

Imperial Valley College  
Fall 2012-Course Syllabus  
**Biology 100-08, CRN # 10073**  
**Instructors: Dr. Mohammad Ahrar**  
M\_ahrarphd@yahoo.com

**Course Title: “Principles of Biological Science” - Credit Units: 4**

**Term: August 20 to Dec. 7, 2012**

**Hours: Lecture; Fridays 8:15 am to 11:25 pm Room 2717**

**Laboratory: Fridays 11:35 pm to 2:45 pm Room 2717**

**Required Textbooks**

*Textbook: Life on Earth, 5<sup>th</sup> edition, by Audersirk - Audesirk – Byers, Pearson  
ISBN 9780558443580*

*Lab manual: Principles of Biological Science- BIOL 100 10<sup>th</sup> Ed. McGraw-Hill,  
ISBN: 9780390445780*

**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. Includes laboratory components.

**Course Objectives**

Upon completion of this course, the student should have a basic understanding of characteristics of living things. Students should be able to name basic chemical aspects that pertain to life and the concept of homeostasis, describe cell components and structure, cellular respiration, Photosynthesis, cell division and functions. Students should also be able to explain plant organization and plant reproduction and demonstrate knowledge of human organ systems, should demonstrate knowledge of the structure and function of DNA and RNA and solve problems in general genetics. The students will explain protein synthesis, compare fundamentals of asexual and sexual reproduction, and define ecology and its impact on environment, Students should be able to classify organisms in the kingdoms of plants and animals, discuss their evolutions and their relationships, and demonstrate critical thinking skills relevant to the topics that are presented.

**Student learning Outcome (SLO):**

Upon completion of this course students will be able to respond to critical thinking applications of biological scenarios. Students will also be able to explain characteristics shared by all living organisms, describe diffusion, osmosis, enzyme functions, and photosynthesis. Understand characteristics of bacteria, fungi, protists, basic human genetic, describe diversity of plants and animals, basic human anatomy and principles of evolution.

**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:**

Students should turn off their cell phones or leave them on vibration, before coming to class. Talks and discussion is not tolerated during lectures. Talking is a disturbance to your instructor and other students in the class. However discussions and exchanging ideas with classmates during lab experiments is encouraged. Eating is not allowed in the classroom or in laboratory. Snacks should be eaten outside the class during break time.

**Attendance Policy:**

Regular attendance is one component of the student’s success. It is imperative that students attend all classes and labs. Lectures and lab experiments will form the basis for the questions on quizzes and exams. If you have to miss a class in case of emergency, I will appreciate if you can give me advance notice. Excused absences must be documented. Students who miss more than three 3 lectures and/or lab sessions will be asked to drop the class. Attendance and Tardy policy is listed in the IVC catalog and will be enforced.

**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 and to act in accordance with the Student Code of Conduct, Policy 3100. This policy can be obtained at:

<http://www.sdccd.net/policies.html#3100> It is your responsibility to be familiar with and abide by this code.

**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**

Quizzes (Total of 5 Quizzes, 20 points each).....	100 points
Total of 5 Lab quiz (10 points each) .....	50 points
Exam. 1 (Friday 10-12-2012) .....	100 points
Total of 13 Lab reports (5 points each) .....	65 points
Final Exam. (Friday 12-7-2012).....	100 points
Group presentation.....	35 points
-----	
TOTAL .....	450 points

Grade point = Total points earned divided by 450 x 100

Example; if your total earned points is 410, your grade point will be calculated as

(410 : 450 X 100 which will equal 91.1 % = A grade.

Quizzes and exams will cover material from lectures, class discussions, group presentations, lab assignments and materials from CD-Rom. A variety of testing methods will be employed, including but not limited to: true/false, multiple choice, essay, short answer etc.

**Grading scale:**  $\geq 90\%$  = A, 80% - 89% = B, 70% - 79% = C, 60% - 69% = D,  $< 60\%$  = F  
Quizzes or exams cannot be made up (except in extreme cases and with prior notification).  
Made up quizzes or exams will not receive full points; the first missed quiz or test will only receive 80% of the points. 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 individual as well as group assignments and lab reports. 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.

In group lab experiments, 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 and need to search for the scientific information. Team members should work together and do 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**

- 1- Be in the class a few minute before the lectures and labs begin..
- 2- Do not miss any class or lab. It will be difficult to catch up with the class if you miss a session..
- 3- 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.
- 4- 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.

**Tentative Course Lesson Plan Outline (Fall 2012) is shown in the next page.**

***Note: The Schedule is tentative and subject to change.***

Week	DATE	LECTURE	LABORATORY
1	8-24	Ch. 1 An Introduction to life on earth	Introduction to the lab. Biology Overview
2	8-31	Ch. 2 Atoms, molecules, life	Lab Ch.3- Chem. composition of cells 3.1, 3.2 (Lab quiz from today's lab exercise)
3	9-7	Ch. 3 Cell membrane structure & function	Lab Ch.2- Metric and Microscopy - 2.1, 2.4, 2.5 Quiz 1 (Ch. 1, 2 including today's lab)
4	9-14	Ch. 4 Cell structure & function	Lab Ch. 4 Cell structure and function – 4.3, and 4.4 Quiz 2 (Ch. 3 + lab)
5	9-21	Ch. 8 The continuity of life – cell division	Lab Ch. 8 Mitosis & Meiosis – Exp. 8.1 (Lab quiz from today's lab exercise)
6	9-28	Ch. 6 Capturing solar energy: photosynthesis	Lab Ch. 6 Photosynthesis – Exp. 6.1, and 6.2 Quiz 3 (Ch. 4, 8 + lab)
7	10-5	Ch. 7 Harvesting energy- Cellular Resp.	Lab Ch. 7 Cellular respiration – Exp. 7.1 and 7.2 (Lab quiz from today's lab exercise)
8	10-12	Ch. 17 Plant form and function Midterm Exam 1 (Ch. 1,2,3,4,6,7,8)	Lab Ch. 18 flowering plants – Exp. 18.3, 18.4 Midterm lab Exam – from all previous exercises
9	10-19	Ch. 20 Circulation and Respiration	Fetal pig dissection – Exp. 26.3 to 26.6, Presentation Exp. 27.4, p. 396-399
10	10-26	Ch. 21 Nutrition, Digestion, and Excretion	Lab Exp. 28 - Chemical Digestion – Exp. 28.1, 28.3 Quiz 4 (Ch. 17, 20) + lab Presentation
11	11-2	Ch. 24 The nervous system and the senses	Lab Ch. 30 Senses – Exp. 30.2 to 30.4 Presentation (Lab quiz from today's lab exercise)
12	11-09	Ch. 15 The history of life on Earth	Lab Exp. 24 The vertebrates Presentation (pages 337 – 340)
13	11-16	Ch. 9 Patterns of Inheritance	Ch. 10- Human Genetics Presentation Quiz 5 (Ch. 21, 24 + labs)
14	11-23	THANKSGIVING No class	NO Lab
15	11-30	Ch. 13 Principles of Evolution	Lab Ch. 12 Evidence of Evolution Exp. 12.1, and 12.2 (Lab quiz from today's lab exercise)
16	12-7	FINAL EXAM (Ch. 17,20,21,24,15, 9,13)	Lab FINAL EXAM (lab experiments since midterm)