

Biology 1010: The Evolution & Diversity of Life Fall 2009

Department of Biology, College of Arts & Sciences, Valdosta State University

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Office Hours: Tuesday & Thursday 2:00-3:00 or By Appointment. Please feel free to call the office or use email to schedule a convenient time. Anytime I am in my office, you are welcome to stop in to ask quick questions.

Textbook: Biology: Concepts & Investigations (2009). Marielle Hoefnagels. Boston: McGraw Hill

The biology department just adopted this new text for the non-majors courses because we consider it a refreshing approach that is written at the level we plan to teach and expect you to be able to read. This book will provide critical scientific content and you are required to read the chapters listed in the *Course Schedule* before the lecture on the day they are listed. There will frequently be writing assignments in class that will be based on the reading. Any information in the text could be included on the examinations whether or not it is mentioned in class.

Course Objectives: This class fulfills 3 of the 11 general education credit hours required in section D1 (Science, Mathematics, and Technology) of the VSU core curriculum as prescribed by the University System of Georgia. According to the VSU Undergraduate Course Catalog, BIOL 1010 is “an introduction to the diversity of life on Earth with a special emphasis on ecological and evolutionary processes and relationships.” This lecture and the BIOL 1020 Biodiversity Lab are co-requisites that complement each other by covering parallel material.

Course Description: The class will meet on Mondays and Wednesdays from 3:30-4:45 in 1011 Bailey Science Center. This is a large lecture hall and class sessions will be based on visual PowerPoint presentations. Slides will consist mostly of images with very little text. This requires students to be present, listen carefully, and take careful notes in order to assimilate the course content. Lectures will not be taken from the text, so there is no reason to haul the book to class. Do not assume that these sessions will be endless monologues. When it is possible, there will be activities in class and I will frequently ask questions and appreciate voluntary responses. There will also be times that I will ask questions and expect students to answer these in your notes.

Instructional Philosophy: My role as the instructor is to provide coherent explanations of these aspects of biological science, but you hold the responsibility for learning this material. Just attending class, memorizing material, and taking the tests is not enough. You will only learn by making an effort on the assignments and studying because I design conceptual test questions that require you to think and demonstrate that you have mastered the material. Rote learning (memorization) is the most transient form of knowledge and is a waste of time because you will forget most of it very quickly. However, if you develop a true conceptual understanding of the material, you will not forget most of what you learn and it will be a much better use of your time and mine.

Academic Honesty: Class members are expected to maintain high standards of integrity. This course will use the VSU Handbook Code of Ethics as a basic standard of behavior, but everyone in the class is required to read the Biology Department Plagiarism Policy and you are expected to sign-off that you understand this document as part of your student information sheet. Dishonesty will not be tolerated and any student misconduct will be reported to the Office of the Dean of Students. Evidence of cheating will result in no credit for the assignment or depending on the case, a grade of “F” for the course. Never copy text from a book or website and represent it as your own work.

Special Services: Students requiring classroom accommodations or modifications because of a documented disability should discuss this need with me at the beginning of the semester. Students not registered with the Special Services Program should contact the Special Services Office, Nevins Hall 1115, 245-2498.

Family Educational Rights & Privacy Act: Grades cannot be posted by Name or Social Security Number. Scores and student work will not be given over the telephone, by email or to another student.

BIOL 1010 – Course Objectives

Educational Outcomes:

“Describe the evolutionary processes responsible for biological diversity, explain the phylogenetic relationships among the major taxa, and provide illustrative examples.” (Department of Biology – Educational Outcome #2 in the VSU catalog)

Enduring Understanding:

Recognize how misrepresentation of the Theory of Evolution and the failure to understand the distinction between scientific and religious knowledge has led to the Evolution/Creationism Controversy.

Essential Questions:

What is the nature of science as both a body of knowledge and a set of systematic processes?

How does the Theory of Evolution explain the history of life and the vast diversity of living organisms?

