BIOL 1107K, Principles of Biology I
Fall Semester, 2011 Sections G, H, I

Lecture (BC 1023): TR 11:00 a.m. - 12:15 p.m.
Laboratory (BRT0 -1T Course Catalog Description:

_____ _____ _____ BIOL 1107 Principles of Biology I; 3-3-4; Co-requisite for biology majors: BIOL 1100. An introduction to the principles of biology for science majors, with an emphasis on the cellular nature of life. Concepts covered include the origin and early evolution of cellular life; cell structure, function, metabolism, and reproduction; cell signaling; and gene regulation in bacteria and eukaryotes.

Required Materials:

Text: Sadava, D., D.M. Hillis, H.C. Heller, and M.R Berenbaum. 2011. Life: The Science of Biology. 9th edition. Sinauer Associates Inc., Sunderland, MA and W.H. Freeman & Co. Gordonsville, VA.

Laboratory Manual: Goddard, R.H. 2011. Methods and Investigations in Basic Biology, 5th ed. Hayden-McNeil Publishing, Plymouth, MI.

"Clickers": Each student is required to obtain a Turning Technologies NXT clicker (available in the bookstore). All students are responsible for having their clickers with them in class. All points accumulated in lecture are generated by clickers. If you do not bring your clicker, no points will be recorded for your participation L.

Additional Course Materials on the WWW: http://www.valdosta.edu/~rgoddard/ or the BlazeView Course Page.

General Objectives: This course provides an introduction to basic principles of biology. Information presented in this class includes an emphasis on topics encompassing cell structure and function, metabolism, cell reproduction, gene structure and function, genetics, and evolution as unifying principles of all life. The goal of this course is to stimulate student learning of these basic concepts and to encourage contemplation of the significance of each concept to the general concept of biology. Specific course learning objectives addressed in this course that are aligned with Department and University learning objectives (listed at the end of this syllabus) include BIOL objectives 1 through 5 and VSU objectives 3-5 and 7-8. Additionally, as aligned with our new core curriculum (http://www.valdosta.edu/academic/VSUCore.shtml), 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.

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. Additionally, anyone arriving late could miss a pop-quiz (no make-ups!). The student is responsible for all material missed regardless of the reason for absences. **ABSOLUTELY NO LECTURES OR LABORATORIES CAN BE "MADE UP."** Laboratories in particular are important not to miss. In the event that a student will miss a class, s/he should notify the instructor in writing by email BEFORE the missed class. It is the instructor's prerogative to accept the excuse or not. In

engage students in the learning process and to facilitate rapid feedback for exams. For each clicker question presented in lecture, a point value will be assigned. Clicker questions will or can be presented throughout the lecture class period. Additionally, longer lecture quizzes will be given using clicker input. All responses to questions presented during lecture will be compiled at the end of the course. The grade for this component will be the number of questions answered correctly divided by the number of points available times 100. The final computed pop-quiz grade is the only grade that might be significantly scaled to adjust for overall class performance! For any absence, pop-quizzes can never be made up and all points will count for all students. ***Due to the size of this class, any student without a "clicker" will not have their responses recorded and there is no way to circumvent this. It is the student's responsibility to bring their clicker with them to every lecture to insu***

leave. ***Turn off your cell phones during exams!***

- Every student should bring their University ID.

TENTATIVE COURSE LECTURE MATERIAL OUTLINE:

Lecture #	Date:	Topics:	Text Readings (pgs):
1	16 Aug.	Introduction, What is science? What is Biology?	**1-19**

Additional Reading: Genomes: 365-366; Evolution: 440-444, 445; Phylogeny: 465, 470-471;
Species concept: 482-487; By: rFF391.5(y:g(pgs ogs o96 704.4 482.4 .479 What is Biolog)3.8(y?)TJTT2 1 Tf36.47

VSU administration has required that certain elements be included in all class syllabi. One of these requirements is that

Biology Department Educational Outcomes (as outlined in the Undergraduate catalog)

The program of study in the Department of Biology has numberous desired outcomes. Examples of these outcomes include the following:

1. Develop and test hypotheses, analyze data, and present the results and conclusions in both written and oral formats corresponding to those used in peer-reviewed journals and at scientific meetings.
2. Describe the evolutionary processes responsible for biological diversity, explain the phylogenetic relationships between the major taxa of life, and provide illustratrative examples.
3. Demonstrate an understanding of the cellular basis of life.
4. Relate the structure and function of DNA/RNA to the development, functioning and reproduction of living organisms.
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.