

Imperial Valley College Course Syllabus – BIOL 100 – Principles of Biological Science

Basic Course Information

Semester	Fall 2015	Instructor Name	Dr. Daniel Gilison
Course Title & #	Principles of Biological Science – BIOL 100	Email	daniel.gilison@imperial.edu
CRN #	10033	Webpage	http://imperial.blackboard.com
Room	2727 (lecture), 2711 (lab)	Office	2770
Class Dates	8/17– 12/11	Office Hours	Mon – Thurs 11:30-12:30
Class Days	MTW	Office Phone #	(760) 355-5759
Class Times	2:00-3:25 PM (MW lecture) 2:00-5:10 PM (T lab)	Office contact if student will be out or emergency	(760) 355-5759 or daniel.gilison@imperial.edu
Units	4		

Course Description

A comprehensive one semester general biology course for non-majors. Includes life from the molecular to the organismic level of both plants and animals and their interactions within the environment. Special emphasis is put on human biology within appropriate areas of study. Appropriate for general education as well as nursing, pre-professional, and higher level biology courses. Includes laboratory component. (CSU) (UC credit limited. See a counselor.)

Student Learning Outcomes

Upon course completion, 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 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. classify organisms in the kingdoms of plants and animals, discuss their evolutions and their relationships.

Textbooks & Other Resources or Links

- Hoefnagels, M. (2015). *Biology: The Essentials* (2nd/e). New York, NY McGraw-Hill. ISBN: 0078025250
- Mader, Sylvia S. (2015). *Laboratory Manual to accompany Biology 12th edition, Custom Edition* (12th/e). New York, NY McGraw-Hill. ISBN: 9781308487557

Course Requirements and Instructional Methods

1. There will be **4** exams, worth **100 points** each (**400 points** total). Exams will begin at the start of class. Exams will last 60 minutes, and will consist of 50 multiple choice/matching questions dealing with lecture material. Figures from the lectures and textbook will appear on the exams. Scantron sheets will be provided, but make sure you bring good-quality #2 pencils with working erasers. If you are late to the exam, you will not be given extra time to finish it. There will be no make-up exams, except for extreme circumstances. If you have a valid, documented reason for missing an exam, it is **your responsibility** to tell me about it and provide valid documentation by the **next class meeting**, otherwise you will not have the opportunity to make up the exam, and will be given a **zero** for that exam.

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- There will be **1** comprehensive final exam worth **150 points**. It will consist of 75 multiple choice/matching questions, and will cover all of the lecture material covered in the course. There are no make-ups for this exam.
- There will be **1** lab practical exam, worth **120 points**. This lab practical exam will cover all lab activities during the course. The exam will consist of 20 stations. At each station, you will view some results or other aspects from the lab, and have to answer a question about them. This exam will **not** be multiple choice. There are no make-ups for this exam.
- There will be **10** lab worksheets worth **10 points** each (**100 points** total). Lab worksheets are due at the end of the lab. Lab worksheets cannot be made up, except for extreme circumstances.
- There will be **13 on-line** worksheets worth **10 points** each (**130 points** total). These worksheets will deal with various lecture topics, and will be due on the date in the schedule listed at 11:59 PM. Worksheets cannot be made up, except for extreme circumstances. **Worksheets will be found on the Blackboard site under the Worksheets link.**
- Spelling and grammar count on all written assignments! You will lose up to **20% of the points** on each assignment if you have excessive spelling or grammatical errors.
- There will be extra credit available during the review sessions, and on some assignments.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

Course Grading Based on Course Objectives

4 exams	=	400 points
1 final exam	=	150 points
1 lab practical exam	=	120 points
10 Lab worksheets	=	100 points
13 <u>online</u> worksheets	=	130 points

Total = **900 points**

A	810 - 900 points
B	720 - 809 points
C	630 - 719 points
D	540 - 629 points
F	0 - 539 points

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 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.

Classroom Etiquette

- No food or drinks in the lab. Only bottled water allowed in the classroom.
- Cell phones must be turned off at all times!** Ringing cell phones are a distraction both to me and to other students in the class. If you must use your cell phone during class, please take it outside, and then come back in when you are done. You should not be checking your phone, or texting, during lectures. If you are caught checking your phone, or texting, during class, you may be asked to leave for the day.
- No talking during class!** Talking is a distraction to me and other students in the class. If you have questions during the lecture, please ask me! If you are caught talking, you may be asked to leave for the day.
- Lab groups cannot leave the lab until **all** members of the group have finished the experiments. Lab groups will have to show me the data from the lab, and may be asked to explain the data before the lab group is allowed to leave the lab. Lab groups **must** thoroughly clean up after themselves, or else groups will be assigned to do clean up at the end of the next lab!

- When doing labs, make sure that you observe the results from all parts of the experiments. You may be asked about your results before you can leave the lab, so make sure you have seen the results, or else you may have to repeat that experiment!
- The deadline for dropping a course without appearing on transcript is **Sunday, August 30**.
- The deadline for dropping a full-term class is **Saturday, November 7**.

Academic Honesty

- Plagiarism is taking and presenting 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 'cite a source' correctly, you must ask for help.
- 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 that 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) using a commercial term paper service.

