

Principles of Biology II BIOL 1108 (4 credits)

Spring 2011

Instructor

Dr. David Bechler

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Office: Room 2030, Bailey Science Complex

Research laboratory: Room 2050, Bailey Science Complex

Phones: personal office 293-6063; main Biology office 333-5759

(This syllabus is tentative)

Office hours: 8-9:30 am M-F, Note—I may be in the research labs (BC 2050 or 1088) or in the field conducting research on Monday and Wednesday so cannot be reached.

Email: dbechler@valdosta.edu

Lecture/Lab	Day	Time	Location
Lecture Sections A, B, C	T & R	9:30-10:45 am	BC 1025
Lab Section A	F	08:00-10:50 am	BC 1073
Lab Section B	F	11:30-2:20 pm	BC 1073

Prerequisite: BIOL 1107 (or the equivalent) or permission of the instructor.

Course Description: An introduction to physiological processes in plants and animals. Structure, nutrition, transport, coordination, reproduction, and development will be addressed.

General Course goals and objectives:

- Introduce physiological processes of plants and animals.
- Introduce basic systematics/phylogenetics of plants and animals through the laboratory
- Sufficient background to successfully complete higher level courses covering a variety of topics in greater detail.
- Develop general skills in communication and information processing
 - Communication skills will be exercised through laboratory assignments and lab practicals and lecture exams.
 - Information processing skills will be developed because of the nature of biology.

General Learning goals include related to course topics—these goals support the Department of Biology Education Outcome #2, #3 and #5 and VSU General Education #5. Understanding physiology of the major systems in plants and animals that include: (1) Structure/function relationships, (2) Nutrition, (3) Transport, (4) Movement, (5) Reproduction, (6) Development, (7) Sensory systems, and (8) Learning experimental tools and techniques used in biology in the lab section.

Key Points:

- Considerable information will be given to students in a relatively short period of time, and students are expected to retain this information, not only for the final exam, but for future courses.
- Attendance in lecture is expected by all students. Attendance in laboratory is mandatory; see lab policy below.
- **Withdrawing from the course:** The last day to withdraw without penalty is 28 February 2013. 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. (<http://www.valdosta.edu/biology/documents/biologyplagiarism.pdf>).
- **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 and these systems are not secure.
- **Students with disabilities:** Students requiring special accommodations because of disability must discuss their needs with me as soon as possible. Those needing accommodations who 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).

- **Buckley Amendment or Privacy Act:** It is illegal to release to others personal information about an individual. Therefore, grades, averages, and other personal information about an individual will not be released to anyone but that individual, posted, sent by e-mail or given over the phone.
- No eating or drinking food in the lecture or laboratory.

Textbook: Sadava *et al.* 2011. Life: The Science Biology 9th ed. Sinauer Associates, Inc.

Lecture Topics

Taxon	Chapter	Topic (General)	Pages and Notes
	--	Structure & Function, Phylogeny	Review "Phylogenies" pg 464-480
Animals (Fauna)	40	Homeostasis	Pg 832-850
	41	Hormones	Pg 851-872
	43	Reproduction	Pg 899-921
	45	Nervous System	Pg 943-963
	46	Sensory Systems	Pg 964-984
	48	Muscles	Pg 1006-1024
	49	Gas Exchange	Pg 1025-1044
	50	Circulatory System	Pg 1045-1066
	51	Nutrition & Digestion	Pg 1067-1090
	52	Salt & Water Balance	Pg 1091-1112
End of Chapters in Animals—Start Chapters in Plants			
Plants (Flora)	28	Seedless	Pg 588-606
	29	Evolution of Seed Plants	Pg 607-626
	34	Body (Morphology)	Pg 719-738
	35	Transport in Plants	Pg 739-754
	36	Nutrition	Pg 755-770
	37	Regulation of Growth	Pg 771-793
	38	Reproduction Flowering Plants	Pg 794-813
	39	Response to Environment	Pg 814-831

Lecture & Laboratory Conduct:

- Arrive on time. Quizzes missed due to late arrival or leaving early cannot be taken at a later time.
- Turn off cell phones during class and lab; there is no reason you should be texting or calling anyone.
- 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 you have informed me prior to the start of the class or if it's an emergency.
- During exams you cannot 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.