Plan for Instruction:

I. Nature of Science - background on how the scientific disciplines systematically strive to understand the natural world

II. Ecology - the interactions of organisms and their environments

III. Evolution -the explanatory framework for biological science showing genetic changes over time in populations

IV. Biodiversity - similarities among and differences between different taxonomic groups of organisms

V. Humans and the impact our species has on the dynamics of the natural world

Assessment:

Examinations	4 Midterm Exams (10% Each on Sections I-IV)	40%
	Comprehensive Final Exam	30%
Other Factors	Outside Assignments & Quizzes	20%
	In Class Writing Exercises & Attendance	10%

Class Sessions: Please be on time to class and if you are ever late, enter through the rear doors without disturbing the class. You can expect the meetings to last the full 75 minutes. Do not pack up your notebook or rattle your book bag until 4:45. This is a large lecture hall and there are 119 other people in the course, so I expect everyone to be considerate of the other students. Do not bring food or drinks into the auditorium. Turn off your cell phones & pagers before class begins. During the class session, refrain from holding private conversations. I will stop class for rude behavior including text-messaging if I see your cell phone out. If I have to stop the lecture for a disruption more than once, you may be asked to leave. Repeated problems will result in a reduction of your grade or permanent removal from the course.

Attendance: You are expected to attend all class meetings and attendance will be taken on a random basis though the In-class Writing Exercises. Everyone is allowed 1 absence without penalty, but anymore than one will impact your grade. If you do miss class, you are responsible for obtaining notes from another student, so make contact with a classmate and exchange phone numbers early in the semester. Anyone who misses more than 20% of the class sessions can receive a failing grade for the course. You do not need to email me with the reasons for your absences, because unfortunately with this large class size, I will not be able to give you the notes or tell you what you missed. You should be sure to make arrangements with another student to get their lecture notes.

Examinations: Examinations will be multiple choice tests. Each midterm will cover the material from six lectures. Do NOT try to memorize the information because questions will probe your understanding of the concepts and I am not interested in whether you are good at rote learning. You are responsible for all of the information presented in the lectures and anything covered in the assigned chapters of your textbook. **Your lecture notes and the text are your study guide.** We will discuss the type of questions you can expect before the first exam and will go over part of the first exam during the following class session. Each of these tests will be scored for 100 points, but there will be 110 questions, so you can miss any 10 questions without jeopardizing your grade. If you have an emergency and can't make the exam, be sure to contact me within 24 hours by office phone or by email. Make-up exams will only be given for valid reasons with documented excuses and these will be essay tests that are much more difficult. The final examination will be comprehensive, consist of 200 multiple choice questions, and cover all accumulated course content for 30% of your grade.

Assignments: During the semester, there will be a number of **Outside Assignments** that are designed to reinforce your understanding of the course material. Four of these will be online quizzes that are worth 10 points. Papers are due at the start of class, will be graded down 10% if they are turned in after class, and reduced by another 10% for every additional day they are late. These assignments should be typewritten, one full-single-spaced page and no more than one page in length. Cite your source at the bottom of the page. They will be graded on a 10 point scale. (10 = Excellent, 8 = Good, 6 = Adequate, <5 = Deficient). A half page paper is worth half of the points! If you miss the description of the assignment in class, it is your responsibility to contact a classmate (Do Not Email me). **In-Class Writing Exercises** will be constructed to prompt you to think about and issue and express an opinion. As long as you make thoughtful comments and write legibly, you will receive 5 points. If your statements are sloppy and do not indicate you have made a serious effort, the grade will be reduced to 2 points. These will be used as a record of attendance and if you miss more than one of these, your attendance grade will be reduced by 25%.

