Imperial Valley College
Fall 2013-Course Syllabus
Biology 100, CRN # 10213- Credit Units: 4

Course Title: "**Principles of Biological Science"**
Term: Aug. 19 to Dec. 7, 2013
Hours: Lecture; Fridays 8:35 am to 11:45 pm Room 2717
Laboratory: Fridays 11:55 pm to 3:05 pm Room 2717
Instructors: Dr. Mohammad Ahrar
E-mail address; Mohammad.Ahrar@imperial.edu

Required Textbook and lab manual;
Textbook: Biology-The Essentials, by Marielle Hoefnagels -1st ed. McGraw- Hill 2013
ISBN # 978-0-07-809692
Lab manual: Biology 100-Principles of Biological Science- Imperial Valley College
McGraw-Hill, 2013. ISBN # 13- 978-0-07-770163

Course Description:
A comprehensive, general biology course for non-majors. Covering the areas of life from the molecular to the organismal level of both plants and animals. Special emphasis is put on cell division, photosynthesis, and plant and human biology within appropriate areas of study. Evolution of species and interaction of organisms within the environment is also included.
This course is also appropriate for general education as well as nursing, pre-professional, and higher level biological studies. The course includes laboratory components.

Course Objectives
Upon completion of this course the students will be able to;
1. Identify the basic characteristics of all living things.
2. Name basic chemical aspects that pertain to life and the concept of homeostasis.
3. Describe the subcellular components of the cell including their structure and function.
4. Explain the light and dark reactions of photosynthesis.
5. Explain cellular respiration and its relations to the entire organism.
6. Demonstrate knowledge of the structure and function of DNA and RNA.
7. Explain protein synthesis and site the central dogma of cell biology.
8. Compare and contrast the fundamentals of asexual and sexual reproduction.
9. Define ecology and the overall impact of ecology to conditions in the environment.
10. Solve problems in general genetics and in human genetics and relate advances in genetics to social responsibility of geneticists.
11. Identify and relate the functions of the major systems of the human body, the interrelationship among body systems and nature of disease.
12. The student will classify organisms in the kingdoms of plants and animals, discuss their evolutions and their relationships.

Student Learning Outcomes (SLOs):

Students who complete a degree or certificate at Imperial Valley College will demonstrate competency in the following areas:

(1) Communication Skills, (2) Critical Thinking Skills, (3), Personal Responsibility, (4) Information Literacy, (5) Global Awareness.

Students who complete Biology 100 with a grade of "C" or better will be able to:

1. Demonstrate an understanding of the steps of the scientific method. (LO 2)
2. Communicate an understanding of the various patterns of inheritance of genetic traits. (LO 1 & 2)
3. Explain how the processes of natural selection influence evolution. (LO 1 & 2)
4. Perform lab activities properly, and correctly analyze lab data. (LO 1 & 2)

DSP&S Student:

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Program and Services (DSP&S) office as soon as possible. DSP&S office is in Room 2117, Health Science Building. Tel: (760-355-6312).

Class policy:

Attendance Policy:

- Regular class and lab attendance is one component of the student's success. Class attendance and tardy policy follows the regulations in the IVC catalog.
- Students may be asked to drop the class if absent or tardy from more than 3 lectures and/or labs. **NOTE:** Family issues, travel issues, work-related problems, alarm clock failure, etc., are not valid reasons for being late or absent to class! Only real emergencies will be considered to be excused absences. Excused absences must be documented.
- The deadline for dropping a course without appearing on transcript is **Monday, September 2**. The deadline for dropping a full-term class is **Saturday, November 9**.

Use of Electronics: Students should turn off their cell phones or leave them on vibration, before coming to class. Use of laptop, tablets and cell phones during class period is not allowed. During exams and quizzes - cell phones must be put away.

Talks and discussion; is not tolerated during lectures. Talking is a disturbance to your instructor and other students in the class. Discussions and exchanging ideas with classmates during lab experiments is OK.

Eating; is not allowed in the classroom or in laboratory. Snacks should be eaten outside the class k time.

Withdrawal Policy: If you have to drop the course, it will be your responsibility to officially drop this class before the deadline. Failure to do so may result in a "F" grade. Please consult with the Office of Admissions for the drop, withdrawal and credit/no credit deadlines.

Academic Integrity Policy: Academic integrity is one of the most important values in higher education. The instructor will be proud of the students who are successful in conquering the course materials with integrity and succeed in their career. Students are encouraged to approach this class with diligence, be honest and ethical at all times.

Cheating policy: Students take pride in their work. Cheating of any kind will not be tolerated and will result in the receipt of a failing grade for the quiz or exam and/or for the course. See IVC catalog for policies on academic cheating.

Plagiarism: Copying materials without mentioning the source and submit it as if it is your work is referred to as plagiarism, and is not allowed. Quotes from sources are acceptable provided that you cite all references. Plagiarism will result in zero point for the assignment.

Exam & grading procedures

Total of 5 short tests (25 points each)…… …..…..... 125 points
Total of 13 Lab reports (5 points each) …….....……..... 65 points
Midterm Exam 10-11-2013, (50 points) ..... 50 points
Final Exam 12-6-2013 (50 points)…….…. 50 points
Field trip report (Friday 11-8-2013)……..... 25 points
Group presentation…….…… 35 points

TOTAL …… 350 points

Grade point = Total points earned divided by 350 x 100
Example; if your total earned points is 300, your grade point will be calculated as
(300 : 350 X 100 which will equal 85.7 % = B grade.
Quizzes and exams will cover material from lectures, class discussions, group presentations, lab assignments and materials from CD-ROM or video clips. A variety of testing methods will be employed, including but not limited to: true/false, multiple choice, essay, short answer etc.