Testing

Key Points:

- During the exam all cell phones must be turned off.
- All book bags, books, purses etc. must be placed on floor by your seat.
- Hats and hoods cannot be worn during exams.
- All hands must remain above the desk at all times during exams.
- It is the instructor's prerogative to accept (or not accept) an excuse for a missed exam; therefore, **DO NOT MISS EXAMS!**
- Make-up exams are available for students with approved reasons, but these exams will be more challenging than the original exam, and will be essay exams taking 2 hours or more.
- Students must contact me via email on the day of the exam for approval (**NO PHONE CALLS**) and are required to make-up the exam at the soonest possible time.
- Only students with a University related excuse (example: athletics) may take an exam early.

Each of the first three regular tests will consist of 50-60 questions. The final will be comprehensive and will consist of 100 questions, approximately 50 over old material and 50 over untested material. All regularly scheduled tests will contain

multiple choice questions. Each of the first three tests will be worth 100 points and the final worth 200 points. This makes the final worth two tests. The day the test is returned, an answer key will be placed near the door to the laboratory room for your perusal or placed in BlazeView. If you find any errors, circle only the number of the question and return the answer sheet to me at the end of the next lecture or place it in my mailbox in an envelope. You will need to bring a number two pencil to the test as you will use a computer-graded form.

Tests	Chapters Covered	Date
1	40, 41, 43, 45	to be announced one week in advance
2	46, 48, 49, 50	to be announced one week in advance
3	51, 52, 28, 29, 34	to be announced one week in advance
Final	All previous chapters plus 35, 36, 37, 38, 39	Thursday, 2 May 2011, 10:15 am - 12:15 pm

At least one week prior to lecture tests 1, 2, and 3 the date of the test will be announced.

Computing Grades

To determine your grade for more than one test simply average your grades. The lecture will be equal to 75% of the course grade and the laboratory to 25%. To determine your grade for the course, calculate your average for the lecture portion and for the laboratory portion of the course. Then, multiply the lecture average by 0.75 (equals 75%) and the laboratory average by 0.25 (equals 25%). Finally, add the two resulting values together. See the formulae below.

Missed Tests-If you miss a lecture test you must come and see me at your first opportunity to set up a time to make-up the test. Make-up tests will be essay and will consist of a minimum of four questions. You must also have a valid excuse that can be verified for why you missed the test. If you cannot present a valid excuse, you will be given an "F" (0) for the test.

Scale: For Biology majors, a grade of C or higher is required for this course: (1) A = 90-100%, (2) B = 80-89%, (3) C = 70-79%, (4) D = 60-69%, Failing Grade for the Biology major, (5) F < 60%, Failing Grade for the institution

Grade Calculations

$$\begin{aligned} \text{Lecture Grade:} &= (\text{Test 1} + \text{Test 2} + \text{Test 3} + \text{Final})/5 \\ \text{Lab Grade:} &= ((4 \text{ lab reports})/4) + (2 \text{ Lab Practicles}/2) \\ \text{Final grade:} &= (\text{Lecture Grade} \times 0.75) + (\text{Lab Grade} \times 0.25) \end{aligned}$$

BIOL 1108 Principles of Biology II Laboratory Syllabus

Laboratory Room—Bailey Science Complex, room 1073

Laboratory manual: Grove, T.J. 2013. Principles of Biology, 2nd edition, Laboratory manual for BIOL 1108. McGraw Hill, Learning solutions, Boston, MA.