BIOL 1010 – Course Schedule

Date	Class Topic	Required Reading	Assignment
Aug	18	Patterns in Nature	
	20	The Natural World	Syllabus & p.5
	25	Nature of Science	Section 1.3
	27	Biology	Section 1.4
Sept	1	Characteristics of Life	Section 1.1
	3	Taxonomy	Section 1.2
	8	MIDTERM EXAM # 1 – Nature of Science	
	10	Ecosphere	Section 40.4
	15	Climatic Regions	Section 41.1
	17	Biomes	Chapter 41
	22	Communities	Chapter 40
	24	Populations	Chapter 39
Oct	29	Natural History of Georgia	
	1	MIDTERM EXAM # 2 – Ecology	
	6	Myths & Truths about Evolution	
	8	Evolution/Creationism Controversy	Essay on Origin of Life
	13	Origins	Chapter 16
	15	The Evidence	Chapter 15
	20	FALL BREAK HOLIDAY	
	22	Species	Chapter 14
	27	Mechanisms of Change	Chapter 13
	29	MIDTERM EXAM # 3 – Evolution	
Nov	3	Prokaryotes	Chapter 18
	5	Protists	Chapter 19
	10	Plants	Chapter 20
	12	Fungi	Chapter 21
	17	Invertebrates	Chapter 22
	19	Chordates	Chapter 23
	24	MIDTERM EXAM # 4 - Biodiversity	
	26	THANKSGIVING HOLIDAY	
Dec	1	Human Diversity: Untangling Biology from the Social Construction of Race	
	3	Viruses	Chapter 17
	10	CUMULATIVE FINAL EXAM – Thursday, December 10th from 10:15-12:15	

“Top Ten” Strategies for Success in Biology 1010

(You can even count up by reading from the bottom if you are a David Letterman fan)

If you want to do well in the course, please develop a program of study. You will not pass unless you work hard so (before you waste your time and someone’s tuition money) consider the following:

1. Pre-Read Chapters before the Lectures – Open the book and at least skim over *chapters* to get a basic idea of the subject and important terminology. The chapter assignments are designated on the day you should have finished them so that you know what to read before class and you will come in knowing how to spell words and have some familiarity with key ideas.

#2. Attend Class and Take Detailed Notes – Class sessions will not be based on lectures identical to your book. The scientific topics will be explained differently and additional information will be covered.

#3. Keep an Orderly Notebook – If you use a spiral for class notes, have another folder where you can assemble all of your papers and outside information in preparation for studying for the tests. **Finish Off Your Class Notes with a Short Summary** by going over your notes to be sure they make sense and writing a paragraph or synopsis of the information covered to be sure that you understand. If not, read up on the subject in your text or on the Web or come in for help on anything you do not understand.

#4. Get to Know Someone in the Class – Before or after class, make contact with a student that sits near you. This is so that you can look over at their notes if you miss something during lecture, get notes from them if you have to miss class, check on the specifics of assignments by phone or email, and can study together for the exams.

#5. Structure Regular Study Sessions – Set up a pattern of regular times that you attend to the course material and be sure to keep up with the assignments (which are graded down for being late). **Re-Read Chapters after Class Sessions** – If you know you need to work hard for good grades, take detailed study notes on every chapter to reinforce the concepts. Pay special attention to the summaries at the end of the chapter and practice those questions.

#6. Make a Vocabulary List of Important Terminology – Construct a list with definitions written in your own words. Drill yourself until you are sure you know them. If any are troublesome, try writing a sentence that uses the term. **You must understand the “language of biology”** and there is plenty of it!

#7. Use the Web for Supplemental Information – If you are interested in something or need another explanation, find and print a Website that you can use. There are interactive biology exercises that I will direct you to which can serve as a good way for you to determine whether or not you really know the information.

#8. Come In for Additional Help – My Office Hours are a time that I will be in my office to meet with students. I will be happy to make appointments at other times. If you do not ask, I can’t help you!

#9. Plan Ahead for Tests – Spend at least a week studying gradually. Stop and rest your brain right before the test. Give the information time to sink in. **Do Not Pull “All-Nighters”** – These tests require you to think, so you will not do well if you are too tired to reason and figure out the answers.

10. Decide that You Plan to Succeed and Work Consistently for a Good Grade – It is your choice! **Start Working Hard at the Beginning of the Semester** – Do not fool around and suddenly decide to work after you get behind and need to dig yourself out of a big hole.