BIOL 1108K, Principles of Biology II
Summer Semester, 2019 Section A, (CRN 50698)
Jun 26, 2019 - Jul 31, 2019

Lecture (BC 2022): **MTWRF** **9:35 a.m. – 11:05 a.m.**
Laboratory (BC 1073): **MTR** **11:30 a.m. – 2:20 p.m.**

Instructor: Dr. Russ Goddard, BC 2090. (Phone 249-2642; or Dept. office 333-5759)
(**Office hours**: Generally available before and after class times; also check in lab)
Official Contact email: **rgoddard@valdosta.edu** (Don't expect replies through BlazeView mail)

Course Catalog Description: BIOL 1108 Principles of Biology II; 3-3-4; An introduction to physiological processes in plants and animals. Structure, nutrition, transport, coordination, reproduction, and development are addressed.

Required Materials:

Text: Sadava, D., D.M. Hillis, H.C. Heller, and M.R Berenbaum. 2016. Life: The Science of Biology. 11th edition. Sinauer Associates Inc., Sunderland, MA.

Online Laboratory Manual: Grove, T.J. Biology Lab Manual. Great River Learning.
First time use: https://www.grtep.com/index.cfm/core/General/index
Direct Course link: http://vsu.grtep.com/index.cfm/bioprelab/page/topicslabprep

Student Recommended Laboratory Study guide: Van De Graaff's Photographic Atlas for the Biology Laboratory, 8e. Morton Publishing; ISBN-13: 9781617317651
https://www.morton-pub.com/catalog/biology/van-de-graaffs-photographic-atlas-biology-laboratory-8e

General Objectives: This course continues the introduction to basic principles of biology started in BIOL 1107. Where BIOL 1107 focused on cellular structure and function addressing how life is similar through unifying cellular mechanisms, BIOL 1108, in concept, was designed as a comparative organismal physiology course to address organismal function and the diversity seen in life as defined by variations in multicellular organism structure and function. One way of interpreting how we study function in organisms is that we really ask two basic questions; 1) how do organisms form (structure/development), and 2) how do organisms use that form to function (physiology). This course is designed to present the basics of development and physiology along two evolutionary lines in particular; those giving rise to multicellular plants and to animals. Additionally, comparisons will be made on how organisms obtain energy, how they get their nutrition, how gas exchange is handled, how wastes are managed, how circulation connects many systems, as well as how these systems are regulated, particularly through hormones.

Attendance: Attendance in this course absolutely is required. Students should be seated at the beginning of class. If you are late, your attendance may not be acknowledged. The student is responsible for all material missed regardless of the reason for absences. **ABSOLUTELY NO LECTURES OR LABORATORIES CAN BE "MADE UP."** In the event that a student will miss a class, s/he should notify the instructor in writing by email preferably BEFORE the missed class, but as soon as possible. The student will miss any points assessed during the missed class, but penalty points assessed for absence may be waived at the discretion of the instructor.

Graded Course Components: Your final grade will be based on your performance in the following course components: Additional unannounced in-class assignments may count toward the final grade during the semester.

Lecture: (400 pts): There will be **4 lecture exams** and an optional **comprehensive final exam** given on the dates listed below. Students are required to know the lecture material and the readings from the text for exams and quizzes. Information presented in the laboratory may also be included in these exams. Each exam counts 100 points toward your final grade.

Final Exam (100 pts): The final comprehensive exam is scheduled for Friday, August 2, 2019 from 9:35 - 11:35 a.m. in our classroom. Students will have the option of taking this exam or skipping it and counting it as their "drop" grade.

Dropped grade: The lowest score you receive among either the four regular lecture exams or the final exam will be excluded (dropped) and will not be used for computing your final grade. Therefore, although there are 500 possible points from exams, only 400 points will be used to compute your final grade. It is not possible to "drop" any Laboratory grades from your final grade.

