Imperial Valley College

Spring 2014-Course Syllabus

Biology 100, CRN # 20217- Credit Units: 4

Course Title: "**Principles of Biological Science"**

Term: Jan. 21 to May 16, 2014

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

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Department Phone # 760-355-6355, 6304

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)

Attendance Policy:

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences
- 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.

Deadline for dropping a course; The deadline to drop with W is April 12, 2014

Last Date to Add a class is February 1, 2014

Classroom Etiquette

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class unless otherwise directed by the instructor. Use of laptop, tablets and cell phones during class period is not allowed. During exams and quizzes -cell phones must be put away.
- Food and Drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed. Snacks should be eaten outside the class time.
- Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. 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. Disciplinary procedures will be followed as outlined in the General Catalog.
- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

Academic Honesty;

- Plagiarism is to take and present as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to correctly 'cite a source', you must ask for help. Students found Plagiarize, will receive zero point for the assignment.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment or using or attempting to use materials, or assisting others in using materials, or assisting others in using materials, which are prohibited or inappropriate in the context of the academic assignment in question.
  Anyone caught cheating or will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General School Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment ;(c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment, (e) use of a commercial term paper service

Student with disability (DSPS):

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Program and Services (DSPS) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313 if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee. We now also have a fulltime mental health counselor. For information see http://www.imperial.edu/students/student-health-center/. The IVC Student Health Center is located in the Health Science building in Room 2109, telephone 760-355-6310.

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"

Information Literacy;

Imperial Valley College is dedicated to help students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/

Additional help for student learning

- Blackboard support center: http://bbcrm.edusupportcenter.com/ics/support/default.asp?deptID=8543
- Learning Labs: There are several 'labs' on campus to assist you through the use of computers, tutors, or a combination. Please consult your college map for the Math Lab, Reading & Writing Lab, and Learning Services (library). Please speak to the instructor about labs unique to your specific program
- Library Services: There is more to our library than just books. You have access to tutors in the learning center, study rooms for small groups, and online access to a wealth of resources.

Student right and responsibility

Students have the right to experience a positive learning environment and due process. For further information regarding student rights and responsibilities please refer to the IVC General Catalog available online at;
http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762

Course grading procedure and Exam dates and points;

Total of 4 tests (25 points each)…….. …..…..... 100 points
Total of 13 Lab reports (5 points each) …….....……..... 65 points
Midterm Exam 3-14-2014 (100 points) ..... 100 points
Final Exam 5-16-2014 (100 points)…… 100 points
Field trip report (Friday 11-8-2013)……..... 25 points
Group presentation…….…… 35 points

TOTAL …… 420 points

Grade point calculation = Total points earned divided by 420 x 100
Example; if your total earned points is 400, your grade point will be calculated as
(400 :420 X 100 which will equal 95.2 % = A 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.
Note; 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.

Anticipated Class and Lab Schedule (Spring 2014) is shown below; - *subject to change.*

Week	DATE	LECTURE	LABORATORY
1	01-24	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	01-31	Ch. 2 The Chemistry of life (p 20)	Lab Exp. 3- Chemical composition of cells 3.1, 3.2
3	02-07	Ch. 15 Evolution of microbial life (p 276)	Lab Exp. 2- Metric and Microscopy - 2.1, 2.4, 2.5, Test 1 (Ch. 1, 2, 23 + lab exp. 25.1, and 3)
4	02-14	Holiday – no class	No lab
5	02-21	Ch. 3 Cells (p 48) Ch. 8- DNA Replication and cell division (p 138),	Lab Exp. 4 -Cell structure and function – 4.3, 4.4, 4.5 Lab Exp. 8 Mitosis – Exp. 8.1
6	02-28	Ch. 4 The energy of life (p 68) Ch. 28 Regulating temperature, Nutrients (p 564)	Lab Exp. 5: Enzymes (5.2, 5.3, 5.4) Lab Exp. 28 - Chemical Digestion – Exp. 28.1, 28.3, Test 2 (Ch. 3, 8, 15 + exp. 2, 4, 8)
7	03-07	Ch. 5 Photosynthesis (p 84) Ch. 6 How cells release energy	Lab Exp. 6 Photosynthesis – Exp. 6.1, 6.2, 6.3 Lab Exp. 7 Cellular respiration – Exp. 7.2
8	03-14	Ch. 9 Sexual reproduction and Meiosis (p 154) Ch. 30 Animal reproduction and development (p 60	Midterm Exam (Ch. 1,23,2,15,3,8,4,28,5,6 + Exp. 25, 3, 2, 4, 8, 5, 28, 6, 7) Exp. 8.2 Meiosis
9	03-21	Ch. 27 The Circulatory and Respiratory system	Fetal pig dissection – Exp. 26.3 to 26.6, Check Figures 27.1 to 27.5
10	03-28	Ch. 21 Plant form and function (p 426) Ch. 22 Flowering plants (p 448)	Lab Ch. 18 flowering plants Test 3 (Ch. 9, 30, 27 + Exp. 8.2, 26)
11	04-04	Ch. 24 The nervous system and the senses (p 482)	Lab Exp. 30 Senses – Exp. 30.2, 30.3, 30.4
12	04-11	Field trip (san Diego Zoo)	Field trip
13	04-18	Ch. 7 DNA structure and gene function Ch. 10 Patterns of Inheritance (p 170)	Lab Exp. 10- Human Genetics - Exp. 11 DNA-review Test 4 (Ch. 21, 22, 24 + Exp. 18, 30, field trip)
14	05-02	Ch. 13 Evidence of evolution (p 242) Ch. 17 Evolution and diversity of animals (p 322)	Lab Exp. 12 Evidence of Evolution Exp. 12.1, 12.2
15	05-09	Ch. 16 Evolution and diversity of Plants (p 304) Ch. 19 Communities and Ecosystems-p 378 Overvie	Exp. 34 Effect of pollution on ecosystem (p491)
16	05-16	Final Exam includes (Ch. 9, 30, 27, 21, 22, 24, 7, 10, 13, 17, 16, 19)	Lab Test include Exp. 18,26,28,30,10, 12)