Students may work together for worksheets and lab worksheets, but each student must turn in **their own work in their own words**. If students turn in assignments with the same or similar wording (i.e., from copying off another student), they will all be given a **zero** for that assignment. Additional disciplinary action may be taken if needed.

Additional Help

- Make sure you come on time to all lectures and labs! Arriving late or missing a class for any reason (excused or unexcused) can cause you to miss lecture and lab material, and will only put you at a disadvantage in this class.
- Make sure you know what will be happening each day for class! Keep the class schedule handy.
- Skim through or read the chapter before coming to lecture, and lab activities before coming to lab. You will have a general feel for the subject matter, which will help your understanding of the material during lecture. You will also be more prepared to do the lab activity, and you can perform it better, quicker, and will be able to easily understand what is happening in the lab.
- Pay attention during lectures! I will say things during lecture that are not written on the PowerPoint slides or the board that will be on the exams. Make sure you take good notes during class. Don't just mindlessly write down word-for-word what is on the slides. Listen to what I have to say, and take notes on that also!
- Study, study, study! You should spend at least 4-5 hours studying for this class each week. You should study in an area where there are no distractions (television, radio, computers, iPods, other people, etc.). However, you should also spend time studying in groups. Nothing makes you learn the material better than having to explain it to someone else!
- Don't cram! It's better to spend some time each week studying as compared to saving it all until the night before the exam.
- It is not enough just to memorize facts! On the exams, you will be responsible for using the information learned and applying it to new situations. You need to understand what these facts mean!

If you need any technical assistance with Blackboard, please visit the IVC Blackboard Support website at:

<http://www.imperial.edu/students/blackboard-support/>

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.

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

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Information Literacy

Imperial Valley College is dedicated to helping 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

Tentative Class Schedule (Mon/Wed 2:00-3:25 PM, Tues 2:00-5:10 PM)

Week	Lecture (M)	Lab (T)	Lecture (W)
8/17-19	Introduction to the class	Introduction to the lab / Ch. 1.1,3 – Scientific Study of Life	Ch. 2 – The Chemistry of Life
8/24-26	Ch. 2 – The Chemistry of Life	Chemical Composition of Cells (Lab 3.1, 2) / Study of Life Worksheet due	Ch. 3.1,2B,4,5 – Cells
8/31 – 9/2	Ch. 3.3, 4.5 – Membranes	Metric Measurement and Microscopy (Lab 2.1, 4, 5) / Chemistry Worksheet due	<u>Review for Exam 1</u> / Cells Worksheet due
9/7-9	NO CLASS – Labor Day	Cell Structure and Function (Lab 4.3, 4) / Membranes Worksheet due	Exam 1 – Ch. 1-4 (Membranes)
9/14-16	Ch. 8.1,4,5 – Cell Division	Cellular Division (Lab 8.3)	Ch. 9 – Sexual Reproduction and Meiosis
9/21-23	Ch. 4.1,3,4 – The Energy of Life	Enzymes (Lab 5.1-3)	Ch. 23.1,2 –Tissues / Cell Division and Meiosis Worksheet due
9/28-30	Ch. 27.1,3-5 – Circulation	Ch. 27.6-8 – Respiration / Energy Worksheet due	<u>Review for Exam 2</u> / Tissues Worksheet due
10/5-7	Ch. 28.6 – Digestion	Fetal Pig Dissection 1 (Lab 27.3,5, 29.1) / Circulation Worksheet due	Exam 2 – Ch. 4 (Energy), 8, 9, 23, 27
10/12-14	Ch. 28.7-9 – Urination	Fetal Pig Dissection 2 (Lab 27.5-6, 29.2)	Ch. 24.1,2,4-6 – Nervous System
10/19-21	Ch. 24.7-11 – Senses / Digestion and Urination Worksheet due	Fetal Pig Dissection 3 (Lab 29.2)	Ch. 2.5D, 7.1, 8.2 – DNA Structure and Replication
10/26-28	Ch. 7.2,3,4,6 – Gene Function	Ch. 7.2,3,4,6 – Gene Function / Senses (Lab 31.3-6)	<u>Review for Exam 3</u> / DNA Worksheet due
11/2-4	Exam 3 – Ch. 28, 24, 7, 8	Ch. 10.1,2,3,7,8 – Patterns of Inheritance / DNA Isolation (Lab 12.4)	Ch. 10.1,2,3,7,8 – Patterns of Inheritance
11/9-11	Ch. 8.6 – Cancer	Human Genetics (Lab 11.1,2)	NO CLASS – Veterans Day
11/16-18	Ch. 12.1,2,3,5 – Forces of Evolutionary Change / Genetics Worksheet due	HIV Lab	Ch. 18.2,5,6 – Population Ecology / Cancer Worksheet due
11/23-25	NO CLASS – Thanksgiving Week	NO LAB – Thanksgiving Week	NO CLASS – Thanksgiving Week
11/30 – 12/2	<u>Review for Exam 4</u> / Populations Worksheet due	<u>Review for Lab Exam</u>	Exam 4 – Ch. 10, 8 (Cancer), 12, 18
12/7-9	<u>Review for Final Exam</u>	Lab Exam (all labs)	Final Exam (all chapters)