

**Dr. Ahrar – Biology 100, Course syllabus,**

**Fall 2019 – CRN = 10031**

Semester	Fall 2019	Instructor Name	Mohammad Ahrar
Course Title & #	Biology 100	Email	Mohammad.ahrar@imperial.edu
CRN #	10031	Webpage	
Room	2717	Office	Room 2717
Class Dates	Aug. 19 to Dec. 6, 2019	Office Hours	7 – 8 am
Class Days	Lecture; Fridays 8:00 am to 11:10 Labs: Fridays 11:20 pm to 2:30 pm	Office Phone #	Dept. # 760-355-6155
Units	4 Units		

**Course Description;**

This is 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. This course includes laboratory components.

**Student learning outcomes:**

Upon course completion, with a grade of “C” or better, the successful student will have acquired new skills, knowledge, and/or attitudes as demonstrated by being able to:

1. Demonstrate an understanding of the steps of the scientific method. (ILO2)
2. Communicate an understanding of the various patterns of inheritance of genetic traits. (ILO1 & ILO2)
3. Explain how the processes of natural selection influence evolution. (ILO1 & ILO2)
4. Perform lab activities properly, and correctly analyze lab data. (ILO1 & ILO2)

**Course Objectives;**

Upon satisfactory completion of the course, students with a grade of “C” or better 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 for 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. Classify organisms in the kingdoms of plants and animals, discuss their evolutions and their relationships.

### **Textbooks & Other Resources or Links**

Lecture Textbook: Biology Concepts and investigations (3rd edition) by Marielle Hoefnagels – **SBN:** 9781308487663  
**Publisher:** McGraw-Hill.

Laboratory Manual Principles of Biological Science BIOL100 Lab Manual ISBN 0077701631. The lab manual is custom made for this college, and available at the IVC bookstore as a single packet together with the textbook.

### **Course Requirements and Instructional Methods**

**Prerequisite** - MATH 091 or MATH 090 with a grade of "C" or better.

**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. It is highly recommended that review the lab experiment prior to coming to the lab. Most lab experiments will be a teamwork and all members of the group must actively participate in experiments.

Note; I expect my students to be very careful with lab equipment, adopt safety issues at all time, clean tools and the working area and return all items to their place before leaving the lab.

**Extra credit;** There may be extra homework related to biology or general science which allows students to gain information about different aspects of biology beyond the class activities. Some extra activities may include extracting information from the materials in your textbook or a research using different scientific authentic website. Most commercial sites or advertisings are not good sources of scientific information to be used in the research projects. Completed assignment can receive up to 20 points.

**Group presentation;** Students will be teamed up, in group of 4 students per group. Each team will be assigned a topic related to biology. Team members should work together and coordinate the research about an assigned subject and be prepared for a 20-minutes presentation to the class. Date of presentation will be discussed in the third lab session.

**Exams;** There will be 5 exams during the course. The exam dates, lesson plans, and lab assignments are listed in the last page in this syllabus. Questions in the exams come from the materials from lectures, class discussions, group presentations, lab assignments and materials from CD-ROM or video clips shown during the class sessions. A variety of testing methods will be employed, including but not limited to true/false, multiple choice, essay, and short answers.

**Missed tests and lab assignments;** any missed quiz, exam or lab assignment will not be allowed to retake. In case of emergencies or excused situations (with written documentation), a quiz or a test may be taken, but there will be 20% deductions from any retake test.

*Any missed lab assignment cannot be retaken and receives no point*

### Course Grading Based on Course Objectives

Total of 5 Exams, each 100 points .....	500 points
Total of 14 Lab reports and assignments (5 points each) .....	70 points
Field trip report .....	25 points
Research project and presentation .....	35 points
.....	
<b>Total Points</b> .....	<b>630 points</b>

Grade point calculation = Total points earned divided by 630 x 100. Example; if your total earned points is 550, your grade point will be calculated as ( 550 : 630 X 100 which will equal 87.3 % = B grade.