Laboratory: (150 pts) The major points towards your grade assessed in the laboratory will be through two laboratory practicals. Each practical will be worth 100 points; All Lab quizzes, online quizzes, and selected homework assignments will count for another 100 points total. Of the 300 points earned in lab, your lab score will be computed as a percent score out of 150 points total. As the laboratory is considered an extremely important part to learning "hands-on" biology, any student will automatically *lose* points from their final lab grade for any absence from laboratory.

Final grades will be based on a percentage of your cumulative points relative to the total points possible:

Lecture Exams (100 pts each):	400 pts
Final Exam	~~100 pts~~ (low dropped)
Laboratory:	150 pts
Total:	550 pts

Guaranteed grade distribution is as follows:
A = 90-100%
B = 80-89.9%
C = 70-79.9%
D = 60-69.9%
F = ≤ 59.9%

Notes on grading philosophy: Students should note that a grade of "A" in this course represents an exemplary command of the material covered. To obtain this grade of excellence, it is recommended that students study daily and clarify with the professor any problems regarding course information, as they arise.

MAKE-UP EXAMS: The exam schedule is posted below. It is assumed that because students are registered for this course at the scheduled time and exams are given during this time, all students will be able to attend. Additionally, since one exam grade is dropped, absolutely **NO** make-up exams are given. If you cannot make it to a test at the assigned time for ANY reason, your exam grade will be zero and this will be the grade that is dropped in the computation of your final grade. In no circumstance should a student registered for this course miss two exams. If you know you will miss more than one exam time, you should **DROP THIS COURSE NOW.**

EXAM SCHEDULE:

NOTE: "Bubble" sheets will be used during exams. Please bring and use an "HB" or "#2" pencil with you to the exams to insure that your answers are recorded and scored accurately

You will have the class time only to complete each lecture exam and 2 hours for the final.
Exams will consist of multiple choice questions. The exam schedule is as follows:

Exam 1: Friday, 5 July 2019
Exam 2: Monday, 14 July 2019
Exam 3: Tuesday, 23 July 2019
Exam 4: Wednesday, 31 July 2019

Mid-term Lab Practical: Monday, 14 July 2019

Final Lab Practical: Tuesday, 30 July 2019

Final Examination: Friday, 2 August 2019 from 9:35 - 11:35 a.m.

Procedure for exams:

- *N*o books, electronic devices (including cell phones), or notebooks will be allowed during exams. Students using such items, including cell phones that ring during the exam, will be asked to leave and will receive a zero for the exam.
- No talking will be allowed during the exam, but students are welcome to come to the instructor's desk to ask questions about the exam. If a cell phone rings during an exam, disrupting the exam, the student will be asked to leave. ***Turn off your cell phones during exams!***
- Every student should bring their University ID.

Assignments passed in electronically. When a course assignment is required to be passed in electronically (e.g. in a document format like MS Excel) Dr. Goddard **does not accept OneDrive shared files unless I have edit privileges**. The purpose of passing these assignments in electronically is so the document can be graded and sent back to the student. Too often, OneDrive files do not allow write privileges to the instructor so I prefer that all files be turned in with the program format and attached to an email to rgoddard@valdosta.edu (Word document in *.doc or *.docx format; Excel document in *.xls or *.xlsx format). **Any file that a student has applied restricted access for editing will not be graded and will be given a zero!**

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 may be asked to display their

VSU student identification cards visibly on the desk top and to make them available for inspection by their instructor and/or assistants.

Academic Integrity: Any behavior suggestive of academic dishonesty will lead to a reprimand, failure of an assignment, or failure of the course at the discretion of the instructor, but based on the severity of the infraction(s). Cooperative learning and group interactions are common and necessary to scientists and this activity is encouraged in the form of laboratory work and discussions about data and information. However, on assignments designed to assess individual learning of material in the class or writing and analytical skills, work must be completed totally independently. Behavior contrary to this principle constitutes cheating. Students should fully understand that plagiarism is not tolerated in this department or by the instructor and full appreciation for the intellectual property of others should be respected completely.

Plagiarism is the representation of someone else's work as your own. You may not blatantly copy phrases, paragraphs, or ideas from another's work. You cannot paraphrase someone else's ideas and use them as your own. You must analyze all data and work by others and then integrate this information with new data and conclusions that you independently synthesize, properly citing past work that supports your conclusions.

