two calculations.

**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.

**Grading Scale:**

90.00-100% = A

80-89.99% = B

70.00-79.99% = C

60.00-69.99% = D

Below 60.00% = F

No extra credit

**Hints to do well in class:**

Attend lecture. Skim main points of chapter ahead of time and reread the parts of the chapter that are emphasized in lecture. In lectures, **practice active note taking**. Note taking is one way of making learning active. Good note taking skills require that you formulate the concepts and ideas in your own words. Avoid simply passively copying what is written on a slide or spoken. Instead, listen for the key points and make note of them in your own words. Highlight really important concepts that you know you need to come back to for better understanding. Copying slides takes too much time and does not enhance learning. Avoid it. By writing things down you have a hope of making the bridge between short and long-term memory. While there is some memorization involved, it is very important to understand the concepts in biology. Understand the figures in the book that are explained in class. Use the online material from the publisher and links in the lecture slides and other outside resources. Form a study group, do practice questions at the end of the chapter and seek help if you are confused about the material.

Students should visit <http://go.vcu.edu/syllabus> and review all syllabus statement information. The full university syllabus statement includes information on safety, registration, the VCU Honor Code, student conduct, withdrawal and more.

### Course Schedule by Week (tentative)

Week	Date	Topics
1	[Removed]	Course Expectations Introduction to Evolutionary Theory ( <b>START UNIT I</b> )
	[Removed]	Population Genetics and Mechanisms of Evolution
2	[Removed]	Speciation ( <b>END UNIT I</b> )
	[Removed]	<b>Unit I Exam</b> is first part of class [Removed]; lecture will resume once exam is complete  Phylogenetics ( <b>START UNIT II</b> )
3	[Removed]	Evolution of Early Life
	[Removed]	Evolution of Multicellularity ( <b>END UNIT II</b> )
4	[Removed]	<b>Unit II Exam</b> is first part of class [Removed]; lecture will resume once exam is complete  Fungal Biology and Evolution ( <b>START UNIT III</b> )
	[Removed]	<b>FOURTH OF JULY – NO CLASS</b>
5	[Removed]	Evolution of Land Plants
	[Removed]	Plant Growth and Transport ( <b>END UNIT III</b> )
6	[Removed]	<b>Unit III Exam</b> is first part of class [Removed]; lecture will resume once exam is complete  Introduction to Animals ( <b>START UNIT IV</b> )
	[Removed]	Evolution of Animal Tissues, Protostomes, Deuterostomes
7	[Removed]	Evolution of Tetrapods, Reproduction, Homeostasis ( <b>END UNIT IV</b> )
	[Removed]	<b>Unit IV Exam</b> is first part of class [Removed]; lecture will resume once exam is complete  Population Ecology ( <b>START UNIT V</b> )
8	[Removed]	Population Dynamics and Community Ecology ( <b>END UNIT V</b> )
	[Removed]	<b>Unit V Exam</b> is first part of class [Removed]