

INTRODUCTION TO BIOLOGICAL SCIENCE II
BIOL 152, Fall 2016

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Course Description: Semester course; 3 hours, 3 credits. Designed for biology majors.
Prerequisites: BIOL 151 and CHEM 101 with a grade of C or higher.
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.

Course Objectives:

1. Preparation for upper-level Biology courses. The information in this course provides the foundation for what upper-level courses will expand upon. If you learn this information well (and not simply cram the night before), you will perform better in your future biology courses.
2. Gain a comprehensive understanding of general biological concepts including:
 - a. Explain the basic principles and mechanisms of evolution
 - b. diversity of living things and interrelationships among taxa
 - c. Explain the evolution and diversity of plants and describe some key systems in plants
 - d. Explain the evolution and diversity of animals and describe some key systems in animals
3. Analyze new information and apply course materials to novel situations
4. Initiate and foster proper study and note taking skills.

Required Textbook: Biology: How Life Works 2nd edition by Morris et al. If you already have the 1st edition you do not need to purchase the 2nd edition.

Class Meets: Tuesday & Thursday 9:30-10:45am, Trani Life Sciences 151

Course Policies and Student Responsibilities

- **The VCU Honor System** is designed to provide an atmosphere of honor and dignity within the university setting. **Academic dishonesty of any kind will not be tolerated.** This includes cheating, stealing, lying, plagiarism, facilitating academic dishonesty, and/or abuse of academic materials. The **minimum** consequence of an honor violation is a failing grade for the course.
http://www.provost.vcu.edu/pdfs/Honor_system_policy.pdf
- You are responsible for checking your **email and the Blackboard website** regularly. I will send/post course information and updates, supplemental reading material, and assignments here.
- **Attendance** is expected. There is a clear correlation between attendance and success in college courses. If you miss class, it is your responsibility to obtain notes and material covered in class from another student.
- Read the text before the lecture topic is covered. There will be occasional and unannounced quizzes on assigned readings from the textbook at the beginning of class.
- Cell phones should be silenced in class. Texting and computer use not directly related to the class is rude and distracting and will not be tolerated.
- September 9 - **Deadline** for students to provide advance written notification to instructors of intent to observe religious holidays
- Bring a picture ID and pencil to each exam. I will not grade your exam if you do not show your picture ID when you turn it in.

Top Hat

- 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. This is a requirement; please be sure to have a device for answering questions every day in class.
- Grading of in class Top Hat questions will be a partially for correctness (20%) and partially for participation (80%). I will not accept written responses and will drop two classes at the end of the semester.
 - 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 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 click <https://tophat.com/pricing/>
- We will start using Top Hat the first day of class (August 29th). Top Hat has a 7-day free trial period, which gives you a whole extra week before you need to officially purchase. This means you can delay purchasing a subscription in case you decide to drop the course or decide to not purchase Top Hat (see below in “Grades” section for more information).

Grading. *Final grades will be calculated as shown below.*

Participation:	100 pts
Exam 1:	100 pts
Exam 2:	100 pts
Exam 3:	100 pts
Final Exam:	<u>200 pts</u>
TOTAL	600 pts

Final grades based on a 10-point scale: 90-100%=A, 80-89%=B, 70-79%=C, 60-69%=D.

A grade of Incomplete (I) will be given *only* if an excused absence is granted for the final exam.

Absences from an exam. In order to take a make-up exam for one of the first three exams, you must provide valid written documentation of the reason for your absence and contact me within 24 hours of the exam, preferably before the exam takes place. Make ups will be a mix of multiple choice, short answer and *oral* responses. All students must take the final exam during the final exam period – no make-ups will be allowed.

I will not drop an exam grade. You already have ‘additional’ non-exam points that have the potential to “boost” your final grade if taken seriously.

Keys to success in Biology 152 and beyond

- 1.) **Always come to class prepared!**
- 2.) **Take good notes**
- 3.) **Study several times per week.** There are no short cuts. The more times you read/hear the information, the easier it will be to learn. Treat college like a full time job.
- 4.) **Study in groups or pairs.** Explaining concepts to others or hearing them from another person is a great way to learn. If you can TALK about the material, you know it!
- 5.) **Do not simply memorize but *understand* the material.** The tests will be multiple choice and often require you to apply a concept and not simply recognizing a definition. This is the hardest part of this course for most students. I am NOT trying to trick you. I want you to succeed, but I also want you to truly understand the material so that you will bring it with you to future courses.
- 6.) **Keep up.** The material presented in this course “builds on itself” so that if you fall behind on even a single lecture, it will be difficult to catch up.
- 7.) **Seek help before it is too late.** SI instruction and Tutoring from the Campus Learning Center.

**For Biology majors, this course is perhaps the most important one you are taking, so make it a priority.

Tentative Schedule

Week	Subject	Chapter(s)
Th 8/25	Intro to course and expectations/Intro to Evolution	21
1 (8/29)	How populations change/Hardy Weinberg	T/Th: 21
2 (9/5)	Species and Speciation	T/Th: 22
3 (9/12)	Test 1 (Sept. 13th) , Evolutionary Patterns	Th: 23
4 (9/19)	Bacteria & Archaea	T/Th: 26 & 25
5 (9/26)	Eukaryotic Cells & Being Multicellular	T: 27 Th: 28
6 (10/3)	Test 2 (Oct 4th) , Plant Evolution and Function: Leaf	Th: 29.1, 29.2
7 (10/10)	Plant Evolution and Function: Stem <i>No Class</i>	T: 29.3, 29.4, & 31.1
8 (10/17)	Plant Evolution: Reproduction & <i>Reading Day</i>	T: 33.1-33.3 & 30.1
9 (10/24)	Plant Evolution: Reproduction (cont'd) & Fungi	T: 30.2, 33.4-33.5 Th: 34.1
10 (10/31)	Test 3 (Nov. 1st) , Animal Diversity <i>November 4th Last Day to Withdraw</i>	Th: 44.1-44.2
11 (11/7)	Animal Diversity cont'd (nervous)	T/Th: 44.3 & 35.1
12 (11/14)	Animal Diversity cont'd (movement and skeletons)	T: 37.1, 37.3 Th: 37.4, 44.4
13 (11/21)	Animals cont'd (cardiovascular and respiratory), <i>Thanksgiving!</i>	T: 39.1-39.2, 39.4
14 (11/28)	Test 4 (Nov 29th) , Population Ecology	46.1, 46.3
15 (12/5)	Species Interactions, Communities and Ecosystems	47.1-47.2 47.4-47.5
	Cumulative Final Exam (Dec. 13th 8-10:50am)	