Students should read and be familiar with the Biology Department policy on plagiarism: https://www.valdosta.edu/colleges/arts-sciences/biology/documents/resources/PlagiarismPolicy.pdf and read and understand the University policy on Academic Integrity: https://www.valdosta.edu/academics/academic-affairs/academic-honesty-policies-and-procedures.php

Disruptive behavior: No disruptive behavior of any kind will be tolerated in this course. Talking during lectures is disruptive due to the nature of the acoustic design of the room. Students should restrict talking and discussion to pertinent questions related to course material and these questions should be directed toward the instructor. Entering a classroom late is discouraged, particularly from the front of the room, because it is disruptive, as is leaving early. Any student disrupting lectures will be required to leave the classroom. Use of cellular telephones or any similar remote communication device is prohibited during scheduled lectures, laboratories, or examinations. If students bring cellular telephones or similar devices to lecture, it is their responsibility to switch them off prior to the beginning of the lecture period. Ringing, buzzing, or any other sounds emitted from such devices will be treated as disruptive behavior on the part of the owner/possessor, and the owner/possessor will be asked to leave lecture immediately (including during exams!).

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, as positive identification cannot be made by this manner.

Students with Disabilities: Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The Access Office is located in Farbar Hall. The phone numbers are 229-245-2498 (V) and 229-375-5871 (VP). For more information, please visit http://www.valdosta.edu/access or email: access@valdosta.edu.

Tentative Lecture and Lab schedule (subject to revision):

Lecture:				Laboratory:	
Lecture	Date:	*Topic :*	Chapter Reading(s):	Date:	Exercise
1	26 June	How is physiology important in our understanding of biology? History of Life on Earth	Pg. 507 – 527		
2	27 June	Phylogeny	Pg. 448 – 466	27 June	Independent Lab Assignment: "How to Use Excel" **Introduction to Basic Statistics**
3	28 June	Bacteria and Archaea	Pg. 528 – 551		
4	1 July	Origin and Diversification of Eukaryotes	Pg. 552 – 571	1 July	Lab 4. Plant Cells, Vegetative Organ Structures, and Patterns of Growth
5	2 July	Evolution of Plants 1: Nonvascular to vascular plants	Pg. 572 – 591	2 July	Lab 2. Nonvascular, Seedless Plants: Mosses, Liverworts, and Hornworts
6	3 July	Evolution of Plants 2: evolution and diversification of seed plants; Reproduction Flowering Plants (Section 37.1 only)	Pg. 592 – 612 786 – 793		
	4 July	**Holiday, No Class**		4 July	**Holiday, No Class**
7	5 July	**Exam #1**			
8	8 July	The Plant Body Gas Exchange & Transport in Plants	Pg. 715 – 734 Pg. 735 - 749	8 July	Lab 3 Vascular Plants: Ferns, Gymnosperms and Angiosperm
9	9 July	Plant Nutrition	Pg. 750 – 764	9 July	Lab 5. Angiosperm Development & Reproduction
10	10 July	Regulation of Plant Growth	Pg. 765 – 785		
11	11 July	Genes & Development	Pg. 916 – 937	11 July	Lab 6. Growth and Transpiration
12	12 July	Animal Origins and Evolution of Body Plans	Pg. 635 – 657		
13	15 July	**Exam 2**		15 July	**Midterm Lab Practical**
14	16 July	Protostome animals	Pg. 658 – 683	16 July	Lab 7. Diversity of Porifera, Cnidaria, Platyhelminthes, and Annelida
15	17 July	Deuterostome animals	Pg. 684 – 714		
16	18 July	Physiology, Homeostasis, Temperature Regulation	Pg. 823 – 843	18 July	Lab 8. Diversity of Mollusca, Nematoda, Arthropoda, Echinodermata, and Chordata
17	19 July	Neurons and Nervous Systems	Pg. 938 – 959		
18	22 July	Sensory Systems	Pg. 960 - 980	22 July	Lab 9. Introduction to Animal Tissues
19	23 July	**Exam 3**		23 July	Lab 10. External and Internal Anatomy of the Fetal Pig
20	24 July	Musculoskeletal Systems:	Pg. 1001 - 1021		
21	25 July	Animal Circulatory Systems	Pg. 1043 – 1067	25 July	Lab 11. Sensory Systems
22	26 July	Gas Exchange in Animals	Pg. 1022 - 1042		
23	29 July	Salt and Water Balance and Nitrogen Excretion	Pg. 1093 - 1114	29 July	Lab 12. Cardiovascular System
24	30 July	Animal Nutrition, digestion, absorption	Pg. 1068 - 1090	30 July	**Final Lab Practical**
25	31 July	**Exam 4**			
	2 Aug.	**Final Exam: 11:35 a.m. – 1:35 p.m.**			