Lab Protocol:

- Arrive on time.
- Assignments are due at the start of lab.
- It is strongly advised to maintain a laboratory notebook with drawings, descriptions, data etc. of the laboratory exercises. The only requirements of the notebook are that it not be a spiral bound notebook, but a bound note book. The notebook will help you study for the practical exams.
- No eating or drinking in the lab.
- Attendance at lab is mandatory. Excused absences are usually given for medical emergencies and documentation must be provided; the professor determines whether or not an absence is "excused" or not. If a student misses three labs for any reason the student cannot earn higher than a "D" or 60% for his/her final grade.
- Students are still responsible for all lab content even if they received an excused absence.
- Students must take care of lab equipment. Notify the professor if something is not working properly or if something breaks during the course of the lab
- Each student will be assigned a microscope. It is the student's responsibility to properly use the microscope. After lab the professor will check each scope to make sure that it was put away properly. Failure to do so will result in one point being subtracted from the student's total lab points (not the final percentage) each week it is not put away properly. Notify the professor if your microscope is not functioning properly.
- Lab exercises will be posted on Dr. Bechler's web page accessible through the Biology Dept web page.
- It is the student's responsibility to bring the lab the following week. No copies of the lab will be handed out to students who forgot their lab handouts.

Lab assignments and Lab Practical Exams:

Throughout the semester lab assignments will be given. Information on lab assignments will be handed out in lab and will involve analysis of laboratory exercises. These assignments are due at the start of the following lab period. No late assignments will be accepted (see above).

Two lab practical exams will be given, one covering animals and one covering plants. Questions may include microscope slides, whole specimens and a written component. Lab practical exams can only be taken the week they are scheduled.

Laboratory Schedule (Continued on next page)

LAB SCHEDULE AND TOPICS SPRING 2013		
Week of	Lab Exercise (Pages)	Assignment or Quiz
7 Jan	Week One—No labs	
14 Jan	Introduction and Learn to Use Excel (Pg 1-10) Diversity: Porifera and Cnidaria (Pg 60-69) Vertebrate Animal Tissues (Pg 70-77)	
21 Jan	MLK Holiday—No labs	
28 Jan	Diversity: Platyhelminthes (Pg 78-83) Vertebrate Anatomy (Pg 84-91)	
4 Feb	Diversity: Annelida and Mollusca (Pg 92-97) Sensory Systems (Pg 98-104)	
11 Feb	Diversity: Nematoda and Arthropoda (Pg 105-110) Cardiovascular System (Pg 111-115)	
18 Feb	Diversity: Echinodermata and Chordata (Pg 116-118) Digestive System and Excretory Systems (Pg 119-120)	
25 Feb	LAB PRACTICAL –	
4 Mar	Diversity: Non-Tracheophytes (Seedless Plants) (Pg 11-18)	
11 Mar	Diversity: Tracheophytes (Vascular Land Plants) (Pg 19-27) Plant Anatomy-Roots, Stems and Leaves (Pg 28-36)	
18 Mar	Spring Break— No Class	
25 Mar	Angiosperm Development (Pg 37-45)	
1 Apr	Growth, Tropism, Transpiration, Environmental Responses (Pg 46-53)	
8 Apr	Pollution: Effects of Chemical, Thermal & Acid Pollution (Pg 54-59)	
15 Apr	LAB PRACTICAL --	
22 Apr		

Important Dates

- 21 January MLK Day. No classes
- 28 February Midterm. Last day to drop classes*
- 18-22 March Spring Break. No classes.

* No one will be dropped after the last drop date unless there are extenuating circumstances beyond your control.

General Note

Generally, I will be available after class for consultation. Other times can be arranged by appointment or you can take your chances and just drop by to see if I am in the office. My spring 2009 teaching schedule is next to the door of my office. I frequently have meetings in the afternoon so this time period will not be a good time for you to try and see me. Please do not call me at home. As a field biologist, I spend certain amounts of time in the field collecting data. In spring 2013, most of my field work will take place on Mondays and Wednesdays. Once I leave the office and go home, my life belongs to my family (my wife, Adelaide, Madison and Bella) and me.