

## Valdosta State University

### BIOL 1108: Principles of Biology II (Lecture syllabus) Spring 2012

**Lecture (BC 1011):** MWF 10:00-10:50 a.m  
**Laboratory (BC 1085):** Sections A, B, C, D, E, F, G

Instructor: Dr. Eric W. Chambers  
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Phone: 249-2736  
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Office hours: Monday 12:00-2:00 pm or by appointment

**Text:**

- Sadava, A., H. C. Heller, G. H. Orians, W. K. Purves, D. M. Hillis. 2011. Life: The Science of Biology. 9th edition. W.H. Freeman & Co. Gordonsville, VA.
- Grove, T. 2011. Principles of Biology Laboratory Manual for BIOL 1108. McGraw Hill, Boston, MA.

**Course Description:** An introduction to physiological processes in plants and animals. The course will explore topics in organismal structure, nutrition, transport, coordination, reproduction, and development.

**Course goals:** The purpose of this course is to provide you with a broad introduction to the study of biology. The course is introductory and topical in nature but upon completion of this course you will be prepared for advanced specialized courses in biology. It will also provide you with a background to better understand many of the technological issues and challenges confronting our nation and the world.

This course will focus on understanding the physiology of major systems in plants and animals. You will learn common experimental tools and techniques used in physiology. An emphasis will be placed on learning how to analyze basic biological data using quantitative tools such as Excel.

This course will assist you in developing communication skills as well as information processing skills. These abilities are critical for all students, both those who wish to attend professional school (medical, dental, etc.) and graduate school as well as those who will move directly into the job market following graduation. Your critical thinking skills will be enhanced through analysis of lab exercises, class assignments, and test questions.

## **Educational outcomes: Listed at the end of syllabus**

**Attendance:** Attendance in lecture is expected by all students. Attendance in laboratory is **MANDATORY**; see lab policy below.

### **Lecture Conduct:**

- Arrive on time.
- Turn off/silence cell phones during class and lab.
- Don't talk during lecture; if you don't understand something or didn't hear something ask.
- Unless it's an emergency (and using your cell phone does not constitute an emergency) do not get up in the middle of lecture, leave and come back.
- **Do not leave class early** unless it's an emergency.
- During exams **NOBODY** can leave the exam and re-enter the exam room. If a student leaves, their exam will be graded as is; the student will not be allowed to finish the exam.

**Biology Tutoring:** The Student Success Center (SSC) at Valdosta State University is located in Langdale Residence Hall above the Tech Shop and is available to all students. The SSC provides free peer tutoring in core curriculum courses, including biology, chemistry, math, writing, and foreign languages. The SSC also provides free professional academic advising and on-campus job information in one location. Call 333-7570 to make an appointment, or visit the website: [www.valdosta.edu/ssc](http://www.valdosta.edu/ssc).

**Withdrawing from the course:** The last day to withdraw without penalty is **March 1, 2012**. If you don't officially withdraw, and instead just stop coming to class, you will receive an F for the course.

**Academic conduct:** Cheating and plagiarism will not be tolerated and may result in a failing grade for the assignment, exam or the class. The Department of Biology has a plagiarism policy, which will be handed out during the first lab period.

**Student identification:** Students should have in their possession at all times their VSU student identification card. In order to verify the identification of students officially enrolled in the course, it is the instructor's prerogative to request official student photo identification cards at any time during lecture. During examinations, students will routinely be asked to display their VSU student identification cards visibly on the desktop and to make them available for inspection by their instructor and/or assistants.

**Privacy Act (FERPA):** The Family Educational Rights and Privacy Act (FERPA) prohibits the public posting of grades by social security number or in any manner personally identifiable to the individual student. No grades can be given over the

telephone or over email because positive identification can't be made.

**Students with disabilities:** Students requiring special accommodations because of disability should discuss their needs with me as soon as possible. Those needing accommodations that are not registered with the Special Services Program must contact the Access Office for Students with Disabilities located in Farber Hall. The phone numbers are 245-2498 (voice) and 219-1348 (tty).

**Procedure for exams:**

- No books, electronic devices, or notebooks will be allowed during exams and students using such items will be asked to leave and will receive a zero for the exam.
- No talking will be allowed during the exam, but students are permitted to ask the instructor questions.
- Each student will be given an exam to be completed and handed back to the instructor.
- Students must bring a pencil and will take the exam during the stated lecture time only.
- **NOTE:** You will have the class time only to complete each lecture exam.

