

Biology 1010: The Evolution & Diversity of Life Spring 2016

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

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Office Hours: Tues 11:30-12:30 & Wed 2:00-3:00 or By Appointment. Please feel free to call the office or email to schedule a more convenient time. Anytime I am in my office, you are welcome to stop in to ask questions.

Instructional Design: There will be online assignments in a *LearnSmart* program associated with the eBook to introduce you to some of the lecture information before almost every class. These will be listed on the syllabus and the assignment page in *Connect*. You must keep track of the deadlines because these will not be reopened for any reason. This is so that we can use class for elaboration of important concepts, explanation of anything that was unclear, and learning activities that are more effective than sitting and taking notes. You will also be assigned online interactive homework for each unit called a Practice assignment. These will give you 3 graded opportunities to apply the information and identify any areas that you need to study more extensively. Before each exam, you will have access to a Practice Test which contains a large pool of multiple choice question from which you will have 3 graded chances to try 50 questions as preparation. On the Practice and Pretests, only your highest grade will count.

Text: Marielle Hoefnagels -Biology: Concepts & Investigations (2015) McGraw Hill in the *Connect* Platform (eBook & eLearning)

Purchase Directly from Publisher: <http://connect.mheducation.com/class/l-jones-spring-2016>

You may sign up for a free 3 week trial until your financial aid book money is available.

If you would like a hard copy of the text, you can purchase a loose-leaf version for \$15.00 when you order *Connect*.

For McGraw Hill Customer Support: Call (800) 331-5094

Required Technology Platforms:

LMS= *Blazeview*: Learning Management System - Your VSU Account: This will be used for all class communication, writing assignments, and access to various resources. (<http://www.valdosta.edu/academics/elearning/blazeview-d2l.php>) Free

CMS= McGraw Hill *Connect*: Course Management System - This is a complete electronic version of the book and a versatile software product that will be the basis for the graded, adaptive pre-reading *LearnSmart*, practice assignments and graded pre-tests.

Educational Outcomes: 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. The course will address the VSU Learning Outcome that states: "*Students will demonstrate understanding of the physical universe and the nature of science, and they will use scientific methods and/or mathematical concepts and reasoning to solve problems.*" 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." The BIOL 1020 Biodiversity Lab is a co-requisites that complements this course by covering parallel material.

Course Content: To meet that VSU Core Outcome, the first chapter in the text will be expanded into a unit on the Nature of Science to start the semester. In the second *Ecology* unit, emphasis is on the Biology Departmental outcomes that call for the ability to "interpret ecological data pertaining to the behavior of the individual organism in its natural environment and the structure and function of populations, communities, and ecosystems." The final unit covers *Evolution* and will describe the evolutionary processes responsible for the diversification that has taken place since the origin of life.

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. 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. Any fraudulent use of clickers will result in the same penalty. I expect to see one and only one clicker on your desk at every class session.

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, Farber 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 1010B Course Objectives

Essential Questions:

What has made the natural sciences so effective at unraveling some of the mysteries of life and our universe?
 How do abiotic factors influence the communities of organisms within the ecosystems that make up the biosphere?
 How does the Theory of Evolution explain the history of life and the vast diversity of living organisms?

Basic Knowledge & Skills Students Will Acquire:

Nature of Science
 Principles of Ecology
 Evolutionary History

Learning Outcomes - Students will be expected to:

- I. **Distinguish** the unique features of the natural sciences and the characteristics of living organisms.
- II. **Compare and contrast** how abiotic factors influence the biotic features of major global ecosystems.
- III. **Describe** the evolutionary processes responsible for the diversity of living organisms.

Proof of mastery for each will be demonstrated by the knowledge & skill shown in:

- I. **Online *Connect* Assignments** – Completion of reading, *LearnSmart*, Practice, & Pretests
- II. **Participation** – Attendance & Active responses during lecture
- III. **Midterms & Final Exam** - Based on Text, Lectures, Discussions, & Videos

Attendance: You are expected to attend all class meetings. A class list will be passed around every day for you to initial. Being tardy or leaving early 3 times is an unexcused absence. If you do miss class for any reason, you are responsible for obtaining notes from another student. 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. I will not give you the notes or tell you what you missed because there are too many students in the class.

Assignments: We will use the *Connect* software program from McGraw Hill that is designed to improve your reading comprehension and give designed practice working to learn the course content. *LearnSmart* is an adaptive program that adjusts to a student's individual skills, especially the ability to know what you understand. The *Connect* package also has Practice activities, and Pretests. Any online assignments on *Connect* must be done by the deadlines. Late submissions will not be accepted. No Exceptions!

Examinations: Examinations will be multiple choice tests that assess conceptual understanding of course content. Do NOT try to memorize the information because the test questions will probe your understanding of the concepts. I am not interested in whether you are good at rote learning. 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 3 tests will count for 10% of the grade and will be 100 questions. 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 100 multiple choice questions, and cover all accumulated course content for 20% of your grade. Your Test Scores will be available on *Blazeview* about 24 hours later.