Pre- and Post-Lab Quiz times

Lab:	Pre-Lab open	Pre-lab close	Post-lab open	Post-lab close
Lab 1: Excel	**26 June** 2019; **9:30 a.m.**	N.A.	N.A.	N.A.
Lab 4: Plant Cells	**26 June** 2019; **9:30 a.m.**	Monday, **1 July**, 2019; **11:30 a.m.**	Monday, **1 July** 2019; **2:30 p.m.**	Monday, **8 July** 2019; **8:00 a.m.**
Lab 2: Nonvascular Plants	**26 June** 2019; **9:30 a.m.**	Tuesday, **2 July**, 2019; **11:30 a.m.**	Tuesday, **2 July** 2019; **2:30 p.m.**	Monday, **8 July** 2019; **8:00 a.m.**
Lab 3: Vascular Plants	**26 June** 2019; **9:30 a.m.**	Monday, **8 July**, 2019; **11:30 a.m.**	Monday, **8 July** 2019; **2:30 p.m.**	Monday, **15 July** 2019; **8:00 a.m.**
Lab 5: Angiosperm Dev't	**26 June** 2019; **9:30 a.m.**	Tuesday, **9 July** 2019; **11:30 a.m.**	Tuesday, **9 July** 2019; **2:30 p.m.**	Monday, **15 July** 2019; **8:00 a.m.**
Lab 6: Plant Growth and Dev't	**26 June** 2019; **9:30 a.m.**	Thursday, **11 July** 2019; **11:30 a.m.**	Thursday, **11 July** 2019; **2:30 p.m.**	Monday, **15 July** 2019; **8:00 a.m.**
Lab 7: Porifera…	**26 June** 2019; **9:30 a.m.**	Tuesday, **16 July** 2019; **11:30 a.m.**	Tuesday, **16 July** 2019; **2:30 p.m.**	Monday, **22 July** 2019; **8:00 a.m.**
Lab 8: Mollusca…	**26 June** 2019; **9:30 a.m.**	Thursday, **18 July** 2019; **11:30 a.m.**	Thursday, **18 July** 2019; **2:30 p.m.**	Monday, **22 July** 2019; **8:00 a.m.**
Lab 9: Animal Tissues	**26 June** 2019; **9:30 a.m.**	Monday, **22 July** 2019; **11:30 a.m.**	Monday, **22 July** 2019; **2:30 p.m.**	Monday, **29 July** 2019; **8:00 a.m.**
Lab 10: Fetal Pig	**26 June** 2019; **9:30 a.m.**	Tuesday, **23 July** 2019; **11:30 a.m.**	Tuesday, **23 July** 2019; **2:30 p.m.**	Monday, **29 July** 2019; **8:00 a.m.**
Lab 11: Sensory Systems	**26 June** 2019; **9:30 a.m.**	Thursday, **25 July** 2019; **11:30 a.m.**	Thursday, **25 July** 2019; **2:30 p.m.**	Monday, **29 July** 2019; **8:00 a.m.**
Lab 12: Cardiovascular System	**26 June** 2019; **9:30 a.m.**	Monday, **29 July** 2019; **11:30 a.m.**	In class post quiz	In class post quiz