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

### Attendance

- 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 absence exceed the number of hours the class is scheduled to meet per week may be dropped. Officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

### Classroom Etiquette

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class unless otherwise directed by the instructor. Consider: specifics for your class/program
- 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.
- 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. 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.
- Talks and discussion; is not tolerated during lectures. Side talking to your classmates is a disturbance to your instructor and to other students in the class. Disciplinary procedures will be followed as outlined in the General Catalog. However, talks and discussions about the class materials during lab experiments is OK.

### Use of electronics; Cell phones or computer are not allowed during lectures. Academic Honesty

- Plagiarism is to use and present the writings or ideas of others as one's owned, without citing the source. You should understand the concept of plagiarism and keep it in mind when preparing written materials and taking exams. If you do not understand how to correctly 'cite a source', you must ask your instructor.

- 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

#### **Additional Help – Discretionary Section and Language**

- Canvas support center: Imperial Valley College has switched from Blackboard to Canvas.
- Power point presentations, class materials, assignments, and grades can be posted on Canvas and be accessible to the students to use.
- 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.

#### **Disabled Student Programs and Services (DSPS)**

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) 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"

#### **Student Rights and Responsibilities**

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](http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762)

#### **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/>

**Anticipated Class Schedule / Calendar Fall 2019, is listed below (subject to change)**

Week	DATE	Biology 100- 10031-Lecture schedule, Spring 2017	Lab schedule, Spring 2017
1	Friday 8/23/2019	Ch. 1 Scientific study of life (Gage 2)	Lab 1, (Exp. 2.1 Metric system, pages 7-12)
2	8/30/2019	Ch. 2 The Chemistry of life	Lab Exp. 3.1, 3.2, 3.3, 3.4- Chemical composition of cell. (Lab manual P. 27)
3	9/6/2019	Ch. 23 Animal tissue & organ system Exam 1 (Ch. 1, 2 + lab exp. 2 and 3)	Lab Exp. Microscopy- Exp. 2.3, 2.4, 2.5) Exp. 26.1 (Lab manual P. 193-208).
4	9/13/2019	Ch. 3 Cells	Lab Exp. 4.3, 4.4, 4.5 - Cell structure and function.
5	9/20/2019	Ch. 4 The energy of life	Lab Ex. 5.1, 5.2, 5.3,5.4, Enzymes
6	9/27/2019	Ch. 5 Photosynthesis Exam 2 (Ch. 23, 3, 4 + Lab exp. 2, 26)	Lab Exp. 6.2 - photosynthesis
7	10/4/2019	Ch. 6 How cells release energy	Exp. 7.2 Cellular respiration
8	10/11/2019	Field Trip	San Diego Zoo
9	10/18/2019	Ch. 8 DNA Replication and cell division Ch. 9 Sexual reproduction and Meiosis	Lab Exp. 8.1 Mitosis + Handout-Meiosis
10	10/25/2019	Ch. 27 Circulatory /Respiratory system Exam 3 (Ch. 5,6,8,9 + Lab exp. 6, 7, 8)	Lab Exp. 29.1, 29.2) + Handout
11	11/1/2019	Ch. 24 The nervous system and the senses	Lab Exp. 31 Senses – Cow eye Dissection
12	11/8/2019	Ch. 28 Regulating temperature, Nutrients	Lab Exp. 28 Chemical aspects of digestion
13	11/15/2019	Ch. 13 Evidence of Evolution	Lab Exp. 25.1 P173-174). Handout
14	11/22/2019	Ch. 10 Patterns of Inheritance Exam 4 (Ch. 27,24,28,13 + Exp. 29, 31,28, 25)	Lab Exp. 10- Mendelian Genetics
	11/29/2019	Thanksgiving Holiday – no class	
15	12/6/2019	Ch. 7- DNA Structure- Gene function. Ch. 19 Communities and Ecosystems-p 378	Lab Exp. 11 Human genetics Lab Exp. 34- Ecosystem
16	12/13/2019	Exam 5- Final Exam (Ch. 10,7,19)	Lab exam – (Exp. 10, 11, 34)