Assessment:

Online Assignments	
LearnSmart	20%
Connect Practice & Pretests	20%
Attendance & Participation	10%
Examinations	50%
3 Midterm Exams (10% Each) & Comprehensive Final Exam (20%)	

BIOL 1010 - Tentative Course Schedule and Plan for Instruction

Dates	Topics	Assignments
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The Nature of Science

1. Introduction

Jan	11 - Levels of Organization 13 - Course Information & Syllabus Quiz	Read Your Syllabus! Alphabetical Hierarchy Homework & Student Info Due
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2. Epistemology

	18 - MLK HOLIDAY 20 - History & Disciplines	Read Mythos & Logos Paper on Blazeview
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3. Methodology & Characteristics

	25 - Processes & Reasoning 27 - Theories & Implications	LearnSmart (LS) Ch.1 LS Ch. 2.1, 2.3, 2.5
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4. Life

Feb	1 - Definition 3 - Features	LS Ch. 3.1, 3.2 NoS Practice Due 2/6
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5. Assessment

	8 - Nature of Science Unit Test 10 - Test Review	Pretest (3 Attempts) Due 2/7
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The Revelations of Ecology

6. Ecosphere

	15 - Abiotic Factors 17 - Terrestrial & Aquatic Biomes	LS Ch. 39
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7. Communities & Ecosystems

	22 - Nutrient Cycling 24 - Energy Flow	LS Ch. 38 LS Ch. 4.1, 5.1, 5.2
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8. Populations

	29 - Dispersal & Features	LS Ch. 37
Mar	2 - Size & Stability	Ecology Practice Due 3/7

9. Human Impact

	7 - Preserving Biodiversity 9 - Ecology Unit Test	LS Ch. 40 Ecology Pretest Due 3/8
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Mar 10th = Midterm

March 14-18 SPRING BREAK

The Theory of Evolution

10. The Evolution/Creationism Controversy

	21 - Myths & Truths 23 - Social Disputes	Evolution Essay
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11. Types of Evolution

	28 - Evidence 30 - Origins	LS Ch. 15.1-3 LS Ch. 13
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12. Forces of Change

Apr	4 - Artificial Selection 6 - Natural Selection	LS Ch. 12
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13. Speciation

	11 - Reproductive Barriers 13 - Rates of Evolution	LS Ch. 14 Evo Video Assignment
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14. Human Evolution

	18 - Primates & Early Hominins 20 - Human Diversity	LS Ch. 15.4 LS Ch. 25.6
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15. Evolution Summary & Assessment

	25 - Evolution Review 27 - Evolution Unit Test	Evolution Practice Due 4/25 Evolution Pretest Due 4/26
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16. Biodiversity

May	2 - Tree of Life 4 - Classification Systems	LS Ch. 1.2, 17.1, 18.1, 19.1, 20.1 LS Ch. 14.6
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COMPREHENSIVE FINAL EXAM – Wednesday, May 4th from (5:00-7:00)

BIOL 1010B Class Protocol

Class Sessions: Most students come to class to learn and I will not tolerate behavior that disrupts the learning environment. Come to class prepared to concentrate & pay attention. Since some people may not know what is expected in a college classroom, the following rules should make this clear. If I have to stop class and speak to you about a disruption, I will ask to see you after class, and if it happens more than once your participation grade will be impacted negatively.

Class Rules:

1. Attend to your personal needs before class and refrain from getting up during class unless it is urgent.
2. Class will start promptly at 5:00, please have your notebooks open and be ready to pay attention and begin.
3. Once class begins, refrain from side conversations. If you are asking about a word in lecture, make it short & quiet.
4. If a classmate is being rude or distracting you, let them know or say "Shhhhhhhh" loud enough for me to hear.
5. The VSU rules are no eating or drinking in the lecture hall. Water bottles are fine.
6. You are welcome to have your laptops, pads, & phones in class to record lectures, look up terms, and photograph slides. However, this is not an invitation to skype, take calls, or read & send texts. If anyone is bothering you with such behavior, report them to me after class or by email. There will be grade penalties for this type of disruption.
7. Class will end at 6:15, unless you see "THE END" on a slide before, so do not pack up & rustle your packs before this.

Email: There is a certain standard of etiquette in higher education that is very different from the way you interact with your friends while texting. My title is Dr. Jones and start any email with that included in a greeting. The first thing you should do is give me the context of which of my classes you are in and your name. The next sentence should contain the reason for your message. After you explain yourself, you should close the message properly.

Academic Honesty: Members of the class are expected to maintain high standards of integrity. This course will use the VSU Handbook Code of Ethics as a basic standard of behavior, and everyone in the class is required to read the Biology Department Plagiarism Policy posted at: <http://www.valdosta.edu/colleges/arts-sciences/biology/documents/resources/PlagiarismPolicy.pdf> Students are required to present a VSU ID card prior to any exam in the course. Evidence of dishonest conduct or cheating will result in no credit for the assignment and depending on the case, a grade of "F" for the course. Do not expect lenience for claims that on the grounds of not knowing better. You will be reported to the Dean of Students and employers such as school systems do call that office at VSU to check on whether you have a record of infractions.