Grading scale: ≥90% = A, 80% - 89% = B, 70% - 79% = C, 60% - 69% = D, <60% = F

Missed exams; Tests cannot be made up (except in extreme cases and with prior notification). Made up Tests will not receive full points; the first missed test will only receive 80% of the points, even if you answered 100% of questions correctly. The second missed quiz or test will receive only 50% of the points. No point is gained for missed quizzes after that.

Lab duties and assignments: There will be lab assignments and lab reports in each lab session. The lab reports are due at the end of each lab session.
I expect my students to be very careful with lab equipments, adopt safety issues at all time,, clean tools and the working area and return all items to their place before leaving the lab.
It is highly recommended that review the lab experiment prior to coming to the lab. Most lab experiments will be a team work and all members of the group must actively participate in experiments

Group presentation; Students will be teamed up, in group of 3 students per group. Each team will be assigned a topic related to biology. Team members should work together and coordinate the research about the subject and be prepared for a 15-minute presentation to the class. Date of presentation will be discussed in the third lab session. The credit for each presentation will go to the group members equally.

Emergency situations: The College Nurse is available Monday through Friday, 7:30 a.m. to 4:00 p.m. at extension 310. Cell Phone number for nurse assistance is (760) 337-0300. If unable to reach the nurse, dial "0" and notify switchboard of medical emergency. In critical situation dial "911"

Study Hints

- Attend and arrive on time for class and lab meetings. Try to be in the class a few minute before class starts.
- Do not miss any class or lab. It will be difficult to catch up with the class if you miss a session..
- Look over the text chapters and lab manual prior to coming to class and labs. Lectures and labs will be more meaningful and easier to understand if you are somewhat familiar with the materials. Spend some time each day studying the materials covered in the class. Look over your notes and use your text to clarify the materials with which you are having difficulty.

Important dates;

Last day to add; August 31 , 2013
Deadline to drop with "W" November 9, 2013

Tentative Course Lesson Plan Outline (Fall 2013) - *subject to change.*

Week	DATE	LECTURE	LABORATORY
1	8-23	Ch. 1 Scientific study of life (p 2), Ch. 23 Animal tissue & organ system (p 467)	Introduction to the lab. Biology Overview Lab Exp. 25.1 (pages 353-365)
2	8-30	Ch. 2 The Chemistry of life (p 20)	Lab Ch.3- Chem. composition of cells 3.1, 3.2
3	9-6	Ch. 4 The energy of life (p 68)	Lab Ch.2- Metric and Microscopy - 2.1, 2.4, 2.5, Test 1 (Ch. 1, 2, 23 + lab exp. 25.1, and 3)
4	9-13	Ch. 3 Cells (p 48)	Lab Ch. 4 Cell structure and function – 4.2, 4.3, 4.4,
5	9-20	Ch. 8- DNA Replication and cell division (p 138), Ch. 9 Sexual reproduction and Meiosis (p 154)	Lab Ch. 8 Mitosis & Meiosis – Exp. 8.1 Test 2 (Ch. 3, 4 + exp. 2 and 4)
6	9-27	Ch. 5 Photosynthesis (p 84) Ch. 6 How cells release energy (p 98)- part I	Lab Ch. 6 Photosynthesis – Exp. 6.1, and 6.2 Test 3 (Ch. 8, 9 + exp. 8)
7	10-4	Ch. 6 How cells release energy -part II Ch. 16 Evolution and diversity of Plants (p 304)	Lab Ch. 7 Cellular respiration – Exp. 7.1 and 7.2
8	10-11	Ch. 21 Plant form and function (p 426)	Lab Ch. 18 flowering plants – Exp. 18.3, 18.4 Midterm Exam (Ch. 1-6, 8, 9, 23 + exp.3,4,6,7,8)
9	10-18	Ch. 27 The Circulatory and Respiratory system (p 542) - *An introduction to digestive system*	Fetal pig dissection – Exp. 26.3 to 26.6, Check Figures 27.1 to 27.5
10	10-25	Ch. 28 Regulating temperature, Nutrients, and body fluid (p 564)	Lab Exp. 28 - Chemical Digestion – Exp. 28.1, 28.3, Test 4 (Ch. 16, 21, 27 + exp. 18, 26)
11	11-1	Ch. 24 The nervous system and the senses (p 482)	Lab Ch. 30 Senses – Exp. 30.2 to 30.4
12	11-8	Field trip (san Diego Zoo)	Field trip
13	11-15	Ch. 7 DNA structure (p. 111-115) Ch. 10 Patterns of Inheritance (p 170)	Ch. 10- Human Genetics Test 5 (Ch. 28, 24 + exp. 28, 30, field trip)
14	11-22	Ch. 13 Evidence of evolution (p 242) Ch. 17 Evolution and diversity of animals (p 322)	Lab Ch. 12 Evidence of Evolution Exp. 12.1, and 12.2
15	11-29	Thanksgiving holiday - No class	No lab
16	12-6	Final Exam (Textbook Ch. 7, 10, 13, 17)	Test on Exp. 10, 12)