**Grade Assessment:** Your final grade will be based on your performance on lecture examinations and the laboratory.

**Lecture: (500pts)**

**Unit Exams (300 pts).** There will be four lecture exams. Each exam will cover the material for a specific unit. Each exam is worth 100 points and will consist of a variety of types of questions that may include matching, multiple choice, labeling, fill in the blank and short answer. **The lowest exam grade will be dropped. There will be NO make-up exams.** Only students with a University related excuse may take an exam early. Your best policy: **DO NOT MISS EXAMS!**

**Final Exam (100 pts):** The final will be cumulative and will be worth 100 points. The format will be similar to that of the unit exams. The date of the final is Friday, May 4, 2012 (8:00-10:00 am). **No Early exams will be given!**

**Homework (100 pts):** Homework (HW) assignments will be made periodically throughout the semester. HW will be assigned as a pdf file on Blazeview. These assignments will be posted no later than Friday at 5:00pm and will be due the following Wednesday at the beginning of lecture. No HW will be accepted after 10:10 am, per the discretion of the GA. Your HW must be handwritten on the assignment printout, unless otherwise stated.

**Grade Scale:**

For Biology majors, a grade of C or higher is required for this course.

A 90-100%  
B 80-89%  
C 70-79%  
D 60-69%  
F < 60%

**To Calculate your Final Grade:**

Final grades will be based on both the lecture and laboratory components of the course.

Lecture is worth 75% of your final grade, and lab is worth 25% of the final grade.

**Lecture component (total 500 points):** 4 lecture exams (each worth 100 points; one dropped; total 300 points) + Homework (100 points total) + Cumulative final (worth 100 points)

**Lab component:**

Lab assignments (variable points) + 2 lab practicals (each worth 100 points; total 200 points)

**To calculate your final grade:**

1. Lecture component: Add points earned from each of the Homework assignments, exams and final and divide by 500 (remember your lowest exam will be dropped).
2. Multiply this number by 0.75.
3. Laboratory component: Add points earned from each of the laboratory assignments and practicals and divide by total points possible.
4. Multiply this number by 0.25
5. Finally, do the following: Take the lecture component and laboratory component numbers you just calculated and add them together. Multiply this number by 100. This will give you your final percentage you earned.

### SPRING 2012 TENTATIVE LECTURE SCHEDULE

Lecture	Date	Topics	Chapters
1	January 9	Course Intro/Phylogenies	--
2	January 11	Introduction to Structure-Function Relationships and Phylogenies	22
3	January 13	Homeostasis in Animals and the Role of Physiological Systems	40
--	January 16	No Class – Martin Luther King Holiday	--
4	January 18	Animal Hormones	41
5	January 20	Animal Hormones	41
6	January 23	Animal Reproduction	43
7	January 25	Animal Reproduction	43
8	January 27	Neurons and Nervous System	45
9	January 30	Neurons and Nervous System	45/47
10	February 1	Neurons and Nervous System	47
11	February 3	Sensory Systems	46
12	February 6	Musculoskeletal Systems	48
13	February 8	Musculoskeletal Systems/Review	48
--	<b>February 10</b>	<b>Exam 1</b>	<b>22,40,41,43 45,46,47,48</b>
14	February 13	Gas exchange	49
15	February 15	Gas exchange	49
16	February 17	Circulatory system	50
17	February 20	Circulatory system	50
18	February 22	Nutrition and Digestion	51
19	February 24	Nutrition and Digestion	51
20	February 27	Salt and Water Balance	52
21	February 29	Salt and Water Balance	52
22	March 2	Catch up/review	--
--	<b>March 5</b>	<b>Exam 2</b>	<b>49,50,51,52</b>
23	March 7	Seedless Plants	28
24	March 9	Seedless Plants	28
25	March 12	No Class – Spring Break	--
--	March 12	No Class – Spring Break	--
--	March 14	No Class – Spring Break	--
--	March 16	Evolution of Seed Plants	29
26	March 19	Evolution of Seed Plants	29
27	March 21	The Plant Body	34
28	March 23	The Plant Body	34
29	March 26	Transport in Plants	35
30	March 28	Transport in Plants	35
--	March 30	Catch up/Review	--
--	<b>April 2</b>	<b>Exam 3</b>	<b>28,29,34,35</b>
31	April 4	Plant Nutrition	36

