BIOL 1107K: Principles of Biology I (Fall Semester 2009)

Biology Department, College of Arts and Sciences, Valdosta State University
Hours of credit: 4

Lecture (Bailey Science Center 1023):	MWF 1:00 pm – 1:50 pm
Laboratory (Bailey Science Center 1083):	R 9:00 am – 11:50 pm (81575, G)
	R 1:00 pm – 3:50 pm (81576, H)
	F 9:00 am – 11:50 pm (81577, I)

Instructor:	**Dr. Jonghoon Kang**
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Office hours:	MWF 2:00 pm – 3:00 pm

Course description: 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.
Pre-requisites: None.
Co-requisite for Biology majors: BIOL 1100

Required textbook and laboratory manual:
Text: Sadava, A., H. C. Heller, G. H. Orians, W. K. Purves, D. M. Hillis. 2008. Life: The Science of Biology. 8th edition. W.H. Freeman & Co. Gordonsville, VA.

Course objectives: The student should gain a basic understanding of life at the molecular and cellular levels, genetics, and molecular biology.

Course outcomes and their linkage to Biology Department Educational Outcomes (B) and Valdosta State University General Education Outcomes (V):
By the end of this course, students will know:
1) The science and building blocks of life (B2; V5);
2) Cells and energy (B3; V5);
3) Heredity and the genome (B4; V5);
4) Molecular biology: the genome in action (B4; V5);
5) Experimental and computational aspects of biology (B1; V3; V5).
The Biology Department Educational Outcomes are listed on page 113 of the current undergraduate catalog (2009-2010). Valdosta State University General Education Outcomes can be found on the following web site:
http://www.valdosta.edu/academic/VSUGeneralEducationOutcomes.shtml

Assignments: Students are required to read the textbook and the laboratory manual to be covered before coming to the class.

Exam and Assessment Policy: There will be four unit exams and one cumulative final exam. THERE ARE NO MAKE-UP EXAMS. A missed exam will be equal to zero points. No books, electronic devices, or notebooks will be allowed during exams. 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 will take the exam during the stated lecture time only.

Type	Points = number of questions*points per question	Chapters
Exam I	60 = 30*2	1-3
Exam II	100 = 50*2	4-8
Exam III	120 = 60*2	9-14
Exam IV	120 = 60*2	15-20
Cumulative Final	150 = 50*3	1-20
Laboratory	150 = 15 sessions * 10	
Total	700	

The laboratory point (10 points per each session) will be assessed based on a quiz (5 points maximum) and performance (5 points maximum). If you are late you are not allowed to take the quiz. So do not be late for the lab. Final grades will be assigned based on the total point you will get.

Point	Grade
>= 90%	A
>= 80%	B
>= 70%	C
>= 60%	D
< 60%	F

Attendance: Attendance in this course is absolutely required. Students should be seated at the beginning of class. If you are late, your attendance may not be acknowledged. Attendance may be taken at any time during the lecture or lab. The student is responsible for all material missed regardless of the reason for absences. ABSOLUTELY NO LECTURES OR LABORATORIES CAN BE "MADE UP." This class has a punitive attendance policy. No credit is given for attendance, but students are only allowed 2 unexcused absences. For each additional unexcused absence, 2 % of the course total will be deducted for each instance. Excused absences are typically only for medical reasons and must be properly documented. Any student who misses more than 25 % of the lectures (6 unexcused days of the lectures) or 25 % of the labs (4 unexcused days of the labs) will receive an automatic final course grade of "F".

Mid-term, or in-progress grades: The instructor is required to submit in-progress grades prior to mid-term as posted online (10/08/2009). In theory, a mid-term grade is necessary for a student to assess how s/he is doing in class by midterm. In this course, students will have feedback on at least one major exam by midterm. The instructor will, in general, assign an overall average grade at this point on the normal scale of A-F viewable on Banner. Students receiving a grade of "D"

or lower should therefore carefully evaluate their option of dropping this course by midterm without academic penalty.

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 desk top and to make them available for inspection by their instructor and/or assistants.

Privacy Act (FERPA): The Family Educational Rights and Privacy Act (FERPA) prohibit the public posting of grades by social security number or in any manner personally identifiable to the individual student. No grades can be given by email or over the telephone, as positive identification cannot be made by this manner.

Disruptive behavior: No disruptive behavior of any kind will be tolerated in this course. 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 or early is discouraged. Any student disrupting lectures will be required to leave the classroom. Use of cellular telephones, pagers, 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.

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.

Students with Disabilities: Students requesting classroom accommodations or modifications due to a documented disability must contact the Access Office for Students with Disabilities located in the Farber Hall. The phone numbers are 245-2498 (V/VP) and 219-1348 (TTY).

Cheating: Students caught cheating will receive a final course grade of "F" and be reported to the Dean of Students.

Tentative Lecture and Exam Schedule

Date	Chapter	Date	Chapter
8/17	1	10/14	12
8/19	1	10/16	12
8/21	2	10/19	No class (fall break)
8/24	2	10/21	13
8/26	3	10/23	13
8/28	3 (Assignment due: 10/23)	10/26	14
8/31	**Test I**	10/28	14
9/2	4	10/30	**Test III**
9/4	4	11/2	15
9/7	No class (Labor day)	11/4	15
9/9	5	11/6	16
9/11	5	11/9	16
9/14	6	11/11	17
9/16	6	11/13	17
9/18	7	11/16	18
9/21	7	11/18	18
9/23	8	11/20	19
9/25	8	11/23	19
9/28	**Test II**	11/25	No class (Thanksgiving)
9/30	9	11/27	No class (Thanksgiving)
10/2	9	11/30	20
10/5	10	12/2	20
10/7	10	12/4	**Test IV**
10/9	11	12/7	Review
10/12	11	12/11	**Final Test (2:45-4:45pm)**

Tentative Laboratory Schedule

Lab	Date (Section G, H)	Date (Section I)	Topic
1	8/20	8/21	Laboratory Introduction "The Black Box"- Scientific Method
2	8/27	8/28	Basics of the Light Microscope
3	9/3	9/4	Light Microscopy Observations of cells
4	9/10	9/11	Group Microscopy Project: Proposal Discussion
5	9/17	9/18	Independent Microscopy Project: Data collection
6	9/24	9/25	Cellular Water Relations
7	10/1	10/2	Measuring metabolic activity--photosynthesis
8	10/8	10/9	Protein extraction and quantification
9	10/15	10/16	Measuring enzyme activity
10	10/22	10/23	**No Labs (Fall break). Assignment due.**
11	10/29	10/30	Environmental control of enzyme activity
12	11/5	11/6	Cellular reproduction
13	11/12	11/13	Genetic engineering I--DNA fingerprinting; start first PCR (human-Alu fragments)
14	11/19	11/20	Genetic engineering II--Finish first PCR ; start second PCR (GMO)
15	12/3	12/4	Genetic engineering III--Finish second PCR