Computer Assignments: Your success in this course depends on your completion of the online assignments. These comprise 40% of your grade, so they are very important because they help you learn the information and prepare for the tests. Effort on these assignments is clearly correlated to the grades students receive. However, do not just do this work without thinking. You will waste the time you spend doing these activities, if you do not concentrate on learning as you do it.

The *LearnSmart* (LS) prompts are lower order questions that drill on vocabulary and basic concepts. Think about the questions when you read the prompts. Think about what the answer is. Indicate how confident you really are. If you get the question wrong, ask yourself why you did not know it. That type of thinking is the best thing you can do to improve your learning. If you look back and it is right in the book, consider the fact that you might need to read more carefully. You can start as early as you want for all of the chapters in each unit to be sure you get the chapters completed on time. You will find the lectures much easier to understand after finishing these exercises. As you do *LS*, jot down words on questions you miss so that you can be sure to look for those explanations in lecture. If something is still unclear, be sure to ask. Do not expect questions like these on the test because those will be conceptual and require higher order thinking.

LearnSmart is an adaptive program. The number of points you get and the number of times you see a topic depends on getting the correct answer and how certain you are that you know the answer. Be sure to use the Confidence prompts carefully. You get the most points if you say you are "sure" and get the answer correct. You will also finish faster if you do that. However, if you say you are "sure" and get it wrong, you lose big points. If you get it wrong with one of the other prompts, the penalty is not as bad. You will get other questions on that topic or the same question until you master it. If you have problems, YOU must call McGraw Hill's Customer Support! Get the Case Number and if they do not help you, then email me in Blazeview and be sure to send me the case number so I can try to do something about it. So that you can prepare for the tests and exam, there will be a *Connect Practice* activity for each unit. A *Connect Pretest* is due at midnight the night before the exam. Practices & Pretests will be interactive and higher order questions, so these should give you an idea if you are prepared. You can do these unit assignments 3 times and your best score will count. You have to start over and do the whole thing, though. As we finish each unit, you should go to the reports page to see which topics were a problem for you. The reports even show which *LS* questions you missed the first time. You can go back and drill on *LearnSmart* as often as you want, but you only get credit for completing *LS* before the lecture deadline. There are over 80 students in this class, so it is your responsibility to log on and learn to use the *Connect* programs after I explain them in class. Find your Metacognitive score and compare it to the grade you want on a test because there is usually a high correlation between these and how people score on the tests.

Top 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 earn an “A” and do well in this course, you need to think about your own approach to studying. You will not even pass unless you work hard so (before you waste your time and someone’s tuition money) consider the following:

#1. Pre-Read the Book & Do *LearnSmart* before the Lectures – The *Connect* chapter assignments are due on specific days, before class when the lectures will begin covering the specific topic. Read the book so that you will come in knowing how to spell words and have some familiarity with key ideas.

#2. Attend Class and Take Detailed Notes – The information in class sessions will not be identical to your book. The scientific topics will be explained differently and additional information will be covered. Think as we go along, and if you do not understand - ask questions. Clicker prompts are designed to get you thinking, so you can evaluate your own understanding of the subject. **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.

#3. Summarize Your Notes Every Day after Class - Write a short **Summary** or synopsis of the information covered to be sure that you understand it all. 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. If you miss something in lecture, leave a space in your notes where you can look it up on the web or come to office hours for an explanation. By going over your notes to be sure they make sense and writing a paragraph in your own words, you will be way ahead when it is time for a test.

#4. Get to Know Someone in the Class – Make contact with a student that sits next to you in class. This is so that you can quickly look over at their notes if you miss something during lecture. Get notes from them if you have to miss class, and check on the specifics of assignments by phone or email. You can also 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 not accepted if they are late). **Re-Read the Text after Class Sessions** to be sure you have mastered the material. Find Websites on the topic for more information. If you know you need to work hard for good grades, take detailed study notes on the book modules to reinforce the concepts.

#6. Make a Vocabulary List of Important Terminology – Construct a list of the terms you do not know and define them in your own words. As you go through *LearnSmart*, take note of concepts that are challenging. Drill yourself until you are sure you know these words. If any are particularly 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 Assignments to Be Certain You Know the Content – *LearnSmart* will check your familiarity with the vocabulary. The *Blazeview* papers prompt you to think outside of the box and will reinforce the content. The *Connect* practice activities and pre-tests for each unit are interactive biology exercises that serve as a good way for you to determine whether or not you really know the information.

#8. Get 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! There are also designated Biology tutors in the Student Success Center who can also help.

#9. Plan Ahead for Tests – Write the dates in your calendar, then count back one week to remind yourself to start preparing. 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.