32	April 6	Plant Nutrition	36
33	April 9	Regulation of Plant Growth	37
34	April 11	Regulation of Plant Growth	37
35	April 13	Reproduction in Flowering Plants	38
36	April 16	Reproduction in Flowering Plants	38
37	April 18	Reproduction in Flowering Plants	38
38	April 20	Plant response to Environmental Change	39
39	April 23	Plant response to Environmental Change	39
--	April 25	Catch up/Review	
--	April 27	Exam 4	
--	April 30	Review Session for final	
--	May 4	<b>FINAL EXAM</b>	--

### **VALDOSTA STATE UNIVERSITY GENERAL EDUCATIONAL OUTCOMES (GEO)**

1. Students will demonstrate understanding of the society of the United States and its ideals. They will possess the requisite knowledge of the society of the United States, its ideals, and its functions to enable them to become informed and responsible citizens. They will understand the connections between the individual and society and the roles of social institutions. They will understand the structure and operational principles of the United States government and economic system. They will understand United States history and both the historical and present role of the United States in the world.
2. Students will demonstrate cross-cultural perspectives and knowledge of other societies. They will possess sufficient knowledge of various aspects of another culture, including the language, social and religious customs, aesthetic expression, geography, and intellectual and political history, to enable them to interact with individuals within that society from an informed perspective. They will possess an international viewpoint that will allow them to examine critically the culture of their own nation and to participate in global society.
3. Students will use computer and information technology when appropriate. They will demonstrate knowledge of computer concepts and terminology. They will possess basic working knowledge of a computer operating system. They will be able to use at least two software tools, such as word processors, spreadsheets, database management systems, or statistical packages. They will be able to find information using computer searching tools.
4. Students will express themselves clearly, logically and precisely in writing and in speaking, and they will demonstrate competence in reading and listening. They will display the ability to write coherently in standard English; to speak well; to read, to understand, and to interpret the content of written materials in various

disciplines; and to listen effectively and to understand different modes of communication.

5. Students will demonstrate knowledge of scientific and mathematical principles and proficiency in laboratory practices. They will understand the basic concepts and principles underlying scientific methodology and be able to collect, analyze, and interpret data. They will learn a body of scientific knowledge and be able to judge the merits of arguments about scientific issues. They will be able to perform basic algebraic manipulations and to use fundamental algebraic concepts to solve word problems and equations. They will be able to use basic knowledge of statistics to interpret and to analyze data. They will be able to evaluate arguments based on quantitative data.

6. Students will demonstrate knowledge of diverse cultural heritages in the arts, the humanities, and the social sciences. They will develop understanding of the relationships among the visual and performing arts, literature and languages, and history and the social sciences. Students will be versed in approaches appropriate to the study of those disciplines; they will identify and respond to a variety of aesthetic experiences and engage in critical thinking about diverse issues. They will be able to identify the components of and respond to aesthetic experiences in the visual and performing arts. They will develop knowledge of world literature within its historical and cultural frameworks. They will understand modern issues within a historical context and the role of the individual in various forms of societies and governments.

7. Students will demonstrate the ability to analyze, to evaluate, and to make inferences from oral, written and visual materials. They will be skilled in inquiry, logical reasoning, and critical analysis. They will be able to acquire and evaluate relevant information, analyze arguments, synthesize facts and information, and offer logical arguments leading to creative solutions to problems.

8. Students will demonstrate knowledge of principles of ethics and their employment in the analysis and resolution of moral problems. They will recognize and understand issues in applied ethics. They will understand their own value systems in relation to other value systems. They will judge values and practices in a variety of disciplines.

9. Students will demonstrate understanding of the physical universe and the nature of science, and they will use scientific methods and/or mathematical reasoning and concepts to solve problems.

## **DEPARTMENT OF BIOLOGY EDUCATIONAL OUTCOMES (BEO)**

1. Develop and test hypotheses, collect and analyze data, and present the results and conclusions in both written and oral format used in peer-reviewed journals and at scientific meetings.

2. Describe the evolutionary process responsible for biological diversity, explain the phylogenetic relationships among the other taxa of life, and provide illustrative examples.
3. Demonstrate an understanding of the cellular basis of life.
4. Relate the structure and function of DNA/RNA to the development of form and function of the organism and to heredity
5. Interpret ecological data pertaining to the behavior of the individual organism in its natural environment; to the structure and function of populations, communities, and ecosystems; and to human impacts on these systems and the environment.

Directions to Dr. Chambers's office:

